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THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Kitaro

**Directory:
Independent
Engineers
and Producers**

**APRS Studio
Listings**

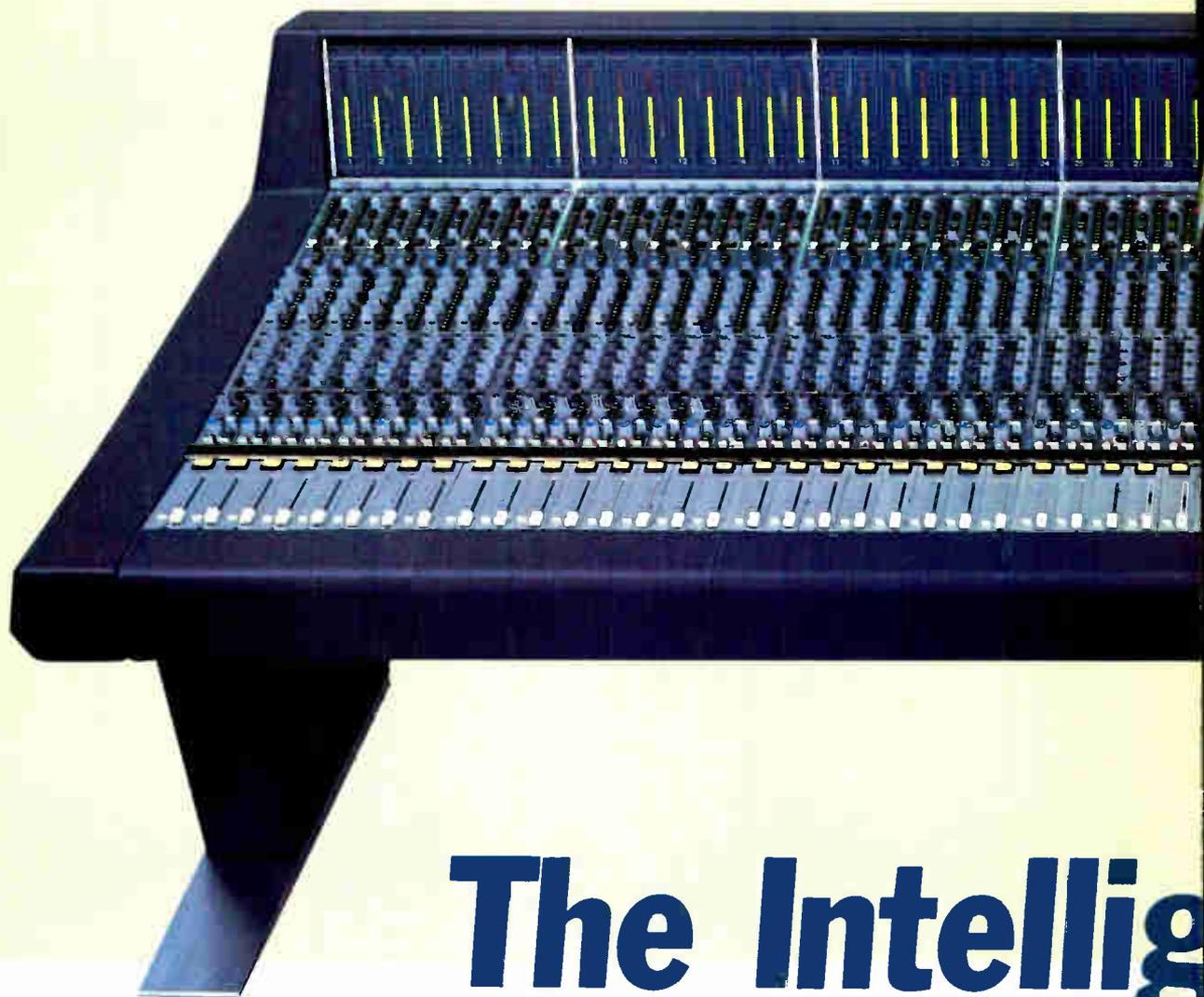
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World Radio History

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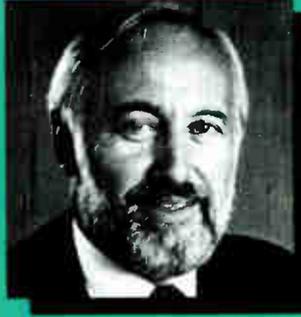
PAGE 30



PAGE 16



PAGE 125



PAGE 128



FEATURES

24 REFERENCE MONITOR FORUM

by George Petersen
Engineers and producers speak out on their preferences for small monitors.

56 THE GREAT DAT SCARE

by Barry Fox *A report on the European controversy about the consumer digital format.*

62 THE RUSSIANS ARE STRUMMING! THE RUSSIANS ARE STRUMMING!

by Dan Daley *A look at the secret lives of Soviet pop artists and the American who's helping them—move over, James Bond.*

78 LUNCHING WITH BONZAI: KITARO

by Mr. Bonzai *The reclusive Japanese musician opens up to Mr. Bonzai.*

92 VIVA LE STUDIO!

by Linda Jacobson
How the world-famous Canadian hideaway plans to take on a whole new industry—and Washington D.C.

115 APRS AT 30

by Terri Anderson
An update on the venerable British organization of recording studios, followed by a directory of these facilities.

AUDIO

16 INSIDER AUDIO: DMM for CD

by Ken Pohlmann

30 PRODUCER'S DESK: Arif Mardin

by Robin Tolleson

42 SOUND ON STAGE: Billy Joel

by Gregory A. DeTogno

50 FIELD TEST: Wendel jr

by George Petersen

53 SPECIAL INTERNATIONAL RECORDING SUPPLEMENT

- AES Wrap-up by George Petersen
- Brazilian Recording in Flux by Arnaldo Dines
- Europe: Next in Line for Stereo TV by Richard Dean
- European Manufacturing and the World Market by Al Swanson
- AIR Montserrat: Best of Both Worlds by Diana Wendling & Stacy Baird
- Strangers in Strange Lands by Blair Jackson

128 MI UPDATE: Meet the Super DX7

by Craig Anderton

142 AFTERMIX: LaserVideo

by Philip De Lancie

MUSIC

125 BRUCE LUNDVALL'S BOLD MOVE

by Neal Weinstock

130 MUSIC NOTES: Larry Klein, Bob Weir's Ace, David Pack, Bruce Hornsby, Alan Douglas

VIDEO

72 MVP: Discovering Japan

by Lou CasaBianca

146 VIDEO NEWS

by Elizabeth Rollins

DEPARTMENTS

5 LETTER FROM THE EDITOR

6 CURRENT

8 INDUSTRY NOTES

10 SESSIONS/STUDIO NEWS

46 PREVIEW

178 MIX WORDS

180 FEEDBACK

182 CLASSIFIEDS

186 AD INDEX

FROM THE EDITOR

DIRECTORY

118 APRS Studios

150 INDEPENDENT
ENGINEERS AND
PRODUCERS



Cover: Composer/synthesist/producer Denny Jaeger's studio in Oakland, California, houses the first Harrison Series Ten console, capable of 80 inputs (being expanded to 112 inputs at press time). The facility also includes two Sony PCM-3324 multi-tracks and 32 direct outs from the Synclavier system (a total of 80 digital tracks) as well as an Ampex ATR-124 analog recorder—up to 104 tracks with lock to picture. Studio design by Dennis Rice with final acoustics by John Meyer.

Photo by: Dennis Bayer

Corner photo of Kitaro: Mr. Bonzai



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After The Beatles first grabbed

their share of the U.S. record charts in the early '60s, the music industry quickly adapted to the concept of a world economy. That event signalled the end of the exclusive "made in America" mentality for both artists and their support structure. These days it wouldn't be hard to imagine an Australian artist going into a Japanese recording studio, singing into a German microphone, through an English mixing console onto a Swiss tape recorder, etc., etc., and ending up a few weeks later on top of the American Hot 100.

Few industries have internationalized as quickly as ours, for better and for worse. While our domestic manufacturers find an open door of opportunity to faraway lands looking to get up to speed in the technology of entertainment, the pressure from worldwide competition has eaten away at their home base of influence.

The internationalization of the professional audio electronics industry comes back to London, homeland of The Beatles, in a big way in the first half of '87. Two events which have become primary catalysts for the world pro audio market, the Audio Engineering Society International Convention and the Association of Professional Recording Studios' annual show fall within three months of each other, spawning a range of reactions from geographical frustration to omens of apocalyptic news from the British Empire.

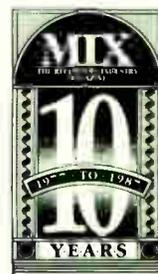
The 82nd AES Convention, March 10 through 13 at the Queen Elizabeth II Conference Center in Westminster, returns to London after seven years. This is the more "international" of the two shows, drawing manufacturers and engineers from over 20 countries. APRS meets in June at Olympia 2, in Kensington. Founded in 1956 as a collective voice for British professional recording businesses, the APES show has become increasingly important as a forum for the international recording community, though still stressing the concerns of British businesses.

We've made this issue of *Mix* our International Recording issue, where we check in on some of the people, places and events that are making waves in the world recording market. From the DAT scare in Europe, to the recording renaissance in Brazil, to music video developments in Japan, to the cool clean air in Quebec's Le Studio, we hope this survey of activity gives you a feel for how much we all have in common.

It's a small world after all.

Keep reading,

David M. Schwartz
Editor/Publisher



CURRENT

Japanese Electronics Manufacturers Reject DAT Copyright Appeal

At a meeting between top executives of Japan's consumer electronics industry and leaders of international recording companies and trade organizations, the Electronic Industry Association of Japan rejected an appeal to support legislation requiring a copyright protection chip in Digital Audio Tape Recorders. The conference was initiated by the international recording industry association IFPI, and the Recording Industry Association of America, to solicit support from the Japanese manufacturers for legislation that would require technological protection of copyright recordings from the consumer DATs soon to be marketed to the public.

The Copy-Code technology recommended at the conference was developed by the CBS Technology Center. In this process, copyrighted recordings would be encoded by recording companies during the mastering stage. The encoding would inhibit the unauthorized copying of those recordings on equipment containing a Copy-Code chip, without compromising the sound quality of the encoded recording.

Japan's rejection is expected to trigger aggressive music industry initiatives in the U.S. Congress and the European Economic Community for protective copyright legislation.

Cassette Quality Committee Formed

An international working committee has been formed of representatives from organizations including CBS, EMI, ICM, Polygram, Sonopress and Teldec, to further improve the quality of the audio cassette. The Musicassette Quality Committee (MCQC) draws its members from the development, recording, quality assurance and manufacturing fields. It plans semi-annual

meetings to agree on measuring methods and manufacturing tolerances, to exchange views on quality and discuss new techniques in the light of growing market requirements. For further details, contact Press Office, PolyGram International Ltd., 45 Berkeley Square, London W1X 5DB, England.

Composite Digital Videotape Format Submitted

At a recent meeting of the SMPTE Video Recording and Reproduction Technology (VRRRT) committee, both Ampex and Sony independently submitted the same composite digital format specification to SMPTE for consideration as a standard. This followed the two companies' announcements in April that Sony would design and manufacture a composite digital videotape recorder complying with the Ampex format, and would support its adoption as a world standard. A complement to the component digital D-1 standard, the composite digital format is intended to bring the benefits of digital recording to existing composite analog transmission facilities.

Based on a sampling frequency that is four times that of the subcarrier (4fsc), the composite digital format uses 19mm D-1 cassettes with metal particle tape, and shares many mechanical components with D-1 VTRs.

Frankfurt Music Fair, Feb. 7-11

One of the world's largest exhibitions for musical instruments and accessories, the Frankfurt Music Fair runs from February 7 to 11, in Frankfurt, West Germany. The organizers of the fair expect 840 exhibitors representing 32 countries to be showing their wares to more than 55,000 visitors. Among the approximately 510 non-German exhibitors, Great Britain, France and Italy will be dominating the exhibit hall, followed by the U.S. and Japan. For the first time, Cuba will be exhibiting folkloristic instruments

within the framework of a state trading arrangement. The participation of Bulgaria, Czechoslovakia, East Germany, Poland and Hungary makes the Frankfurt fair a focal point for East/West musical trade. For more information, contact Messe Frankfurt, telephone (0 69) 7575-320/357 in West Germany.

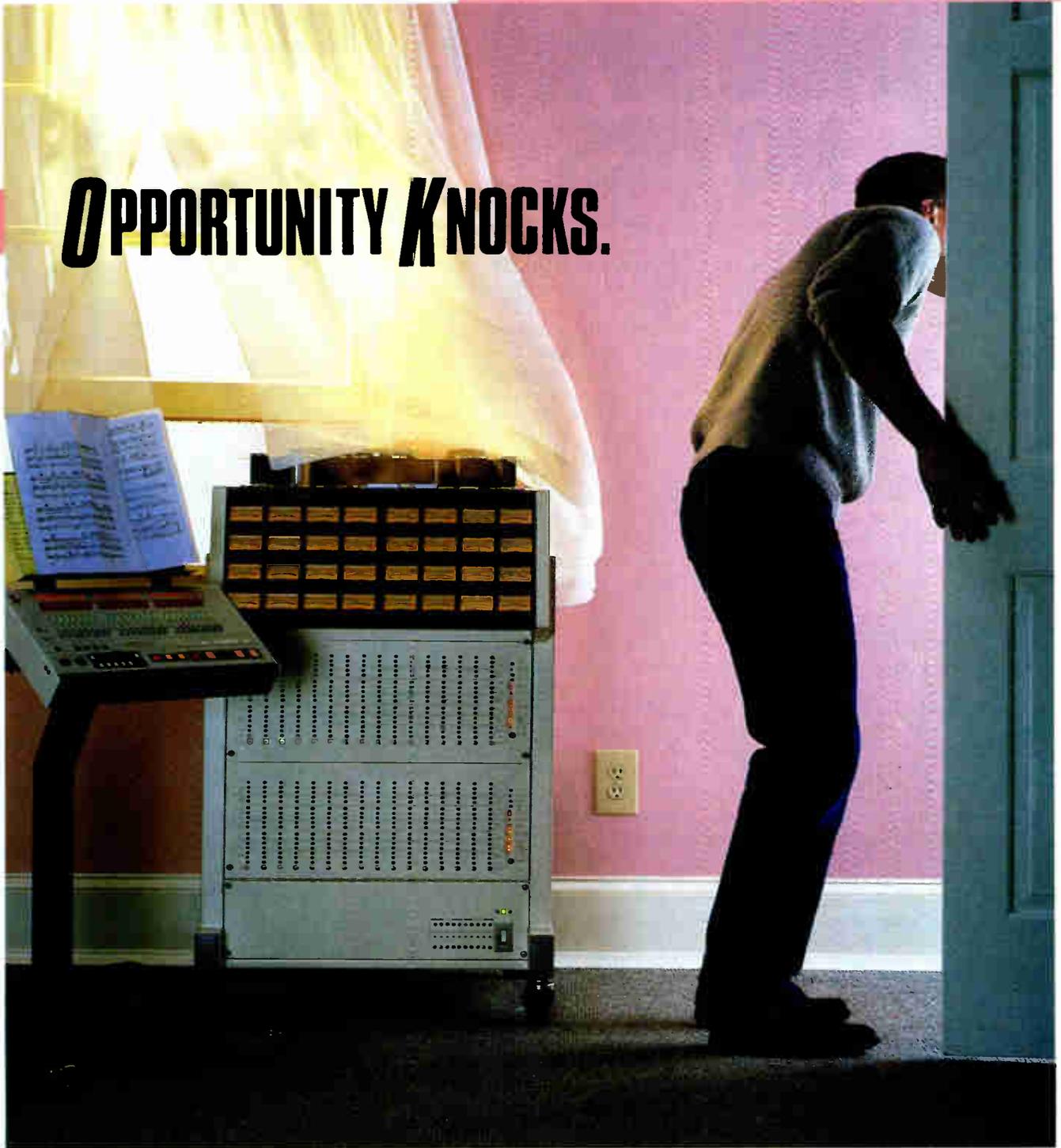
Showbiz Expo Set for L.A.

Exhibitors of products and services in the film, video and TV industries will display at the Fourth Annual Showbiz Expo, to be held May 30, 31 and June 1 at the Los Angeles Convention Center. An anticipated 5000 production and business professionals in the entertainment industry will take in the 110 booths and various educational sessions hosted by industry trade associations such as ITS, the Writers' Guild, Directors' Guild, Professional Film and Video Equipment Association and the Association of Visual Communicators. For more info, contact Live Time, Inc., 3747 Arbolada Road, Los Angeles, CA 90027, 213/668-1811.

CD-ROM Review Goes Bi-Monthly

First appearing last July, *CD-ROM Review* will commence bi-monthly publication beginning with March-April. Aimed at professional and business users of CD-ROM technology, the new publication is claiming a circulation base of 50,000, including corporate information managers in the Fortune 1000, American Library Association members, large government database users, major medical facilities, and OEM companies in the industry. Additional distribution will be through selected newsstands, computer retailers, and computer magazine sections of major bookstores. For more information, contact CW Communications, Elm Street, Peterborough, NH 03458. ■

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SESSIONS

SOUTHERN CAL

At *Soundcastle* in L.A., new CBS recording artist, *Nathalie Archangel*, was in with *David Kahne* producing and engineering with *Liz Cluse* assisting. . . L.A.'s *X* was in *Capitol Recording Studios* in Hollywood working on a new album with producer/engineer *Dave Jerden*, assisted by *Judy Clapp*. . . In at *Ground Control* in Santa Monica was CBS artist *Ronnie Laws* doing a dance mix for a new single with engineer *Tom Fletcher*. Also, *Dolly Parton* was in recording the soundtrack to her Christmas movie for ABC with producer *Steve Goldstein* and engineer *Paul Ratajczak*. . . *The Del Fuegos* were in *Sunset Sound Factory* doing overdubs for their Slash/Warner release. *Mitchell Froom* handled the production, and *Tchad Blake* engineered with *Mike Kloster* assisting. . . CBS artist *Stanley Clarke* was in the *Yamaha Research & Development Studio* in Glendale working with producer *Eric Nuri* and engineer *Ralph Sutton*. . . *Motley Crue* was in *One on One Recording* in North Hollywood tracking their new album *Girls, Girls, Girls* with producer *Tom Werman*. *Duane Baron* engineered, with *Toby Wright* assisting. . . At *Score One Recording Studio* in North Hollywood, Street Level Productions tracked a 12-inch dance single entitled "On The Road To Love" with the vocal work of singers Carl Graves, Melanie Jackson and Alexandra. Songwriter/producer was *Jorge Martin* with engineering done by *Curtis Drake* and *Al Johnson*. . . At *Conway Recording* in Hollywood *The Tonight Show Band* featuring Doc Severinsen completed tracks with producer *Jeff Tyzik*. *Daren Klein* engineered. Also, *Peter Bunetta* and *Rick Chudacoff* were in producing *Smokey Robinson* for Motown. *Daren Klein* and *Mick Guzauski* engineered with help from *Richard McKernan*. . . At *Preferred Sound* in Woodland Hills, *Star Search* winner *Kenny James* has been tracking with producers *Frank Day* and *Bill Elliot*, engineer *Matthew Spindel* and assistant *Scott Campbell*. . . Engineer *Dave Levine* worked at *Hit City West* in L.A. mixing live tracks by the redoubtable headbangers *Black Flag*. . . Tracks were laid at *Golden Goose Recording* in Costa Mesa for the score of the movie *Kandyland*. Songs are by Craig Garrison and vocals by Ralph Mormon, singer of Savoy Brown and the Joe Perry Project. *Dennis Rose* produced and engineered. . . *REO Speedwagon* was in *Rumbo Recorders* in Canoga Park finishing overdubs and getting ready to mix. *David Devore* engineered and *Julian Stoll* assisted. . . *Take One Recording* in Burbank had

Rank & File in with producer *Bill Pfordresher* tracking their upcoming LP for Rhino Records. *Brad Guilderman* was behind the console, with *Micajah Ryan* assisting. . . *Image Recording* in Hollywood hosted film composer *Tom Newman* recording the underscore for the new Michael J. Fox movie, *Light of Day* for Tri-Star/Taft-Barrish. *John Vigran* was at the desk, *Steve Krause* assisting. Also there, *Bobby Vinton* recorded a new album with *Barney Perkins* at the console. . . At *Amigo Studios* in North Hollywood, *Mystery Roundup* completed a four-song demo with engineers *Garth Richardson* and *Woody Woodruff*, and assistant *Chris Steinmatz*. . . *Darlene Love* was in L.A.'s *Cherokee Studios* completing her album for Columbia Records with *Tom Kelly* and *Bill Steinberg* producing, and *George Tutko* engineering. *Hank Ballard* recorded his new single at Cherokee Studios. Complete with his long time back up group, The Midnighters, Ballard cut "Keep The Fat Right Where It's At," a protest against dieting and fad diets. Ballard produced the single with *Dee Robb* as engineer. . .

NORTHEAST

Producer *Dennis Scott* recently completed music for *Scholastic Magazine's* new kid video series on baby animals. He also finished a "Gabby Bear" jingle for Select Merchandise recorded at *ScottFree Studios*, in Great Neck, NY, with *Rob Bengston* at the board. . . *Sync Sound* in NYC had *Kiss* in mixing *Kiss eXposed* for Polygram Music Video-U.S. *Grant Maxwell* was the engineer. . . "Shy Guy" by *Sharon Harris* is the latest project that producers *Robert Clivilles* and *Ken Taylor* worked on at *I.N.S. Recording* in NYC with engineer *Steve Linsley*. . . *Evan Johns* and *the H-Bombs* out of Austin, TX, rambled in to *Shore Fire Studios* in Long Branch, NJ, and finished 12 tracks for a future release. Sessions were engineered by *Jan Topoleski* and produced by *Garry Tallent*. . . Producer *Patrick Adams* was in *Power Play Studios* in L.I.C., NY, finalizing vocal tracks and mixing *Cheryl Adams'* upcoming releases. Exchanging engineering duties on the cutting of the basics were *Julian Herzfeld*, *Adams*, *Tim Meyer*, *Mike Kruzynski* and *Dwayne Sumal*, who assisted. . . At *Evergreen Recording* in NYC, drumming legend *Elvin Jones* laid down tracks with bassist *Gene Perla* for an upcoming CD. *Jay Henry* was at the console with *Gary Tee* also onboard. . . At *Unique Recording* in NYC *Nona Hendrix* finished mixing her new LP for EMI Records with *Dan Hartman* producing and *Chris Lord Alge* engineering. *Steve*

Antebbi assisted. . . At *Eastern Artists Recording Studios* in E. Orange, NJ, producer *Larry Smith* was in working on a new *Grandmaster Flash* LP for Elektra. . . *Michael Zager* was in at *Secret Sound* in NYC doing three singles with *Rochelle*; *Scott Noll* engineering. And *Joel Diamond* was in mixing *Roby*, with *Jim Lyons* engineering. . . *The Music & Sound Design Studio* in Bridgewater, NJ, completed audio-cassette duplicating projects for numerous clients, including *Hoechst-Roussel*, *Ethicon*, *AT&T*, *Warner-Lambert*, and the *Schering Corporation*. . . Producers *Hiro Hozumi* and *Stephen Rosen* completed a series of jazz standards for CBS/Sony featuring female vocalists including Morgana King and Sheila Jordan. The ten-compact disc collection is scheduled for Spring release in Japan. The tracks were done at *Sound Ideas* and *Celebration Recording Studios* in NYC with engineers *Dave Baker* and *Jim Anderson*. . . *Black Stalin* was at *Sound Heights* in Brooklyn to record their latest EP for B's Records. Executive producer *Hue Loy* and producer/arranger *Errol Ince* were present at the sessions to supervise the production. *Vince Traina* engineered the sessions with assistance from *Joe Schwinghammer* and *Paul Gold*. . . The Boss System at Philadelphia's *Modern Audio Productions* has been working overtime with the increasing need for audio sweetening and synching for video. MAP's *Bob Schachner* has been kept busy with clients such as *Subaru*, *Blue Cross/Blue Shield*, the *Phillies*, *DuPont*, and others. . . At *39th Street Music* in Manhattan, *Chiele Minucci* produced *Special EFX* for GRP Records with *Paul Wyckliffe* engineering, *Barnaby Bristol* assisting. And *Ronnie Spector* cut tracks—*Michael Young* engineering, assisted by *John Paul Cavanaugh*. . . At *The Warehouse* in Philadelphia, producer *Lance Quinn* finished tracks for singer/songwriter *Myles Goodwyn* (*April Wine*) for Aquarius/Capitol Records. *Obie O'Brien* and *Nick Didia* engineered. . . *Michael Baker* and *Axel Kroll* of Simple Simon Productions were in NYC's *D&D Recording* remixing "Sweet Murder" for RCA artists *The Blow Monkeys*. *Douglas Grama* engineered. . . *The Music & Sound Design Studio* in Bridgewater, NJ, completed production of two slide show soundtracks for the *United Way* in Elizabeth, NJ. . . *The Tics* were in at *Inner Ear Recording* (Queens, NY) recording their raw-edged rock direct to 2-track with engineer *Steve Vavagiakis*. . . Recent happenings at *Quad Recording* in NYC included *The Commodores* producing themselves and tracking with engineer *Matt Kasha*. . . *Secret Sound* in NYC got a visit from the Colombian dance band *Starr*, in town to cut their second al-

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World Radio History

bum; producer-engineer **Jay Henry** was behind the console assisted by **Peter Henderson**... **Aaron "Louie" Hurwitz** engineered and produced four songs at **NRS Studios**, Hurley, NY, with singer/performer **Marie Spinosa** and the group **Big Feachers**...

NORTH CENTRAL

At **Independent Studios** in Kokomo, IN, the **Pink Torpedos** cut their latest single with **David Bentzler** producing and engineering and **John Frazier** co-producing... At **Solid Sound**, Ann Arbor, MI, solo folk artist **Craig Kukuk** finished mixing his first project entitled "Wounded" with **Rob Martens** engineering... At **Studiomedia** in Evanston, IL, guitarist **David Onderdonk** has been producing his third album on Quaver Records, engineered by **Benj Kanters**. The album, to feature ambient guitar and horn sounds, will be the fifth engineered for Quaver, a local "new age" record company... **Seagrape Studios** in Chicago resounded with the metallic sounds of **Speedtrap**, who recorded the song "The Fire" for Silverfin Records upcoming **Metalworks Battalion #3** LP. **Joe Tortorici** engineered the date... The new Foley Stage at Toronto's **Comfort Sound** (designed by Canada's top Foley sound effects team Andy Malcolm and Peter McBurnie) was put to use during the sweetening sessions for the feature film **Twin Dragon Encounter**. The studio also added music and effects from their new CD sound effects library... Country rock group **Ouray** was in Chicago's **Paragon Studios** recording basic tracks for two of their new songs, "Alibi" and "Could You Forget." **Marty Feldman** engineered the project and **Frank Pirruccello** of Ouray produced. **Scott Barnes** and **Tom Quinlan** were assistant engineers for the sessions... At **Soto**

Sound in Evanston, IL, blues producers **Steve Wisener** and **Dick Shurman** were in overseeing overdubs for the latest album by **Eddie King** and **May B. Mae**. **Jerry Soto** engineered... The jazz/R&B/light rock musical group **Family Portrait** has been recording an extensive deino portfolio at **Take 1 Studios** in Cleveland. Take 1 is also filming a documentary on the group... At **ARS** in Alsip, IL, the metal band **Nineteen** completed the remix of their album **Missing in Action**. The album was engineered by **Harry Brotman** and produced by **Nineteen**...

NORTHWEST

Roy Rogers, featured slide guitarist with blues legend John Lee Hooker, has started recording his second LP at **Russian Hill Recording** in S.F., **Samuel Lehmer** engineering... **Prudence Dredge**, the rollicking nine-piece group from Seattle with Montana roots, finished an 11-song LP with engineer **Bruce Calder** in Studio C at **Steve Lawson Productions** in Seattle... One Step Productions selected **San Francisco Production Group** to provide post-production for the pilot episode of **Stepping Into Life**, a daily half-hour interview series, currently being offered for national syndication... At **Villa Recorders** in Modesto, CA, recent sessions included an LP by the metal band **Intrinsic**, **Ed Sandar** producing with **Fred Eichel** engineering... At **Dave Wellhausen Studios**, Wellhausen engineered the **Robin Flower Band's** new album for the Flying Fish label, and **Verlin Whisk** completed his debut album of C&W tunes... At **Triad Studios** in Redmond, WA, **Jim Valley & Rainbow Planet** were in for overdubbing on a new album. **Lary Netzger** engineered... **The Music Source** in Seattle

completed production on theme music for commercials promoting NBC Sports' coverage of the 1988 Olympics in Seoul, Korea... Vocalist **Keta Bill** and co-producer **Gregory M. Ercolino** tracked at **Drone Studios** in Redwood City, CA, for Keta's appearance on KPIX's **Afternoon Show**. The session was engineered by **Brett Brown**... **David Lee Roth** and band were in at **Granny's House** in Reno, working on a New Year's show for **The King Biscuit Flour Hour**. It was produced by **Steve Vai**... At **Colorado Sound** in Westminster, Denver's **Chris Daniels & The Kings** put the finishing touches on their **Roadhouse Music** album. **Jim Mason** and the band produced the album...

SOUTHEAST

Working at **Treasure Isle** in Nashville were **Highway-101**, produced by **Paul Worley** and engineered by **Tom Harding**; **Scott Wesley Brown**, produced by **Greg Nelson**; **Michael Clark**, engineered by Tom Harding... At **Air Studios** in Hendersonville, TN, **Leon Everette** and **George Jones** recorded a duet recently, for Everette's upcoming single release on Orlando Records. Producer/engineer for the session was **Mike Daniel**, assisted by **Denny Knight**... **International Sound** in North Miami Beach finished mixing a 12-inch version of "Serious" by **Donna Allen** for the 21/Atlantic label, engineered by **Barry Mraz**, **Eric Schilling** and **John Haag**, assisted by **Carlos Santos**... Recent activity at **Southern Tracks Studio** in Atlanta included tracks for an **Alicia Bridges** 12-inch release with **Doug Johnson** producing and **Marc Aramian** and **Doug Johnson** engineering; and the group **Atlanta** doing pre-production recording for their upcoming single on Southern Tracks Records... Recording at **Mirror Image Studios** in Gainesville, FL, was guitar legend **Bo Diddley**. The session was engineered by Mirror Image's newest staff member, **Mark Pinske**... CBS's **Steve Buckingham**, teamed with engineer **Joe Bogan**, is back at **Stargem** in Nashville with their newest find, **Ricky Van Shelton**...

SOUTHWEST

Recent activity at **Lone Star Recording** in Austin included the **Wild Seeds** mixing their Jungle Records album **Brave, Clean, and Reverent**, with producer **Mike Stewart** and engineer **Jay Hudson**... Slash/Warner Bros. artists **The Bodeans** were at **Planet Dallas** putting down live tracks to be aired on the nationally syndicated **George Gimmarc's Rock & Roll Alternative**... **Powerhouse** in Las Vegas recorded the audio for **Lola Falana's** Italian TV special... Producer **G. Brian Tankersley** and What? Record's **Lynn Nichols** were at **Rivendell Recorders** in Pasadena, TX, with artist **Dave Perkins**, finishing his new LP for the label...

—CONTINUED ON PAGE 178

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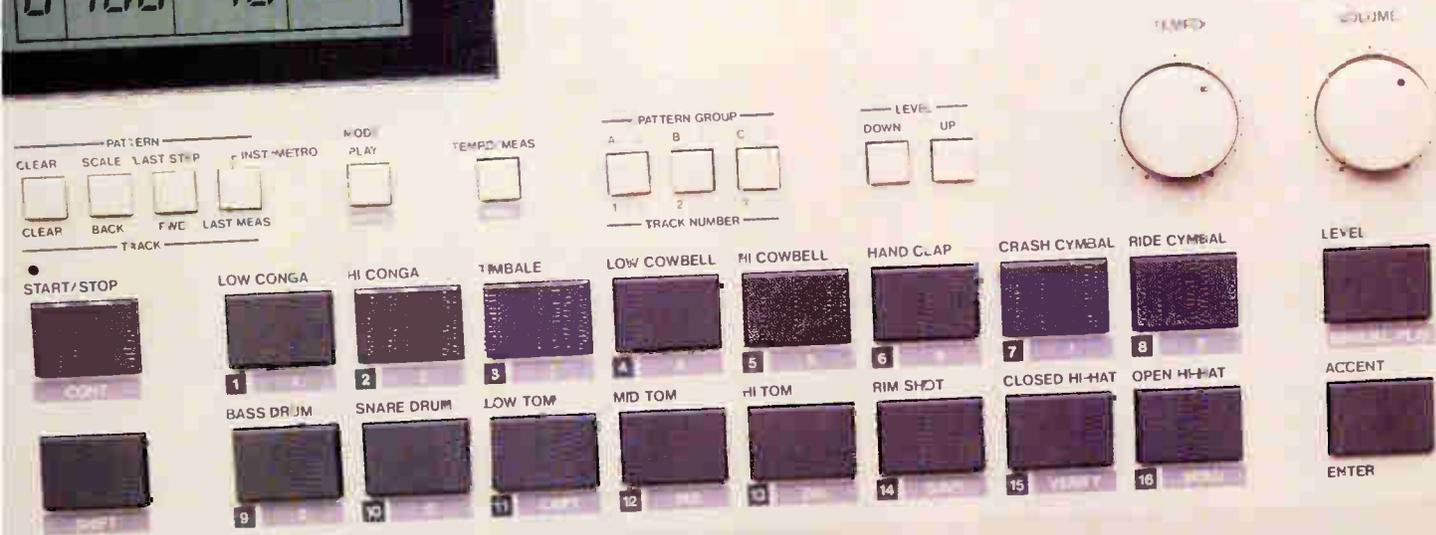
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RHYTHM COMPOSER TR-505



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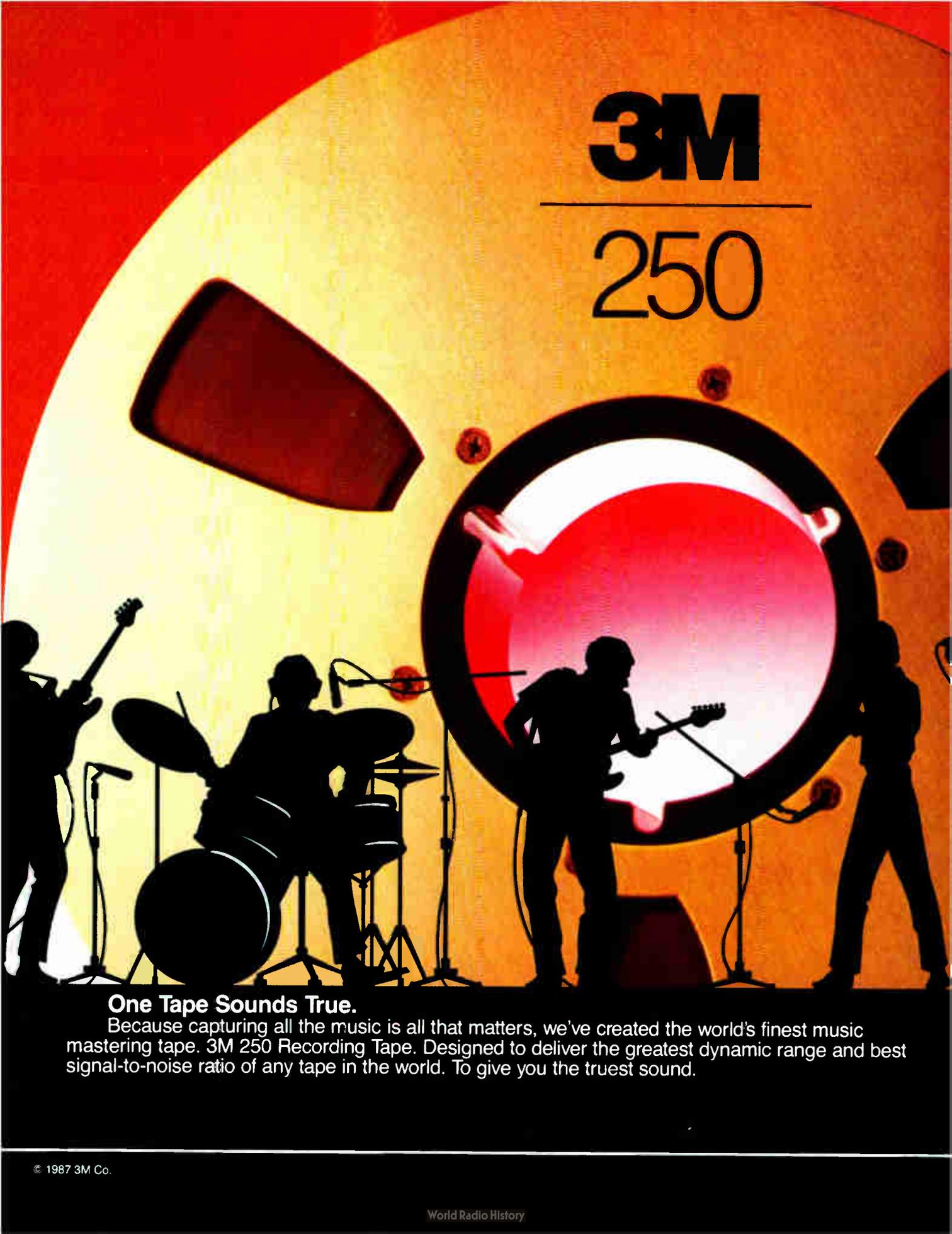
Weighing in at only 950 grams (that's 2 lbs. 2 oz. to us), Roland's spunky new TR-505 Rhythm Composer sports a winning combination of traditional drum-kit and Latin Percussion instruments. But don't let its small size and modest price fool you—the TR-505 boasts heavy-weight digital PCM samples of kick, snare, toms, handclaps, high hats, cymbals, timbales, congas and cowbells—16 voices in all to give your rhythm tracks, rehearsals or live performances a punchy professional drum sound and feel. Behind all this brawn is a sophisticated computer brain with more than enough smarts and memory to make this drum machine your ally in the fight against boring drum programming. Program 48 of your own drum patterns (in real-time or step-time) or take advantage of 48 useful preprogrammed patterns—either way you're off and drumming right away. The large LCD display helps you keep track of every beat and performance parameter. But that's not all, our new champ still has a few moves you haven't seen. The TR-505 is a thoroughly modern MIDI instrument loaded with MIDI features and controls including an ability to respond to dynamic drum parts. Battery or AC powered, the versatile TR-505 scores an easy Technical Knock-Out over the competition. But don't say we didn't warn you—this little powerhouse will knock your socks off!

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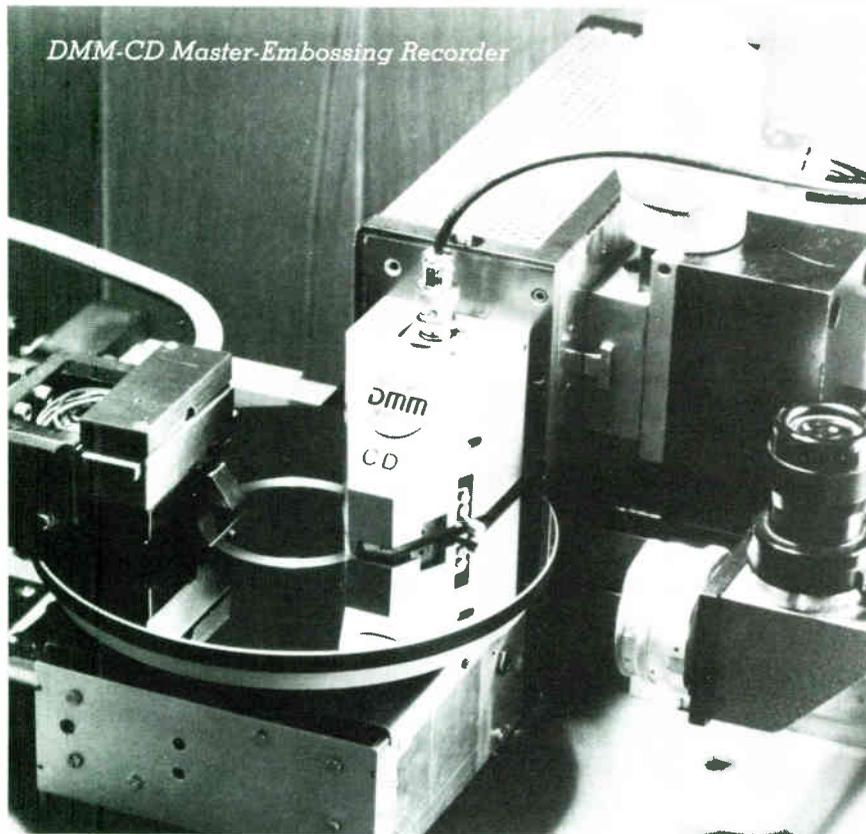
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DMM-CD Master-Embossing Recorder

DMM for CD

by Ken Pohlmann

A piece of U.S. audio history was recorded last year. Dollar sales of the LP dropped below a market share of 20% (down sharply from 30% the year before). And dollar sales of the CD rose above a market share of 20% (up sharply from 10% the year before). Those two lines crossed a lot sooner than many people predicted. And they will never cross again.

Naturally, that kind of milestone prompts many people to reflect on the course of events, and how times change. For example, they might recall what happened to the slide rule manufacturing industry shortly after pocket calculators were introduced.

Which brings us to Teldec Schallplatten GmbH, manufacturers of Direct Metal Mastering (DMM) technology for LPs. This record company, with headquarters in Hamburg, and labor-

atories in Berlin, Federal Republic of Germany, has announced a DMM process for producing compact disc masters. They claim lower investment and production costs compared to conventional photoresist CD mastering. Will this new process profoundly impact the compact disc profit equation, or merely add to the growing arsenal of devices available to CD manufacturers? The first step toward an answer is an understanding of how the new DMM-CD technology works. . . .

DMM for LP mastering is a process in which an analog signal is cut directly into a blank disc electrolytically plated with copper. The process largely eliminates pre- and post-groove echo, reduces groove noise, and generally results in a clean, more transparent sound quality. LP fans have thus come to know and love Teldec.

A little less known is Teldec's early experimental work in cutting video sig-

nals onto discs. A piezoelectric transducer was used to mechanically record data with a bandwidth of several megahertz onto a disc; both the Telefunken/Teldec and RCA videodisc technologies used this method in the early '70s to record video signals in a frequency modulated, analog groove.

Alternately, the Philips-developed videodisc system pioneered analog video recording via pits arranged in a spiral groove. Of course, that work ultimately led to the compact disc. There was thus considerable precedent for the mechanical disc recording of high bandwidth information. It was Teldec's job to find the correct parameters required to satisfy the unique requirements of CD mastering.

Most analog audio disc recording uses a cutterhead on a vertical arm. Downward pressure on the recording medium is adjusted to provide correct groove depth, and follow surface variations. The pressure, of course, is modulated by the input signal. Alternatively, an advance ball can be attached to the cutterhead so that the cutterhead follows surface variations. The groove depth can be set by adjusting the variation between the advance ball and the cutting stylus.

For videodiscs, as in the Telefunken/Teldec system, the cutterhead height is fixed and adjusted to remove surface material to create a new surface. Thus track pitch is constant, and no land is left between groove segments. High precision is obtained; for example, groove depth may be only 0.1 micrometer.

The transition from spiral groove recording to spiral pit recording may be easily conceptualized as an interrupted groove in which the interruptions are a function of the driving signal; in the case of the CD, the physical lengths (and hence timings) of the interruptions contain all of the encoded information. As a first approximation, the first (conventional analog) mechanical process could be used, lifting the cutting stylus on and off the recording surface as needed. However Teldec discovered that the microscopic dimensions of the CD prevented the stylus from following surface variations without causing damage.

They thus turned to piezoelectric electromechanical transducers, as a videodisc recording. Figure 1 shows a piezoelectric longitudinal transducer with a cutting stylus attached. Deformation of

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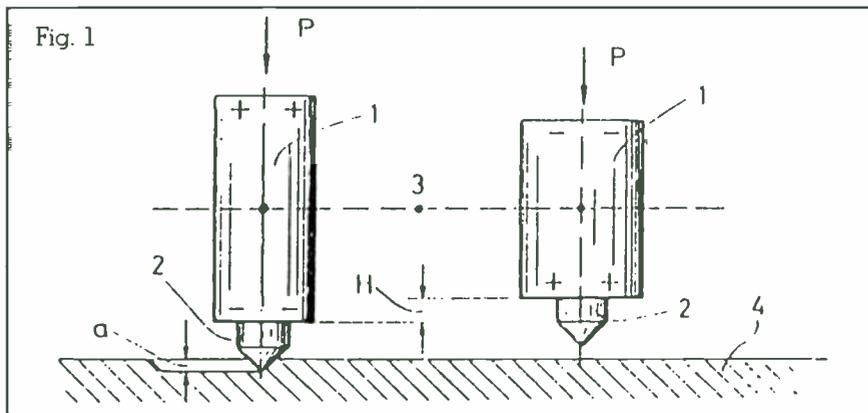
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the element occurs through the piezoelectric effect, according to the polarity of the bipolar applied potential. The assembly rests on the disc, pressing on the recording surface because of gravity. Because the center of gravity of the assembly cannot change instantaneously due to inertia, the longer dimension causes the cutting stylus to press into the recording surface while the shorter dimension causes it to move away, lifting from the disc.

The stylus thus presses into the disc during positive pulses and skips above it during negative pulses; using an equation based on gravitational force, and the difference in length in the piezoelectric element, the maximum possible time between positive pulses can be calculated. This in turn is correlated to the lowest data frequency of the CD signal (196 kHz). The stylus is thus designed to successfully jump over (and onto) the disc surface within the constraints of the CD's EFM signal. In addition, maximum relative error for pit depth can be judged.

The stylus is mounted in a floating support and the complete assembly is mounted in a triangular bracket: it is hinged at one side, and the stylus is free to move in a vertical direction. In addition, the bracket can follow deviations of several micrometers in the disc surface.

Because of mechanical losses, the mechanical movement exhibits a resonance peak, as shown in Figure 2, a plot of amplitude response versus applied frequency. This yields phase error. Corrective measures using feedback provide aperiodic damping; this results in stable operation and transient response. The assembly is thus able to produce a high quality EFM signal.

Teldec researched two recording methods: disc cutting and disc embossing. With disc cutting, a cutting stylus similar to that used in analog mastering is used to remove the chip from the disc, creating a pit. A major obstacle is the literally billions of chips distributed on the disc surface during cutting; be-

cause the laminar boundary layer of air is larger than the chips, the chips cannot be vacuumed off during cutting, as is the case in groove cutting. The CD master's surface must be cleaned after mastering—a problematic proposition, given that any remaining chips would create data errors. In addition, chips might foul the cutting process itself.

Teldec thus focused its efforts on the second method: disc embossing, in which the transducer element is pressed into the disc surface. No cut is made thus no chips are produced. Rather, the impression of the pits remains on the disc surface. The shape of the diamond stylus is crucial, to create a pit geometry compatible with the CD system.

The circular spot of the laser beam used in conventional photoresist CD mastering, and the photoresist development procedure itself, results in a rounded pit, as shown in Figure 3. A CD player's pick-up laser beam is reflected when it strikes the land between pits resulting in a high percentage of reflected light. When the beam strikes a pit, the one-half wave-

length dimension difference between the land and pit causes cancellation, and thus a relatively low percentage of reflected light. For CDs replicated from a Teldec master to be playable on a regular CD player, the pick-up's laser beam must respond identically to the pits replicated from embossing.

An embossed pit has a geometry similar to that of an analog groove, as shown in Figure 4; a cross section view would reveal a "V" shape with walls at a 45 degree angle. By selecting a suitable stylus angle, and optimizing the speed with which the cutting stylus is moving, pits can be achieved which modulate the pick-up's laser beam with the same intensity and a similar phase characteristic as the pits from conventionally mastered CDs. Teldec states that a CD player built with standard wavelength and aperture cannot distinguish between the two types of pits; presumably this is the case for pick-ups with either half-silvered mirror, as well as polarization separation design, in which plane polarization of the laser beam is critical in the pick-up's operation.

An embossed pit also differs from a photoresist pit because embossing results in a displacement of material; in simple terms because of material flow, a ridge is created along the lateral pit edges. The pits on the conventionally mastered disc have a rounded contour because the polycarbonate cannot conform exactly to the mold geometry. Embossed pits produce a relatively sharp edge because of deformation after injection molding. Figure 5 shows a cross section of a mold, and injection-molded disc substrate. Ridges produced by embossing produce a hollow area in the negative area of the stamper. This encourages polycarbonate flow, and a

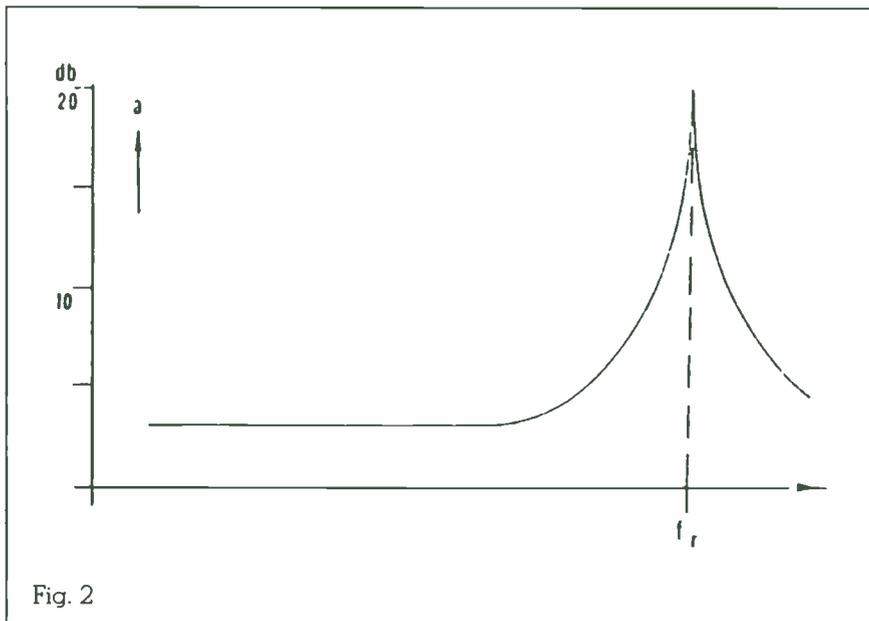


Fig. 2

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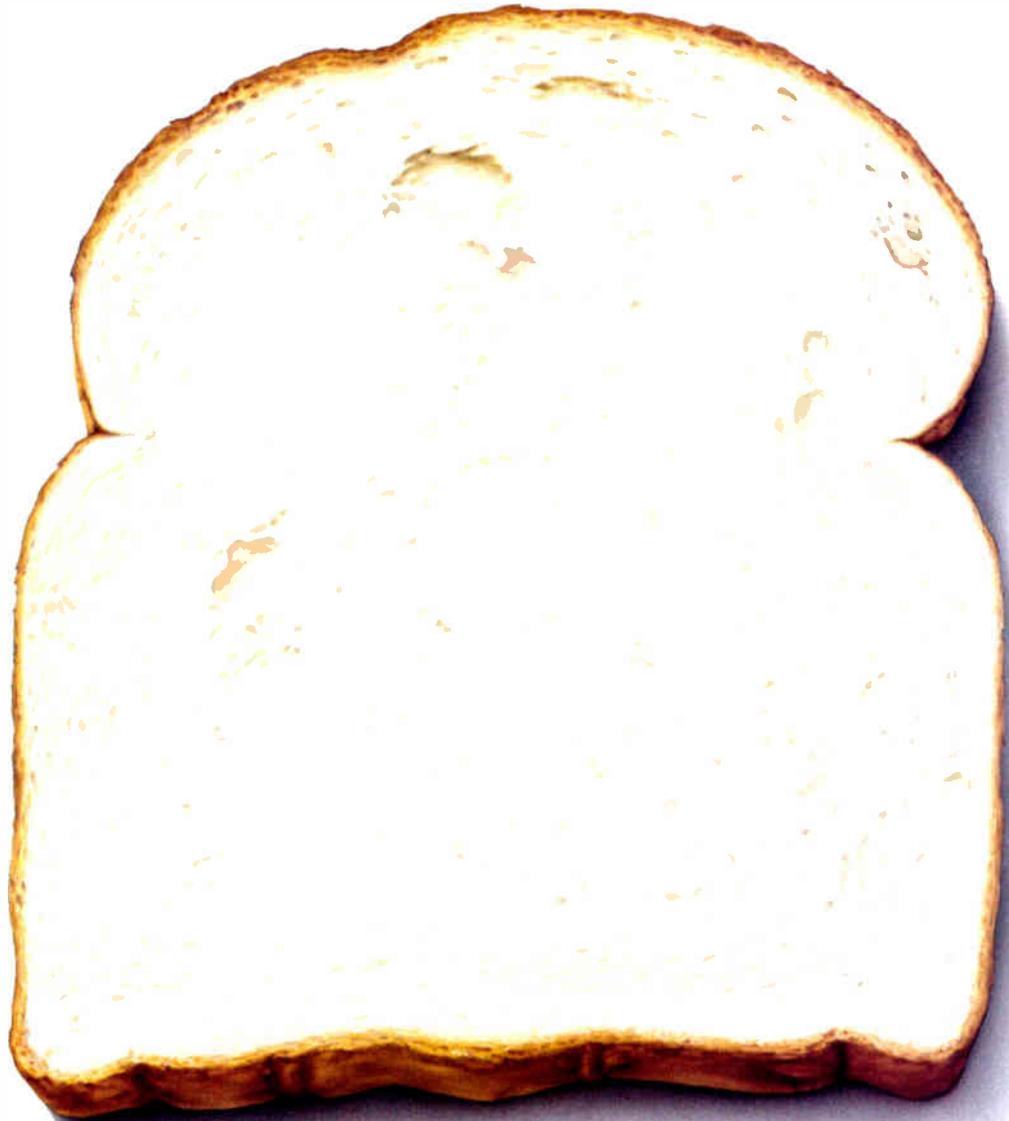
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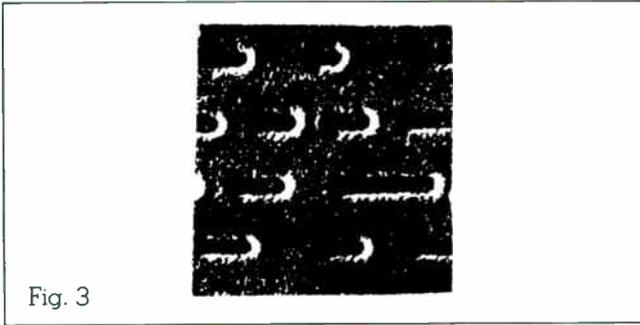


Fig. 3



Fig. 4

sharper pit edge.

A metal surface is used for mastering; a glass substrate disc is prepared with a separation layer a few nanometers thick. A layer of copper approximately 300 nanometers thick is sputtered over the preparation layer; the data is embossed on this copper surface. Reportedly, since the copper layer is amorphous, the blank must be used within a few days otherwise the copper will change to a crystalline structure, rendering the blank unusable for mastering.

After embossing, a galvanic process is used to prepare the master for replication. The copper surface is covered with a layer of precious metal (gold or rhodium) a few micrometers thick. That layer is then covered with a layer of nickel approximately .25 millimeters thick; this may be used as a father or stamper after separation from the glass substrate. Finally, the electroplate must be released from the sandwich; both the copper layer and separation layer may be removed in a ferric chloride solution without damaging the gold or rhodium surface on the nickel backing. Using the resulting metal parts, conventional galvanic processes may be used to generate mother and stamper tools.

If rhodium is used, the metal part may be used directly as a stamper, able to press 10,000 to 15,000 discs before deterioration of the stamper.

This process may be contrasted to that used for conventional CD mastering: a glass substrate is coated with photoresist; during recording the resist is exposed by the laser beam; pits created when the plate is developed. The surface is coated with a thin layer of silver; typically galvanic processing is used for production of stampers.

In some respects, the Teldec DMM-CD process is a somewhat low-tech solution to a high-tech problem; it is, in fact, directly akin to an invention of Thomas Edison. In 1877, Edison experimented with a telegraphic repeater, a disc recorder designed to record Morse code, and repeat that message at high speed when replayed. It was a disc recorder, in which the dots and

"In some respects, the Teldec DMM-CD process is a somewhat low-tech solution to a high-tech problem..."

dashes were embossed onto the disc, using the binary input from the telegraph as the input signal. It was work on the repeater that eventually led Edison to stumble on the analog groove, and the invention of the phonograph. Disc embossing of binary data thus has considerable historical precedence, as well as historical import behind it.

At any rate, the best solution is often the most cost effective solution, regardless of the sophistication of the technology. Will DMM-CD redefine the economics of CD mastering? Will CD mastering leave the confines of the high tech factory, and show up in recording studios?

The answers appear to be negative, at least for now. With a price tag estimated at \$750,000, few mastering studios will feel comfortable entering into CD mastering, even with the Teldec system, which certainly appears to streamline the mastering process. Even if made available on a lease basis, it is unclear how many facilities

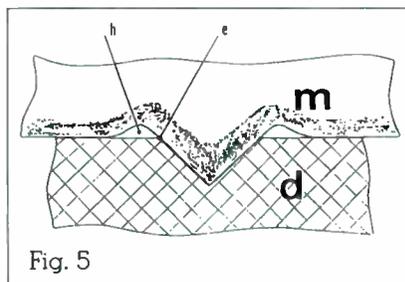


Fig. 5

will venture into the still rather esoteric, and exacting technique of CD mastering. Also, unlike LP mastering, often regarded as a last-chance mixdown session, CD mastering is a simple data transcription process where all artistic decisions have been previously completed. Since no production decisions are involved in CD mastering, perhaps it is best left to the factory technician.

Rather, the Teldec system appears to be a viable alternative for manufacturing facilities, perhaps ready to expand their mastering capacity to meet demand. As such, the Teldec system may be more cost effective than Sony and Philips systems, and at least competitive with alternative mastering systems such as those offered by several domestic vendors.

When the Teldec DMM-CD system is available, perhaps in June or July, there will certainly be many interested parties. However its main importance will be as another ingenious and cost effective product in the context of the increasingly vigorous introduction of second generation CD manufacturing equipment. As such, the DMM-CD system, along with many other products, will together help lower the manufacturing costs of CDs.

Finally, a postscript. The October installment of *Insider Audio*, with its technical description of CD-I technology, elicited considerable interest from many readers, anxious to learn more and perhaps cash in on CD-I technology. To that end, Philips has made available an excellent booklet, entitled "A General Introduction to CD-Interactive." Readers may request a copy from Bert Gall, US Liaison Office for CD-I, Corporate Group Home Interactive Systems, 1111 Northshore Drive, Building 2, Suite 726, Knoxville, TN 37919. ■

References:

- Horst Redlich, Guenter Joschko, "CD Direct Metal Mastering Technology—A Step Towards More Efficient Manufacturing Process for Compact Discs," AES Preprint #2372, November, 1986.
- Bert Whyte, "Masters and Maestros," *Audio*, December, 1986.

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ENGINEERS & PRODUCERS

SPEAK OUT ON SMALL MONITORS

by George Petersen

Over the years, advancements in audio technology have brought sound reproduction ever closer to the brink of the ultimate in fidelity, both in the consumer and production realms. Yet at the same time, engineers and producers are faced with the question of which audience to mix for—knowing their final product will be heard on equipment ranging from \$10,000+ audiophile playback systems to 2-inch AM radio speakers, and everything in between. Clearly the answer is not easy to come by, and there is a need for several types of studio speakers to be available to check one's work.

One trend which has emerged over the past half-decade is the use of medium-sized reference monitors—something which falls between the omnipresent Auratone cubes found in many studios and full-size control room systems. We talked to a number of engineers and producers around the country about their choices and preferences in reference speakers, and not surprisingly, received a variety of responses about this highly subjective topic.

John "Jellybean" Benitez

A former club DJ turned record

producer, Jellybean Benitez is perhaps best known as a dance remix specialist, having completed about 200 such projects (including 20 number-one hits and about 80 top-tens on the dance charts) over the years for dozens of top acts. Producing Madonna's "Crazy for You" single turned out to be quite a departure from his usual projects: "It was so out of my league to do a ballad," notes Benitez, "it was definitely the most challenging record I ever made—totally instinct, with nothing from past experience to draw on." At press time, Benitez was producing a song for Whitney Houston's new album, and preparing for the release of the Jellybean *Just Visiting This Planet* LP, which should be out later this month.

"I like listening on the Yamaha NS-

10s and the E-V Sentry 100s—going back and forth between those two and whatever [main] monitors that are in the studio, usually UREIs. I also like listening on the little speaker on the Studer (2-track). After I finish my whole mix, I try it on that speaker: if you can hear everything on it, then you can hear it on anything. I listen for different things on each speaker and like switching around—about 50% on the Yamahas, 25% on the Sentries, 15% on the mains, and 10% on the Studer. I used to work only on the Sentries, and then I started listening on the Yamahas, but I always use the Sentries because there are certain things I listen for on those, especially when I'm doing a dance mix.

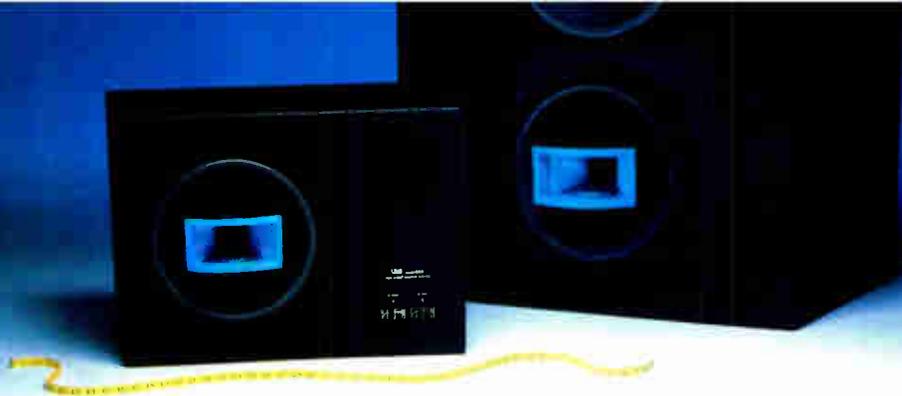
"I have pairs of the Yamahas and Sentries at home and at the office, and I always bring those wherever I'm working. I have a bunch of different speakers at home—Visonik 803s, ADS, JBL 4411s, E-Vs and Yamahas. I have them in different rooms and use them to A-B things, going from room to room."

Gene Lawson

Besides running a music publishing venture and The Reflections, a 24-track studio in Nashville, Gene Lawson has kept his engineering chops busy over the past 24 years. One of



Above: Tannoy NFM-8, JBL Control-1 (with cover removed), and Yamaha NS-10 (shown with tissue taped over the tweeter—a popular choice among recordists).



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Lawson's current projects is an album for Deniz "Dumpy" Rice (former Conway Twitty keyboardist) which Lawson produced and now is shopping for a record deal.

"The Auratone (cubes) have such a midrange honk that if you can make it sound good on them, it will usually sound good on anything you play it on. A lot of the engineers like the Eastern Acoustics MS-50s, a two-way system, and we recently got a pair of the Eastern Acoustics/RCF SCD6000s: they have a good bass punch and a couple of the engineers here like them. Some of the independent engineers who come in bring their own loudspeakers, so we see a lot of Yamaha NS-10s, and the Electro-Voice Sentry 100s are fairly popular.

"You can mix on anything that you're familiar with, but the trick is having something you can reference back to—you can't be safe on any one loudspeaker. We have a low-power FM transmitter here that allows you to go out to your car and listen to your mix. Most people in the music business are probably more familiar with their own car speakers than any other point of reference, so that works out pretty well."

Don Mack

One of Don Mack's favorite projects was working on the acclaimed Brian Eno/David Byrne collaboration, *My Life in the Bush of Ghosts*. "Everything about the project was very creative," notes Mack, "we did amazing things in the studio—there was a lot of experimentation." Now mostly involved in producing, at press time Mack was working on metal rockers Odin's second LP, and shopping a demo for Allegiance, another hard-edged group.

"I really haven't found any small reference monitors that I'm completely comfortable with, that I'd want to buy and bring with me. I use the Yamaha NS-10s because they're so universal, but I have a problem with the high-end bump that they've got. I don't like using or looking at toilet paper [taped over the tweeters], so I always rip it off and put the grill covers on. The NS-10s work fairly well, but get a little hard to listen to sometimes—they're tough to mix on all day long, but I'm used to their sound. I'm still looking for the perfect little monitor: the NS-10 would be great if they'd put an attenuator on it so you could turn down the tweeter.

"I switch between speakers quite frequently while in the studio, using the big monitors to make sure I know what's happening on the low-end situation. When I go to mix levels, I key off the smaller speakers, but I'm always moving back and forth—even check-

ing things on headphones. There are certain things, imaging and so forth, that you can hear better on headphones. I like using everything available to me in the studio."

Glenn Meadows

Glenn Meadows, co-owner and engineer at Masterfonics, a Nashville facility, has mastered over 50 gold and platinum records over the years, and recently remodeled both mastering suites and installed a dedicated remix room featuring Hidley/Kinoshita monitors that reportedly are accurate to 20 Hz. The speaker systems utilize TAD components, FM Acoustics amplifiers, and concrete enclosures.

"For near-field monitors, we're tending to favor the Genelec S30 little tri-amped self-powered monitors; they relate very well to our Hidley monitors. The Genelecs are not really a small monitor, but not huge—they're a medium-to-small size cabinet that an engineer could carry with him.

"Part of the key to a monitor's sound is the amplification system, so if you carry your own monitors into different studios, then you're at the mercy of whatever amplifiers and speaker cable the studio is using for small monitors. If you go in with the Genelecs, you plug into the patchbay or monitor amp feed and have the same reference point from studio to studio."

William Mueller

Another engineer who is getting into producing is William Mueller, now working with saxophonist Don Mark (perhaps best known for his playing on the *Entertainment Tonight* theme). Mueller, the chief engineer at Sheffield Audio-Video, a digital facility in Phoenix, Maryland, garnered a 1985 Grammy nomination for engineering Michael Hedges' *Aerial Boundaries* LP, and more recently completed radio and TV mixes for the upcoming PBS special *A Tribute to Monk*, featuring Herbie Hancock and Wynton Marsalis.

"I'm using what everyone else in the world is using: NS-10s with tissue over them. I've been using them since '82 or '83, so it's been a while. The studio has UREI 813s, like everyone else in the world, and the reason I use NS-10s is the same reason I use 813s: because everybody else does and I can be assured of what I'm hearing. In our truck we have UREI 811s and I'm real happy with them. I don't use NS-10s in the truck because the UREIs are tight and sound good enough—I have the tweeters [HF drivers] turned back a bit, but when I cut something on the truck and bring it into the studio, it's generally right.

"I read an article a couple of years ago, where Bob Clearmountain said

he was very concerned about his ears, and I feel the same. I've been engineering for 20 years, and am concerned about burning my ears out, so I listen mostly on small monitors, at a much lower level than most engineers. You can have problems perceiving pitch at high and low frequencies when working at high volumes and most of the clients I work with are happy that I don't monitor at extreme levels."

Jim Reeves

With 25 years behind the board working with acts ranging from Count Basie to ZZ Top (including stints as staff engineer for both Columbia Records and the Record Plant), Jim Reeves truly can be called an audio veteran. Now independent, the Yonkers, New York-based Reeves is currently working on a jazz project with Omar Hakim.

"Right now I'm using Visonik David 8001s. They give me a good overall reference, with enough bottom and top end to work with. I was going to go with the Yamaha NS-10s, but I didn't like the idea of using tissue paper over the speaker, so I went with these—I like the response of them and I can take my tapes and play them anywhere and get what I expect.

"Usually I start a date on the big speakers, and then go down to the small speakers to start to get perspectives. At various points in the session, I'll turn on the mains just to check and recheck things. I've been doing this for about 25 years—in the beginning I'd just stay up on the mains and I'd find that a lot of things get out of hand up there. But on the small speakers, I can tell if something's jumping out awkwardly—like a cymbal crash that's hotter than it needs to be. Transient things that go by quickly are harder to gauge at a loud level: I get a better perspective and it's more pleasing at a lower level on smaller speakers."

Barry Rudolph

Besides offering engineering and producing services for record and video dates, North Hollywood-based Barry Rudolph also does technical writing and reviews for *Music Connection*, a Southern California music industry magazine. At press time, Rudolph was recording the new LP for the Dazz Band at Ray Parker's Amerayan Studio, with producers Bobby Harris and Robin Smith. Rudolph's favorite past project was engineering Lynyrd Skynyrd's highly successful *Street Survivors* album.

"I use two or three reference monitors: I like the Tannoy SRM-12Bs or SGM-12Bs, and I also like the little KEFs. I'm OK on the Yamaha NS-10Ms, if that's all a studio has—they're not

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my favorite. I also don't take the grill cloths off or do that baloney with the tissue paper. Another pair I've been using are the JBL Control Ones: I like them and have a pair at home now—they're truer than the Yamahas. They also give you the middle frequencies, with a tighter low-end than the NS-10s. I've also been using the UREI 809s lately and I like those about the same as the Tannoys—it's hard for me to pick a favorite."

Bob Stone

Formerly the chief engineer at Larabee Studios, West Hollywood, California, independent Bob Stone has built somewhat of a reputation as a remix engineer (some of his favorite

projects have included the 12-inch of Donna Summers' "Last Dance," and Shalimar's "Second Time Around"). Not one to be typecast, however, Stone has worked extensively with Frank Zappa over the years, on diverse recordings such as "Valley Girl," *Shut Up and Play Yer Guitar*, and *The Old Masters*. Stone's current projects include Zappa's *Jazz from Hell* and he is co-producing Dweezil Zappa's *Having a Bad Day*.

"I've been using the Yamaha NS-10s, although I'm not pleased with them. They have their known deficiencies: I've been real tempted to do some corrective surgery on the signal that drives them, like the tuning you'd do on a main monitor system: it's not so

far out of line to take care of some of the more drastic ambiguities with any small near-field system. I leave the NS-10s non-tissued, after seeing the hilarious article on the tissue paper results and calibrations ["Examining the Yamaha NS-10 'Tissue Paper' Phenomenon," Bob Hodas, *Recording Engineer/Producer*, February 1986]. I leave them as-is, knowing what they're going to be doing, and use them for balance at a low-to-moderate level, and depend a little more on the main monitors for the real accuracy—EQ and so forth.

"Smaller monitors offer a lot more consistency and greater opportunities for extended work periods, without having the fatigue curve calibration: mind fatigue, ear fatigue, and everything else—you don't find yourself wanting to keep increasing the high-mids and upper frequencies just because you've been working a long day."

Phil York

In addition to recording gold and platinum records, Dallas-based independent Phil York (voted "Best Recording Engineer" in 1983 by the Texas Music Association) also offers periodic classes in engineering and production, as well as cassette courses on the music business. Some of York's recent projects include Bugs Henderson & The Shuffle Kings, and Secret Cinema, both of which he is currently shopping.

"The Auratone cubes are just too small—not enough bottom end—so I got some Radio Shack Minimus 12s, acoustically padded with a napkin—with six to eight pinholes punched in it—inside the grill. It's a cheap make-do, but it gives me the best mixes. It happens to be that those speakers are a great cross-section of American bookshelf speakers. I call them my 'awful' speakers—it's a nickname written on the back of them—because if I can get a mix to sound good on those awful things, then it'll sound great on anything else.

"I've tried the Yamaha NS-10s and they're much too bright and have a peak about 1 kHz: I don't like them. I've tried several others that are around town—I work about eight different studios in Dallas—and my favorite has turned out to be the little compact [NFM-8] Tannoys. Those are primo; I've gotten such good mixes on them and I really like them. One thing I don't like is equalization in the alternate monitor line. It doesn't make any sense, but there are studios with EQ in there. Engineers should check to see if there's any EQ on the alternate monitors any time they work at any studio for the first time." ■



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PRODUCERS-DESK

by Robin Tolleson

Arif Mardin

In his remarkable 23-year recording career, Arif Mardin has been consistent and daring—traits that don't always sit well together. Arif (pronounced a-reef) has left his mark on three decades, working largely out of a home base at Atlantic Studios in New York. That career is far from over—Mardin will probably still be a step ahead of his peers in decades to come.

The 54-year-old producer, born in Istanbul, Turkey, and trained in Boston, became a partner with Tom Dowd and Jerry Wexler at Atlantic in the '60s, making wonderful records with Aretha Franklin. He developed into a crafty popster in the '70s, helping shape The Rascals' "Groovin'," Hall and Oates' "She's Gone," and the Bee Gees' "Jive Talkin'," as well as merging jazz and R&B to turn that most unusual trick, the instrumental hit, with the Average White Band's "Pick Up The Pieces." In the 1980s, Mardin has put his stamp on such artists as Chaka Khan, Scritti Politti, Culture Club, George Benson and Howard Jones. He worked with Phil Collins on the *Against All Odds* soundtrack, with David Bowie on *Labyrinth*, and is heading back into the studio with the Bee Gees to see if he can locate the magic he found with them on *Main Course* over a decade ago.

"Here Arif is in his 50s, and he's still as innovative and fresh as anybody," says bassist Nathan East, winner of a NARAS MVP award three years running. "He's definitely one



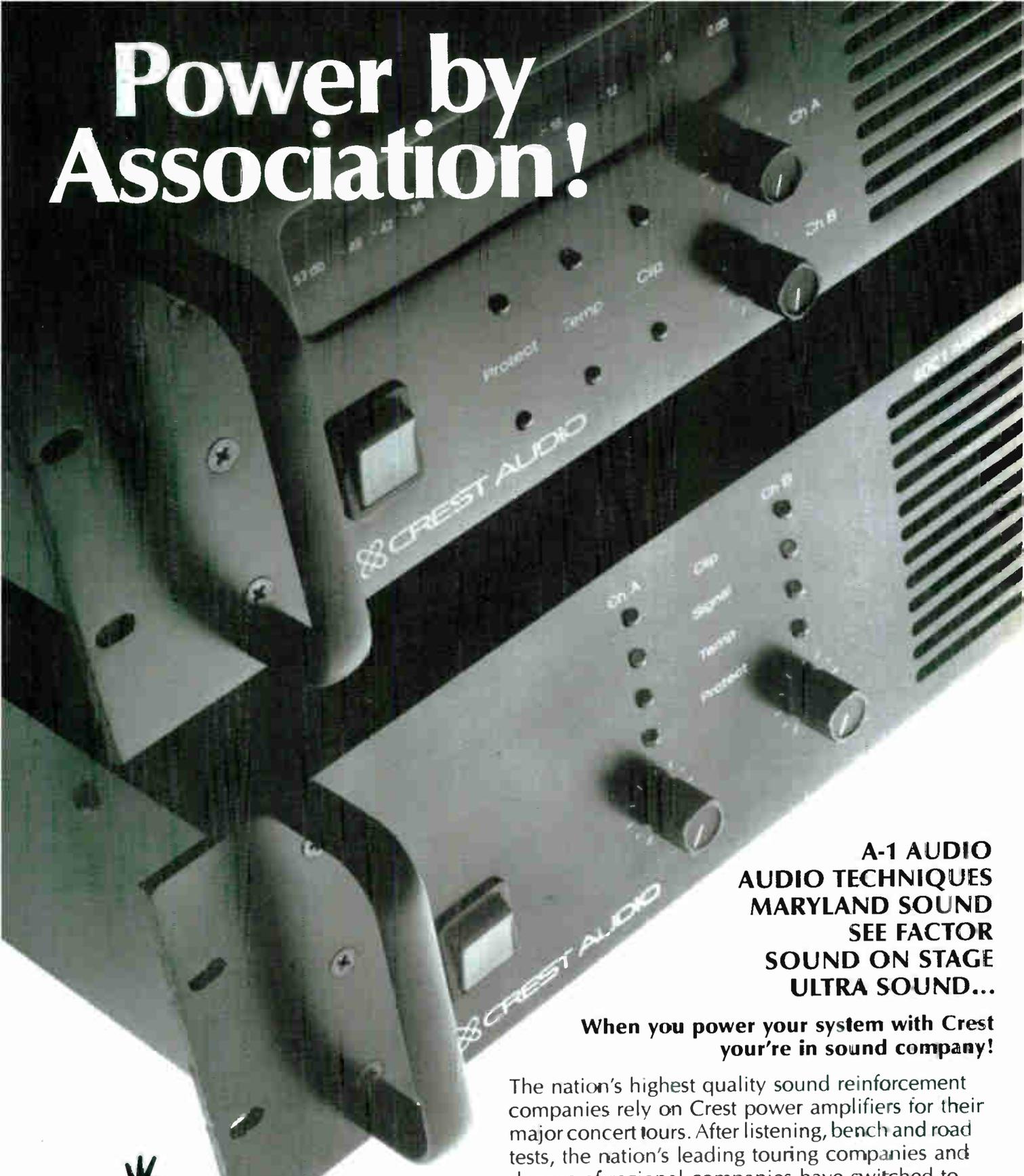
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of my favorite producers, musicians, and people to work with. Pros don't really get any better."

Mardin's first musical love was jazz, and when he first arrived at Atlantic Studios he was assigned to work on projects with Max Roach, Sonny Stitt, Charles Lloyd, King Curtis, Herbie Mann, and other jazz-influenced players. He worked several albums with Mann's group that featured Roy Ayers, Reggie Workman, Bruno Carr and Patato, then was behind the board for *Push Push*, which saw the flute wiz taking on such R&B classics as "What's Going On" and "Spirit In The Dark," with help from the likes of Duane Allman, Cornell Dupree, Richard Tee, Donald "Duck" Dunn and Bernard Purdie

Mardin was called in to take over production chores from Tom Dowd for The Rascals when they decided to move in a jazzier direction, and he brought in bassist Chuck Rainey and saxman Joe Farrell to guest on Dino Danelli's adventurous 7/8 tune "Nama" (*Search and Happiness*). Mardin arranged and conducted the orchestra on Lady Soul's *Aretha's Jazz*, a 1968 release produced by Wexler and Dowd. And he was part of the production team for the Franklin hits "Spirit In The Dark," "You're All I Need To Get By," "Bridge Over Troubled Water," "Spanish Harlem" and "Rock Steady." But his association with Franklin wasn't simply a matter of sharing a common record label; when she moved to Arista in 1981 she brought

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Mardin over to produce *Love All The Hurt Away*, using the finest Los Angeles session players.

On the 1982 *Chaka Khan* album, Mardin arranged a "Bebop Medley" for the singer, featuring "Hot House," "Epistrophy," "Yardbird Suite," "Giant Steps" and more. His string, horn and vocal arrangements can be found across the spectrum of contemporary music—James Taylor's cover of "Up On The Roof" from *Flag*, Steve Winwood's "My Love's Leavin'" on *Back In The High Life*, and George Benson's *In Your Eyes* all sport the Mardin arranging touch.

Howard Jones' *You Know I Love You* is an example of Mardin's ability to maintain a clear, clean sound, in the midst of sampling and all sorts of processing. Khan's *Destiny*, on the other hand, shows Mardin (with help from his producer-son Joe Mardin) at his most daring, mixing outrageous audio effects, metal, pop, R&B and rap, and shuffling around a roster of the finest contemporary musicians of the day, including Marcus Miller, Nick Moroch, Scritti Politti's Green and Gamson, Reggie Griffin, Phil Collins, Pino Palladino, the Breckers, Phillip Saisse, Steve Ferrone, Anthony Jackson, Jimmy Bralower and Sam Rivers.

Drummer Steve Ferrone began working with Mardin in the Average White Band but has continued to get calls from the producer for projects with Khan, Scritti and others. "Arif knows how to get the best out of you," says Ferrone. "He gives you a shot at doing things that you might have an idea for. He knows how to use musicians to their utmost. And sometimes he'll have you do something in a certain way that'll make you think about it differently, so that you'll come up with something fresh."

Mix: You've been involved with a lot of the classic R&B records of the last 20 years. Did you have a lot of R&B in your background?

Mardin: Actually, since I was a kid, nine or ten years old, I used to collect Duke Ellington records. I really started with jazz. I loved the free spirit of jazz, and black heritage and everything. When I came to Atlantic I was actually more involved in the jazz side, producing sessions with Max Roach, Herbie Mann, King Curtis and others. Tom Dowd and I co-produced *The Rascals*, and that was like my first leap into the pop side of it. From then on, working closely with artists like Aretha Franklin—even when I wasn't producing her I was doing arrangements for her in the studio, watching her and listening to her sing—I guess that was the school for me. Aretha's School of Soul.

Mix: What were you doing before you joined Atlantic Records in 1963?

Mardin: I was a graduate of the Berklee College in Boston. I was a recipient of the first Quincy Jones Scholarship to Berklee College, if you can believe that. I was an arranger and composer, actually. And my heart was totally in jazz. And it still is, as much as it can be. On some of the albums I try to inject some jazz influence from some of my loves. Like on Chaka's albums I usually have one tune that reflects that aspect. After I graduated Berklee, I taught there, and then I made the big move to New York. And you know, I was struggling, writing arrangements for jazz groups, things like that. I became part of the studio personnel at Atlantic, and was involved with test pressings, paperwork, the master books and library. I really started from the bottom. And I had a teacher named Tom Dowd—I learned to edit and mix, then I moved into production.

Mix: You, Dowd and Jerry Wexler did some memorable recording as a team.

Mardin: Yes. Jerry was obviously our superior and motivator. And in almost all the cases he also signed the artist. We worked with Aretha Franklin, but it was through Jerry's signing. And the team was formed, but we would report to him.

Mix: One of the first things I heard you guys do was Aretha's *Live At The Fillmore*.

Mardin: Yes, I really like that. I'm proud of that, because I mixed that and we tried to capture the actual live feeling. That one, and another one I'm proud of is *Donnie Hathaway Live At The Bitter End & Troubador*. That was a memorable experience, just being part of the audience. The audience participation and excitement was unbelievable.

Mix: Was it harder to do a live recording back then, or easier?

Mardin: Well, just the same. Equipment changes, equipment gets better. But after all, you go there with a truck and make sure the microphone lines are secure. You mic the audience and hope for the best. The artist usually has the problem. They have to deal with the audience. So it's just the same problems.

Mix: Does your keyboard training and arranging knowledge help a lot as a producer?

Mardin: Yes, of course, because at least I can put on different hats for different occasions. I'm a lousy piano player, but my knowledge of orchestration and harmony helps a lot because I can sit

down and reharmonize a tune and suggest new chords. To me chords are very important. It's a certain language—there could be an ominous chord, there could be a happy chord, and people wouldn't know why a certain song at a certain spot feels strange or good. The chords have a lot to do with it, the harmony of a tune. So I try to really keep a watchful eye on what the chords are going to be in a song.

Mix: You seem to have a big hand in Scritti Politti. That sounds kind of like a producer's wonderland, there are so many great sounds.

Mardin: Again, I was fortunate enough. Green Gartside, a founding member of Scritti Politti, wanted me to work on a specific tune called "Wood Beez (Pray Like Aretha Franklin)." And from that I worked on three songs. Basically it's how Green and David Gamson arranged those tunes. There was no need to change anything, except I made some editorial changes probably on the length of the tune and where the chorus comes in, where the solo comes in. It was a great collaboration, actually.

Mix: It's a real sophisticated song, but the arrangements are kind of simple and open.

Mardin: Well, it's their style. It's state-of-the-art, and it's danceable. It's almost like having Stravinsky on top of a great dance rhythm. Some of those chords are really wonderful.

Mix: How important is it to have a good rapport with engineers you are working with?

Mardin: I would like to feel secure with an engineer, that the engineer will get the right sounds. After all, it's not my job. I can suggest changes, suggest sounds and colors, but the engineer is paid not only for bringing those sounds in but at the same time suggesting new ideas and new sounds. What I like is an engineer who says, "Don't worry about it, I'll surprise you." And that's why I work with the likes of engineers that I work with. One of the processes of production is that you bounce off other people, you grab ideas, and I don't mean steal them—you always give them credit. It's like you're making an instant soup, and you're feverishly adding the mushrooms and the herbs and this and that. And definitely at the end it's very rewarding. So an engineer says "Wait a minute, let me have this kind of sound here," and that will lead to another comment from me or from the artist saying, "Yes but how about counteracting that with something here in the bridge?" So that's very important. I'm not a person who sits down and fiddles

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with all the EQ, and if I don't say anything, that means I like it. If I hate it, if I don't like it, I'll definitely stop it or comment about it. I do or may have a finished sound in my mind. I know how it must sound. But then if the engineer gives something better or different and equally good, I say okay, abandon my idea, what you have is good. I'm extremely flexible. I've worked with Lew Hahn, I've worked with all the engineers at Atlantic Studios. Michael O'Reilly. I worked with Brian Tench and am going to work with him again with the Bee Gees next week. And I work with Kevin Killen, who did some U2 and Peter Gabriel. Together we did the Howard Jones record—he's another fine engineer with a beautiful, clean sound.

Mix: I was expecting something a little more machinery on Howard Jones' new record, but it sounds played and warm.

Mardin: Our secret on this one was that we used live musicians on almost all the tracks. The single ("You Know I Love You") that's out now is Steve Ferrone playing drums. We cut the track with mechanical drums, brought Steve Ferrone in and he played over them, and then we took the mechanical drums out. So that's why it sounds nice. On one track we have Nile Rodgers and another track we have some English musicians. We definitely didn't go the whole techno way.

Mix: There is some interesting sampling being done on "Give Me Strength."

Mardin: That's Howard's own vocals that we sampled actually from his demo. He cut his demo on an Akai cassette, the 12-track, and we took his backup vocals that he sang himself, and sampled them in a very random way, almost like the 1950s tape editing, electronic style—cut the tape up. And we sampled those. Some of them were wrong, but sounded right. Some of the syllables were chopped, and some of them had extra space before it, as if a bad editor had come in. So we sampled those sounds, and that was the basis of his vocal answers to himself. We do voice sampling on all my albums, and we don't steal other people's voices. We sample things that are needed in the project.

Mix: This is a growing controversy.

Mardin: There is no controversy, actually. Sampling is here to stay. There's nothing wrong with it, with the act of sampling. It's the end result that's important. If one samples somebody well-known, at the end it should be so disguised and so covered with other effects and other things that it becomes just like using another color. But if the

well-known person is unadulterated and unashamedly out in the open, then there's a problem. I suggest that the union could think of a sampling session where you hire a conga player or percussionist or drummer, and pay him a fee to sample and he goes home. And by the way, everybody is thinking, "Wow, once I'm sampled I'll be there forever." No producer would use a sound for more than two or three albums, then it becomes passe. Everybody talks about Phil Collins' drum sound, which is sampled. I don't think they'll use it again, because everybody uses it, you see. It's gone.

Mix: There's a real interesting horn sound on "Step Into" on Howard's record. It sounds like an old big band recording.

Mardin: Yes, I don't know where that even came from. It was probably like an old radio thing. It was mono, anyway. We even have a tap dancer in the middle part. We sampled her clicks, soft click, loud click, and then we created our own pattern. We had her tap dance on sand in the studio, and we recorded that.

Mix: You've seen a lot of change in the recording industry. Has it all been good?

Mardin: Yes; at the same time, there are some producers and artists, including myself, who make records and sometimes get bogged down or actually fascinated by the scientific details and gadgetry, and become like children with new toys, and forget what the essence is about. The essence is the song, after all. So that's very important. This gadgetry should actually enhance, and not occupy us. Sometimes people who make records use just a few synthesizers that everybody owns, and they use presets, so sometimes all records sound alike. It sounds unbearable. So that's the other danger. You have these two extremes—the ultra-sophisticated technology where you might lose track of what the song is all about, and the other side is all these cheap records that just sound alike and are terrible.

I don't think this technology is a big threat to live musicians, because you can't beat good live musicians. Man is the best computer, built by God, so you have to have good musicians. Machines eliminated some marginal musicians who used to play terribly and would cost us a lot of money. The drum machine eliminated the people who would rush or slow down, unsteady. Now young people really play very well—they have to compete with machines in a way. On one hand one feels that string players maybe don't have too many jobs now. That's true.

But if there's a string arrangement to be done I always call the right amount of strings, and we do it. It's diminished a little bit, but it's not because of machines. It's because most songs now don't require the old padding that we used to have. Styles have changed. In the '60s and '70s, strings played a big part in R&B music. Not anymore. You use them when you really need them.

Mix: What are your feelings about digital recording?

Mardin: I have a lot of objections to 2-track digital. I think it sounds brittle, sounds woody, doesn't have the warmth, definitely doesn't have the high octave, the silk that analog gives you. And I'm not a stickler for "Wow, there's no hiss." I mean, I like tape compression—I'm probably more old-fashioned on that. Two-track digital has improved a lot. It's much better now, but I'm waiting to be surprised. Now on multi-track digital, we are going to use 32-track Mitsubishi (digital) with the Bee Gees, and it'll be a first for me on that system. I hear it's excellent. At Atlantic we have two 24-track Sonys, and they're especially good when you're doing synthesizers. Again, for some types of music I still like analog, but multi-track digital doesn't bother me as much as 2-track.

Of course when you talk about digital and compact discs, they sound marvelous, so I'm contradicting myself. That is another interesting thing. Some compact discs sound fantastic and some sound worse than the album mix. I can only say one thing on that: if they use the original equalization, either equalized tape or equalization and level adjustment, and compression necessary to make an ordinary LP—if you use those settings for CD then you're defeating the purpose, because there is no level problem with CD. We cheat on LPs, we raise the intros. When there's a big bass thump the mastering engineer would lower that particular instance on the tape so that the needle won't skip, and always watch the grooves and this and that. On CDs you have no problem, you just put it up. So CDs and cassettes actually need a new intermaster, a fresh new look. Some companies are doing it, and it sounds marvelous.

Mix: Musically, Chaka Khan goes all over the place on the *Destiny* record, and she pulls it all off.

Mardin: Chaka is an international person. Chaka is an artist of much greater vision than some people want to shackle her with—in just one groove, one kind of music. This is my complaint—that unless you happen to hit on something of the magnitude of a Michael Jackson or Lionel Richie

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Mix

where there's automatic crossover, the people like Chaka who are true innovators, one of the original source voices... Like people copy Aretha, young people copy Chaka. And she likes not only R&B music, but she likes jazz, she likes French music, she likes rock and roll. When she was growing up it was the Eagles, Jimi Hendrix, you know, she likes Joni Mitchell. And when she goes in and records a rock and roll-inspired tune, it isn't that she wants some mythical instant crossover into the AOR field—far from it. Some near-sighted critics, especially in the black magazines, accuse her of doing that. It's so untrue, because she just likes those songs.

Mix: She also seems to be able to stretch into rap, with "Earth To Mickey" and "I Feel For You."

Mardin: That's a very interesting thing. On the previous album when I called (Grandmaster) Melle Mel to rap on "Feel For You," and then played it for Chaka the next day, she was really embarrassed to hear her own name uttered so many times. Like when you hear your own voice on a cassette for the first time at a family gathering or something, you think it sounds terrible. She said the same thing. "Oh, my name, wow." It took her a long time to really digest that, and she learned to live with it, in fact she likes it now. But we've prepared a single version and 12-inch version of "Earth To Mickey" from the new album. It's hilarious. We took Chaka's rap, which sound like a cross between Whoopi Goldberg and Bette Midler, and did a sort of—I don't want to say Max Headroom—but we did a very sort of New York surrealistic way of starting the record with her, and it's fantastic, really. We're going to release that single, and I hope people will enjoy it.

Mix: Have you learned any tricks from rap music?

Mardin: Tricks is the wrong thing. Rap music is very alive and it's a very important music, especially for big cities. But again, some rappers, especially young ones, maybe for budget problems or whatever, sometimes it all sounds the same. Why can't they shift one accent so that we have something interesting? Obviously you have great rappers—Run DMC I really like. LL Cool J. But the younger ones take the clichés and imitate them rather than latch onto the inventiveness.

Mix: Complete this sentence. MIDI has made my life _____

Mardin: Easier. Except that you have to know how to use MIDI. It's just like if you have a wild horse, you have to know what to do with it. There's a lot of

MIDI delay problems that you encounter and have to measure. If you're playing one master keyboard and you have three other synthesizers responding, you have to make sure that they are all aligned properly. Some instruments are way behind, especially the older instruments. You have to reckon with that, otherwise MIDI is a fantastic thing. Your DX7 would probably be close to time, but if you have a Jupiter 8 in your link it would be way behind. So that means you have to actually record them separately sometimes. And you have to bring it forward with the use of devices, a Doctor Click or whatever. Unfortunately, sometimes you say, "Why don't I have a drummer and play it?" That's also sometimes what you do, rather than sequence every single line because it has to be sequenced. You get a great player, and a great player will play the chords and the patterns that you like. I like the sequenced drums or bass, or mechanical sounding guitar parts, or things that have to move in exact 16th notes. But when you have a great guitar player you want him to play over it rather than simulate a guitar sound with a synthesizer, and spend hours and have the end result be possibly stiff.

Mix: (Drummer) Steve Ferrone said that on "I Feel For You" he was just recording along with a bass and click.

Mardin: Well, I don't know about "I Feel For You," but we did that with "Wood Beez" on the Scritti track. He had only a bass and a guide hi-hat. He played wonderfully, and when we played the song to him when it was finished, he was surprised.

Mix: What was your reason for recording Steve like that?

Mardin: Well, sometimes things happen because of, not technical reasons, but logistics. I don't think we had the time to give him a guide keyboard track. All we were able to do at that time was guide drums and a bass. He was in the studio, so we didn't want to lose time, and that was it. On that particular track, spontaneity was not the object. We wanted solid rhythm, hypnotically playing the same thing almost.

Mix: I was a little surprised and intrigued by the drum sounds on "Coltrane Dreams" on *Destiny*.

Mardin: Chaka and I have always been dreaming about a song where everything is her voice. And she came in the studio one day and sang these drum sounds, and we recorded all of those. Then they were put in the Synclavier and we processed them. And Steve Ferrone came in and played Chaka's sounds as if it were a drum

kit. All the drums and bass sounds were actually Chaka's voice. We added a little bit extra bass to her bass part, but apart from the keyboard sounds and the tenor sax it was all Chaka.

Mix: How do you feel about how many takes a singer should be given to nail a part?

Mardin: There are different types of singers. Natural singers like Aretha or Chaka would sing maybe three versions, and that would be it. Sometimes you would take a whole verse or a chorus from one take and the rest from another. There are younger singers who are maybe not experienced, so you would piece together a whole vocal from as many as ten takes, 12 takes. It all depends. Now with the new technology, if there's a repeated section like a chorus, once the lead singer sings it once you can just say, "Look, the second and third choruses are exactly the same, so we can use the first chorus there. All you have to do is sing your ad libs on top." It's good and bad, it depends on the situation. Chaka always sings different things, subtle variations on the third word on the second line, so that it's not a copy. She would do a little something that only the connoisseurs would know.

Mix: You used 16 engineers on the *Destiny* record.

Mardin: Well, ten songs. If there were 16, I'm sure the assistants would be included too. I would go to Hit Factory and do vocals, and there would be assisting engineers there. I did some at Greene Street and other places. Maybe about five main engineers.

Mix: Do you have a problem with tracks sounding different using all the engineers and studios? Or is that an intention?

Mardin: I'm looking forward to a little of that, at the same time I was in charge of almost all the mixing. It was done at Atlantic. If you provide them with your original 2-track recording tones, which will set your equalization and your levels correct, then in the process of mastering you will have no problem as to what track is misaligned or what track needs to be boosted two dBs or something. Everything will be the same. That's one of the tricks of doing an album where there are different producers or songs done in different cities. You have to provide the tones for however many producers you have on it. Then when the mixes come around you don't have to tamper technically, only the producers' taste is different.

Mix: What are some of your most memorable tracks, and why do you

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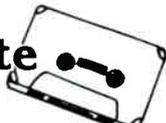
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think those stand out?

Mardin: I have many fond memories. Some of them would be not my production techniques, but incidents in the studio where the vocalist would overwhelm you with great vocals. Most of the Aretha Franklin dates were like that, and Chaka Khan. I keep remembering Donnie Hathaway in the studio singing those wonderful vocals. Maybe I'm a little prejudiced because he's no longer with us, I just remember him fondly, with his exaggerated yearning, so my work with him is very memorable at this point. Also the making of "Night In Tunisia" was very interesting with Chaka and Dizzy Gillespie and Herbie Hancock. I liked "Jive Talkin'" very much, because for 1974 it was close to state-of-the-art with the synthesizers. Those are really memorable sessions. For a session to be memorable there has to be a great marriage between the artist, producer, musicians and environment. All hits come out of a good marriage. You have to include the A&R department too, record company, artist, management—the relationship really enhances and helps make a great record in the end. Like with the Bee Gees 13 years ago, there was incredible electricity in the studio. Everybody was creating, everybody was suggesting something. Good ideas were flying around, and I guess that's what it is. For example, "Pick Up The Pieces" was great with the Average White Band, but we didn't know we were making a hit record. We were making a grooving record. A few weeks after the record was released, the promotion department came and said, "Wow, it's an instrumental, but it's a hit."

Mix: Are there any steps you take to try to insure the success of a session?

Mardin: Yes, I always communicate with the people interested, and I give reports. I don't try to guard things. On some projects maybe we used to do that, and it's not successful. You have to get other people involved. You have to send them work-in-progress cassettes. You have to not be afraid of sending them a cassette saying this is just a rough mix, and don't make too many excuses. If you believe in something, send them the cassette. Let them comment about it. At the end they will be more supportive. I would like to spread my responsibilities in a way that I know I have somebody fantastic working on the arrangement—it's my forte anyway—so I go in and bug him, and change things. And then I know that there's somebody else great doing this and that. The days of doing everything yourself are over. You've got to have a great team. ■



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SOUND ON STAGE



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BILLY JOEL'S THE BRIDGE TOUR



PHOTO: TIMOTHY WHITE

by Gregory A. DeTogne

Billy Joel's latest album, *The Bridge*, has been described by critics and fans alike as being demonstrative of the diverse nature of the musician, and of the wide-ranging extent of his musical powers, his growth, and willingness to experiment. Along with the evolution of his music, the logistics of his act have undergone a metamorphosis, due in no small part to the addition of a specially designed new sound system, stage and lighting rig.

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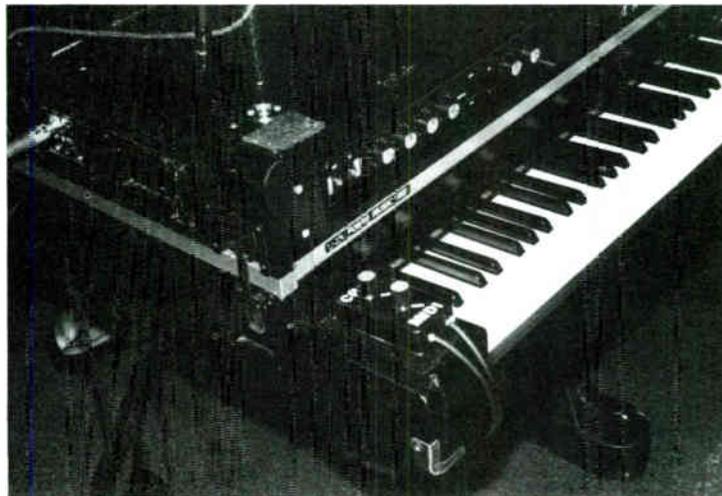
Brothers design, 60 of Audio Analysts' proprietary modular cabinets comprise the circle of sound, which is suspended via a network of adjustable straps, swivels, and ten flying bars, and then positioned with the help of four two-ton and 20 one-ton motors. Internally, the cabinets have benefited from the years of R&D Leccese and his crew have put into them. Their current configuration utilizes a four-way design with crossover points at 250, 1200, and 6500 Hz (the lows, mids, and highs are active, while the ultra highs are passively crossed). Eighteen-inch drivers cover the low end, while 10-inch drivers designed in conjunction with JBL cover the midrange frequencies. Above 1200 Hz, frequencies travel to 2-inch compression drivers coupled to 90 x 40 horns. Ultra-highs are emitted from slot radiators.

Despite the circular arrangement of the array, there is a left and right balance, and to boost low-end efficiency, Leccese depends upon coupling the low frequency drivers in positions half of their diameter from one another, which provides an extra 1 1/2 dB of free energy. As a result, coverage patterns are narrow and highly defined, and an extra long throw is obtained, which is especially useful in the large arenas that serve as venues on The Bridge Tour. Although narrow coverage patterns could be viewed as being a detriment by some, under these circumstances, nothing is lost because coverage can be equally defined all the way around the circle.

According to Leccese, proper design, concern for parameters, and carefully matched dispersion patterns throughout the different bandwidths have allowed Audio Analysts to pack a truly high-powered system into four smaller enclosures. "In the old days when we first started doing concerts of this magnitude, it was an era of the bin system," he recalls. "Everything was done with the pyramid approach in mind. The bigger enclosures were used as a base, and everything else was stacked on top. It took up tremendous amounts of truck space, and was a pain. With this system, it's really easy as far as truck pack is concerned, and there's a high degree of neatness in hanging the whole array assembly."

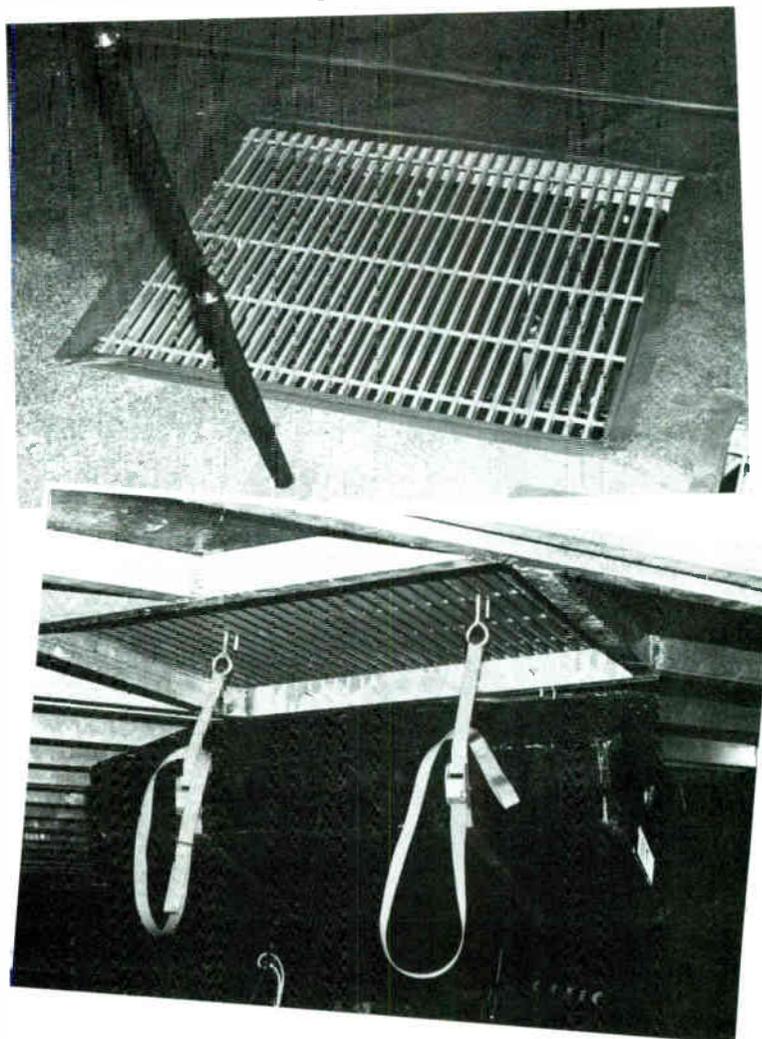
Leccese is continually looking for new ways to upgrade the system, and so he has undertaken a three-year project to design an all-digital crossover that will replace the current modified BSS version that is being used. "The digital crossover will work by initially transforming the analog signal into numbers, which will then go

—CONTINUED ON PAGE 140



(Above) For The Bridge Tour, all four keyboards on stage (including Billy Joel's baby grand piano) are rigged with independent MIDI controllers that allow "anything to be played anywhere." Monitor mix levels can also be controlled from each keyboard station.

(Photos below) Monitors in the clutter-free stage design are suspended below the stage with adjustable straps, and serve up sound through fiberglass grates on the stage's floor.



P R E V I E W



Alesis Microverb

Unveiled at last month's NAMM Show in Anaheim, the latest digital reverb from Alesis (North Hollywood, CA) is the Microverb, featuring 16-bit linear PCM processing over a 90 dB dynamic range. Microverb provides six small, seven large, and two gated programs, along with reverse reverb. Sounds range from small rooms and plates to large, cavernous halls. Decay time, coloration, depth, and imaging characteristics vary with each program. Controls include input and output level, reverb depth, and a 16-position program selector knob. A multicolor LED indicates power, signal presence, and overload. Microverb accepts input signals from low-level guitar to the professional +4 standard. Five 1/4-inch jacks provide stereo in, stereo out, and reverb defeat. Suggested retail price is \$249.

Circle #023 on Reader Service Card



Portable Sound Control Panels

Soundforms, a San Diego, CA, company, has created portable sound control panels for use in virtually any environment. Their S-22 panel is 42" x 78" (for a 22 sq. ft. booth), while the S-15 panel is 42" x 42" (15 sq. ft. booth). You can use the panels free-standing, hanging on a wall, or snapped together with the company's Double-Clips to form sound booths or baffle walls of any size and shape. One S-22 panel weighs 5½ pounds. Each panel consists of an easily-collapsible plastic frame, attachable acoustic foam, cover fabric in any of nine colors, and attachable wall mounts. The S-22 panel is \$94.95; the S-15, \$69.95. Complete packages are available starting at \$194.95.

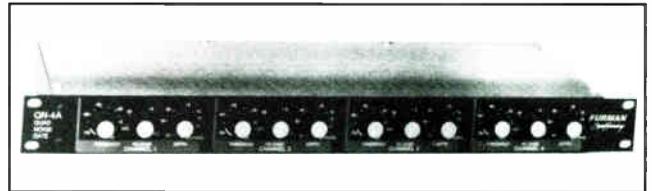
Circle #024 on Reader Service Card



Crown GLM-100/ENG Mic

The miniature GLM-100/ENG omnidirectional, electret-condenser microphone is offered by Crown International (Elkhart, IN) for lavalier use, sound reinforcement, and close-miking of acoustic instruments. With a frequency response of 80 Hz to 20 kHz, the GLM filters out extreme low frequencies to reduce boominess and ambient noise pick-up. It also features minimal off-axis coloration, low vibration pick-up, and its balanced, low impedance output allows long cable runs. The GLM, which operates from its built-in battery or phantom power, is supplied with a tie mount and two styles of foam windscreens.

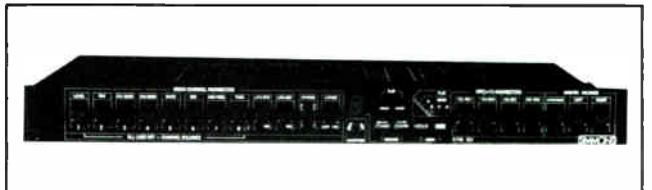
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Furman QN-4A Noise Gate

Furman Sound, Inc. (Greenbrae, CA), introduced their moderately priced, four-channel noise gate, the QN-4A (successor to the QN-4). It uses pulse width modulation to accomplish the gating function. The QN-4A provides threshold, release rate, and depth of cut controls for each channel. Also included are a threshold indicator LED and key input. The unit is priced at \$395.

Circle #026 on Reader Service Card

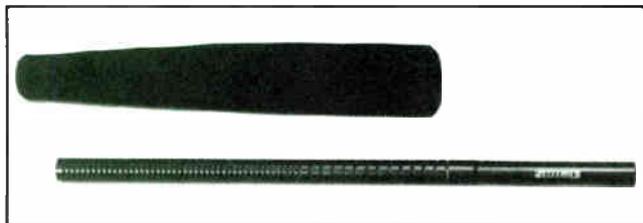


Simmons SPM8:2 MIDI Mixer

Simmons Group Centre, Inc. (Calabasas, CA) debuted their SPM8:2 Programmable MIDI Mixer at the Winter NAMM show last month. The 8-channel stereo mixer can store 64 different mixes ("patches"): combinations of level, EQ, panning, and effect-send settings from all eight channels. Via MIDI, a keyboard or percussion machine can recall the patches, making it possible to have a separate mix for each synth patch. The SPM8:2 fits into an effects

rack, and includes a programmable, four-function effects bank that you can apply independently to channels and store within a saved patch. Crossfade time between one patch and the next is also programmable, up to ten seconds. Each channel includes three-band EQ, with parametric mid-band.

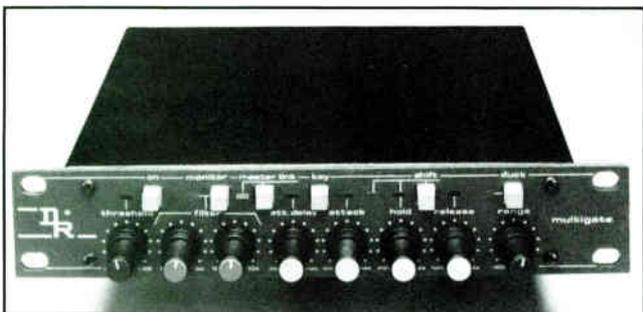
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Shure SM89 Shotgun Mic

The SM89 Condenser Shotgun Microphone was developed by Shure Brothers for location film and TV production, theater sound reinforcement, and spot news coverage. Along with a new capsule design, it features Shure's Accu-Port™ interference tube system. The SM89 has a highly directional pattern, fine-tuned frequency response, and an output that drops smoothly, without comb filtering, as it gets off-axis. The 60 to 20k Hz frequency response has a slight high-end rise to compensate for losses due to distant or moving source pick-up. A low frequency roll-off reduces pick-up of wind, vibration, ambient noise, and rumble; a switch on the mic selects 60 Hz or 160 Hz roll-off. The two-piece, aircraft-grade aluminum SM89 weighs 6.9 ounces, and operates over a wide phantom voltage range. Price is \$900 including case and windscreens, and the A89SM shock mount is optional.

Circle #029 on Reader Service Card



D&R Multi-Gate

D&R Electronica BV of The Netherlands has introduced their Multi-Gate noise gate, incorporating a dual-band, sweepable key filter and standard control parameters to provide "frequency conscious" gating. Multi-Gate's attack, delay, and hold controls allow you to create and modify the amplitude envelope of any signal, independent of its actual dynamic structure. This allows editing of sounds for digital sampling, reverse dynamics, and automatic fades. Multi-Gate features an extremely fast attack circuit (under 4μsec) and is priced at \$749. It's available in the U.S. through WJR Distributors of Atlanta, GA.

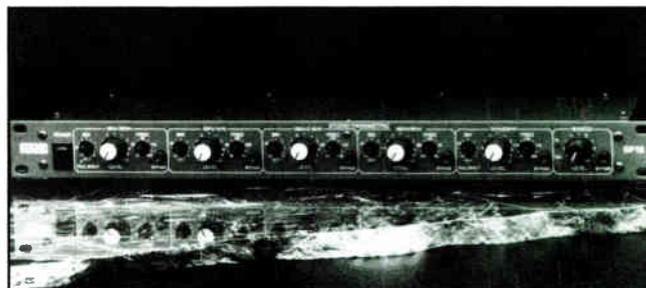
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Quested Reference Monitors

Recently introduced by Quested Monitoring Systems, London, England (and distributed in the U.S. by Apogee

Electronics Corp., Santa Monica, CA), are the 405 series of compact near-field monitors. The 405P has an internal crossover, while the H405 is an active model with external crossover (amp package available early 1987). Both models are two-way designs with four 5-inch woofers and a 1-inch tweeter in each cabinet; the driver arrangement is symmetrical for horizontal or vertical use. Frequency response is stated as 55-17k Hz (±2 dB), and the H405 includes removeable port liners, allowing users to tailor bass response to their own needs.

Circle #031 on Reader Service Card



Rane SP15 Parametric Equalizer

The Rane Corporation's (Mountlake Terrace, WA) new SP15 studio parametric equalizer is designed for use with digital equipment and in other low-noise, low-distortion applications. The compact, five-band EQ features noise and distortion performance is said to exceed the specs of 16-bit digital audio. The SP15 provides +12dB boost and -15dB cut capability, four-octave frequency sweep range on each band, and variable bandwidth range from 1.5 octaves to 0.03 (1/30th) octave for notch filter capability. There's an individual bypass switch for each band, along with an LED bypass indicator. List price is \$589.

Circle #032 on Reader Service Card



Samson Concert Wireless System

Samson Products, Hempstead, NY, has introduced the Samson Concert TD (True Diversity) wireless system, which incorporates dbx noise reduction. According to the manufacturer, this minimizes typical companding problems such as poor transient response, "pumping," and spurious noise, and reduces FM wireless transmission medium noise by 40 dB. The Concert TD System has a dynamic range of over 115 dB. The system consists of a rackmount, crystal-controlled CR-2 receiver (with ten channels for simultaneous use), a CH-2 hand-held transmitter (with a variety of optional mic capsules, including the Electro-Voice N/D 757), and a CT-2 belt pack transmitter (which can be used with many different electret condenser lavalier mics).

Circle #033 on Reader Service Card



The fact that we don't want to mention digital recording in this advert is no reflection on its undoubted merits, or the merits of Brüel & Kjær Series 4000 Professional Microphones.

The thing is, we've seen enough adverts claiming that the ultimate microphone for digital recording has arrived; too many in fact. To paraphrase Shakespeare, "methinks they do protest too much". And he was acknowledged as a genius without mentioning digital recording once....

All we'd like to say is: don't listen to us, listen to our microphones. They speak for themselves.

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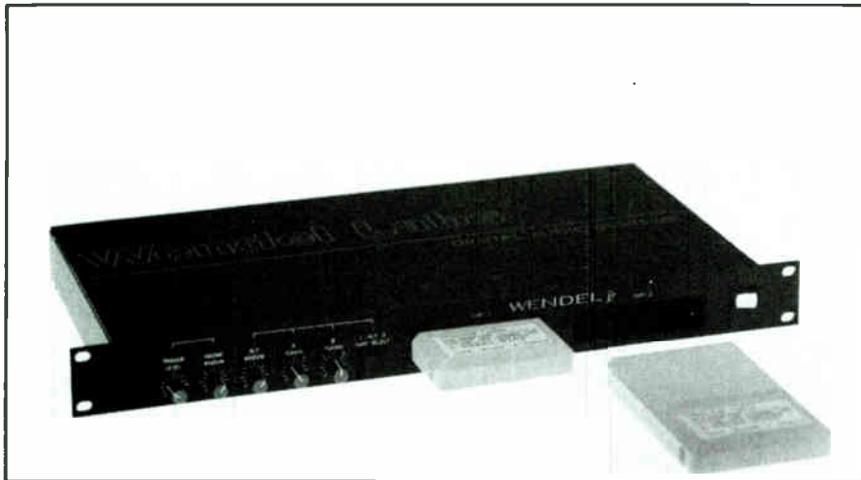
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Circle #034 on Reader Service Card

World Radio History



Wendel jr.

by George Petersen

Capturing drum sounds has traditionally been a troublesome area for studio recordists, requiring a good room, good mics, good techniques, and a good sounding drum kit. If any of the above are lacking, then the overall results will be poor. Drum machines or sampling devices can sometimes help with the dilemma of dealing with faulty drum sounds in the studio, but then again the limitations of audio quality from 8- and 12-bit systems can be problematic, and those drum sounds themselves may not sound "right."

After a year of beta testing on major album projects by top artists, a solution has come forth in the form of a new product from Wendel Labs, of Canoga Park, California. It's a device that offers some of the best drum and percussion sounds ever recorded, but it's not a drum machine. Wendel jr, the result of years of research by renowned engineer Roger Nichols (Steely Dan, Rickie Lee Jones, Donald Fagen, John Denver), is a percussion replacement system, designed to automatically trigger high-quality 16-bit drum samples from a variety of sources: drum machines, drum pads, recorded tape

tracks, or live miked acoustic drums.

The initial concept of Wendel was born out of Nichols' attempt at maintaining consistency during the Steely Dan albums, which typically used a number of different drummers playing over a period of months in any number of studios. Wendel made its debut in December 1979 on "Hey Nineteen," on the band's *Gaucha* LP, and was used on all the album's other cuts as well. Wendel jr is a simplified version of the original Wendel (which cost \$80,000), offering the same sounds in a low-cost (\$995), single rack-space, sample playback unit.

Wendel jr's sounds were originally recorded on the 3M digital system (50 kHz sampling rate) and then transferred in the digital domain to a hard-disk based computer for editing and subsequent "blowing" onto ROM chips for use in the Wendel Cart™ interchangeable cartridges. The carts come in several forms: "single sound carts," containing only one sound; "dual sound carts," with two different sounds available on one cartridge; and "long sound carts," which due to their extended memory requirements, use two cartridges for a single sound.

Operationally, Wendel jr is straightforward and easy to use. A front panel

manual trigger button allows "auditioning" sounds or playing extra beats while Wendel is being externally triggered; this control also serves an additional function—when the button is held down, the unit ignores external triggers, thus acting like a mute switch. Trigger sensitivity and "ignore window" controls permit the tailoring of input signals to suit nearly any application: besides precisely following the input signal, the ignore adjustment can create flam effects (by triggering once from the initial attack, and again from the trigger signal's decay), or skipping beats, i.e.—turning a steady quarter note kick drum trigger into a half note pattern. An endless number of variations can be created using these controls.

Certainly one of Wendel's most unique and useful features is the ability to alternate an input signal between its two cartridge slots, accomplished by adjusting the "alternate window" control and setting the cartridge select switch in the center "ALT" position. Thus, a single trigger signal—say an electronic metronome set at 120 beats per minute—could become a distinctly alternating (left-right-left-right, etc.) single stroke roll with either two snare carts in place or by using the optional Wendel left hand, right hand dual-sound snare cart.

Two separate tuning controls (one for each cartridge slot) with an approximate two-octave range increase Wendel's versatility considerably, although for most applications, a deft touch is required, as a very small variation in the tuning knob produces a major change in the sound of most cartridges, notably the kicks and snares. One cart which allowed the full range of the tuning control was the "Xplo 86," a powerful explosion utilizing the unit's full 92 dB dynamic range. Tuned high, it became a plinking, arcade-style .22 rifle, while at the opposite end of the scale, it became a booming 16-inch battleship cannon.

A good selection of carts are available—a dual-sound kick/snare cartridge is provided with the unit and optional carts include: ride cymbal (with ten seconds of natural decay), toms, more kicks and snares, cross-stick/woodblock, closed/open high-hat, handclaps, timbales, cowbells, shakers, congas, fingersnaps, and more. One unusual cart is the "snare

—CONTINUED ON PAGE 181

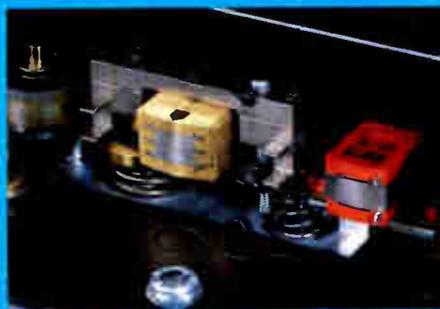
Today's tougher audio requirements demand a new choice

Telex *Pro Series* 6120 XLP

A new duplicator with 8X speed and tougher specs.

Improved frequency response plus less distortion and crosstalk are just a few of the technical gains achieved in the new Telex Pro Series duplicator. This means that you'll make duplicates that are **truer to the master** than with any comparable tape duplicator on the market today.

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New XL LIFE cassette head.

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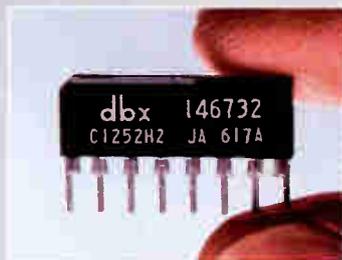


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Samson incorporates dbx noise reduction to achieve
a new standard of wireless performance.*

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dbx noise reduction makes the Concert TD Series incredibly quiet. It also expands frequency response to deliver the best possible sound for vocals and instruments. And you won't hear it working because dbx circuitry eliminates the pumping and breathing that

plagued wireless sound in the past.

Breaking new ground with our Concert TD Series, Samson engineering excellence now takes a quantum leap forward in its ongoing search for the highest standard of wireless performance. We are the first to incorporate dbx noise reduction because we want to guarantee the best possible audio quality available in wireless today. Now there's every reason you can think of to enjoy the unlimited freedom promised by wireless.

First we took the worry out of wireless with reliable no-dropout performance, now we're taking the noise out of wireless with dbx.

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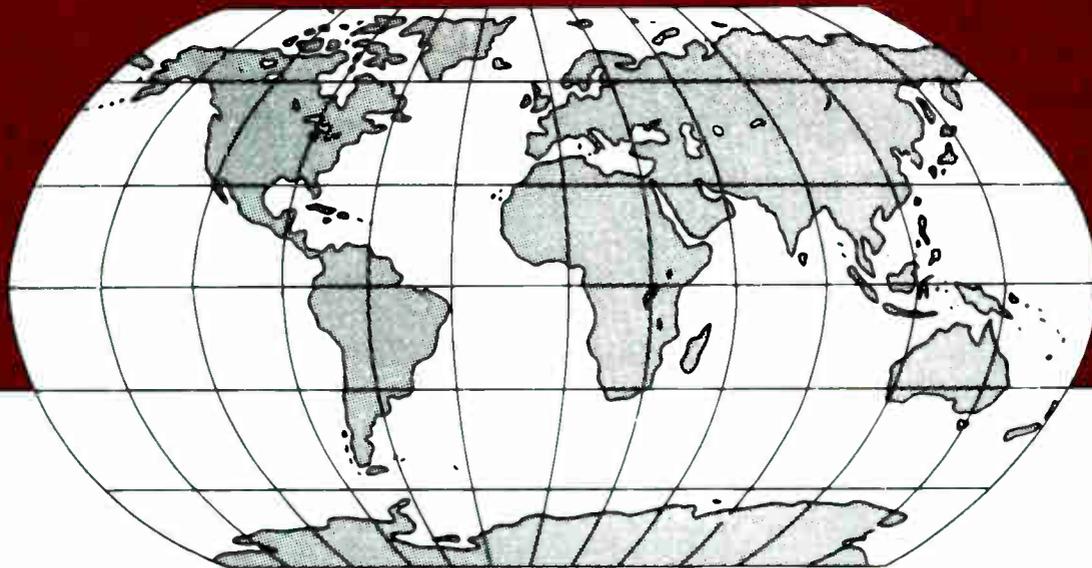


Mic Capsules Available: Electro-Voice
N/D 757 element offered exclusively in
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Also available: BK-1, SM 58, SM 85, SM 87

Circle #036 on Reader Service Card
World Radio History

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SPECIAL INTERNATIONAL RECORDING SUPPLEMENT

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- | | | | |
|-----------|---|------------|--|
| 54 | AMERICAN AES WRAP-UP
by George Petersen | 86 | EUROPE: NEXT IN LINE FOR STEREO TV
by Richard Dean |
| 56 | THE GREAT DAT SCARE
by Barry Fox | 92 | VIVA LE STUDIO!
Canada's Growing Giant
by Linda Jacobson |
| 62 | THE RUSSIANS ARE STRUMMING!
THE RUSSIANS ARE STRUMMING!
Joanna Stingray and the Soviet
Underground
by Dan Daley | 98 | EUROPEAN MANUFACTURING AND
THE WORLD MARKET
by Al Swanson |
| 68 | BRAZILIAN RECORDING IN FLUX
by Arnaldo Dines | 105 | AIR MONTSERRAT:
THE BEST OF BOTH WORLDS
by Diana Wendling and Stacy Baird |
| 72 | MVP: DISCOVERING JAPAN
by Lou CasaBianca | 115 | THE APRS AT 30
Plus a Directory of APRS Studios
by Terri Anderson |
| 78 | LUNCHING WITH BONZAI: KITARO
by Mr. Bonzai | 124 | STRANGERS IN STRANGE LANDS:
The Joys & Perils of Working Overseas
by Blair Jackson |



THE DIGITAL/ANALOG FUSION: A RAINBOW OF TECHNOLOGY

A report on the 81st Convention of the Audio Engineering Society

Photos and text by George Petersen



(Above) Trident unveiled their Di-An console to the U.S. market.

An estimated 4000 audio professionals from nearly every part of the globe plan to convene at the 82nd Convention of the Audio Engineering Society, held March 10 through 13, 1987 at London's Queen Elizabeth II Centre, and at press time all of the available exhibit space was sold out, insuring a wealth of new products and technology to behold. In keeping with the international theme of this issue, which will be distributed at the show, we present this look at the last AES meet, for our overseas friends who didn't attend.

The 81st Convention of the Audio Engineering Society, held November 12 through 16, 1986 in Los Angeles, could only be looked upon as a success on every level. Logistically, the split-facility concept, with frequent shuttle buses ferrying attendees between spacious LA Convention Center and the downtown Hilton hotel, worked quite well, with the exception of a few "where do I register?" snafus.

An excellent selection of papers and workshops were presented, covering a variety of topics, in keeping with the convention's theme—"The Digital/Analog Fusion: A Rainbow of Technology." In the latter part of the 1980s, there is a place for both analog and

digital technology, and their co-existence offers choices and realistic alternatives so the industry can select from the best of both worlds.

Certainly, the lure of digital nabbed the lion's share of attention on the exhibit floor, with the unveiling of new digital consoles, such as the Neve DTC-I digital transfer console, the Digmix mastering mixer (distributed by ESL of Ft. Lauderdale, Florida), and Yamaha's 8-in by 2-out wonder, the DMP7, priced under \$4000. Another growing trend was evidenced by the demonstrations of tapeless recording, with New England Digital showing their Synclavier Direct-to-Disk™ system and Lexicon debuting Opus, their entry in the field of digital workstations. Digital recorder manufacturers were caught up in a flurry of activity, with Sony announcing the sale of their 300th PCM-3324 multi-track, while rivals in the PD (professional digital) camp demonstrated their compatibility, with a tape exchange between the Otari DTR-900 and Mitsubishi X-850 32-tracks.

So with all this digital brouhaha, what is the state of analog? Apparently hale, hearty and healthy, judging from the plethora of new recorders shown. With the introduction of the

MX-80 24/32-track series, Otari has become the first manufacturer to offer both analog and digital 32-track recorders. Adding strength to the 2-inch, 32-track analog format, AEG has reintroduced the M 15A deck, available in 8, 16, 24 and 32-channel versions. Soundcraft's Saturn multi-track made its U.S. AES debut, as did Tascam's long-awaited ATR-80/24, another 2-inch, 24-track recorder. At the higher-priced end of the scale, Studer's new A820 multi-track, available with optional Dolby SR (which fits into card slots beneath the transport) may prove to be a serious challenger to digital recording systems.

Throughout the convention, there seemed to be an upbeat feeling in the air, with nearly all manufacturers expressing their optimism in an industry that's definitely on the rebound from the doldrums of just a few years back. And judging by the busy convention floor, packed with attendees checking out the latest technological offerings, there is little reason to doubt that optimism.

While space limitations restrict the number of products spotlighted here, we'll be keeping you informed about other new developments in the months to come. Keep in touch. ■



(Above) Lexicon's Brian Zolner demonstrated the Opus Audio Production System.

(Below) Tascam made their long-awaited entry into the 24-track market with the introduction of the ATR-80.



(Above) Teldec directors Horst Redlich (left) and Manfred Atzert answered questions about the CD Direct Metal Mastering process.



(Above) Yamaha's DMP7 digital mixer attracted quite a bit of attention. Don Morris (left) demonstrated the unit, which is slated for delivery in mid-1987.

(Below) Soundcraft's Gary Lynn (left) pointed out some of the Saturn multi-track's features.



(Above) Todd Wells of Soundtracs explained the automation system of their CP6800 console.



The GREAT DAT SCARE

by Barry Fox

If you are visiting London for the AES Convention this spring, and try talking about digital audio tape (DAT), you may be surprised to get frosty looks. Here's why . . .

On June 29, 1986—what has become known in the European audio industry as "Black Sunday"—one of Britain's most prestigious newspapers ran a story that sent shock waves through the record and electronics industries in Europe.

"Compact discs are about to be made obsolete by a new generation of audio cassette dubbed digital audio tape" ran the opening line of a featured article in Rupert Murdoch's newspaper, the *Sunday Times*. "DAT," it continued "will give quality far superior even to that of compact disc.

"Most at risk in Britain are companies that have invested heavily in compact disc production plants," predicted the *Sunday Times*. "Thorn-EMI and Discotec have invested £25 million and £15 million respectively. Had they seen DAT coming, they might not have sunk such large sums into a technology that is likely to have a limited life."

By this time, all around Britain, industry people were choking on their breakfast cereal.

"From early [1987] there is likely to be a sudden slowing in compact disc sales as people wait to see what DAT has to offer," the *Times* continued, ending on the prediction that "DAT is likely to be the music medium everybody uses, professionals and the public alike."

The next week there was an uproar. The prediction about slowing CD sales was self-fulfilling. Customers in hi-fi shops were asking salesmen when they could buy a DAT recorder; bank-

ers and board directors who had authorized investment in Britain's three compact disc factories (Nimbus in Wales, Thorn-EMI at Swindon and Discotec in Sussex) wanted to know why they had been misled into thinking that CD was a sound investment for the future.

Anyone known by their friends to have an inside knowledge of the audio business started getting phone calls asking whether what the *Sunday Times* had said was true. The trade body for the entire electronics industry, BREMA (British Radio and Electronic Equipment Manufacturers Association) filed a formal complaint with the Press Council. This is a rather toothless official body that controls the press in Britain.

Record companies and record industry trade bodies fumed and restated their commitment to CD.

Ken East, president of EMI Music's European and International Operations says: "This year, our CD unit sales will be four or five times greater than last year. Next year we can safely say double, perhaps triple. Our two plants are still only supplying a small percentage of our total world need. I've got absolute confidence in CD as a sound carrier—and that's based on the volumes we've already sold and the volumes we know, not just believe, but *know* will sell over the next three to five years."

Maurice Oberstein, chairman and chief executive officer of Polygram UK says: "CD is a wonderful, convenient, beautiful way of presenting music to the masses. When software supply

catches up with demand, I can see price stability and a huge variety of material. I expect that by 1987 it will cross that 5% threshold that has been quoted as important; it's an arcane figure people use as a rule of thumb. It's the accessibility of CD that makes it the mass market medium. It's unstoppable because it's so good."

John Deacon, director general of British Phonographic Industry Ltd, trade body for all the record companies, adds: "Our research shows that the CD market is currently expanding at five times the rate of the pre-recorded cassette when that was in its infancy—around 15 years ago."

Says Philips, the Dutch company that invented the system: "CD is selling faster than any other home entertainment product launched since the war."

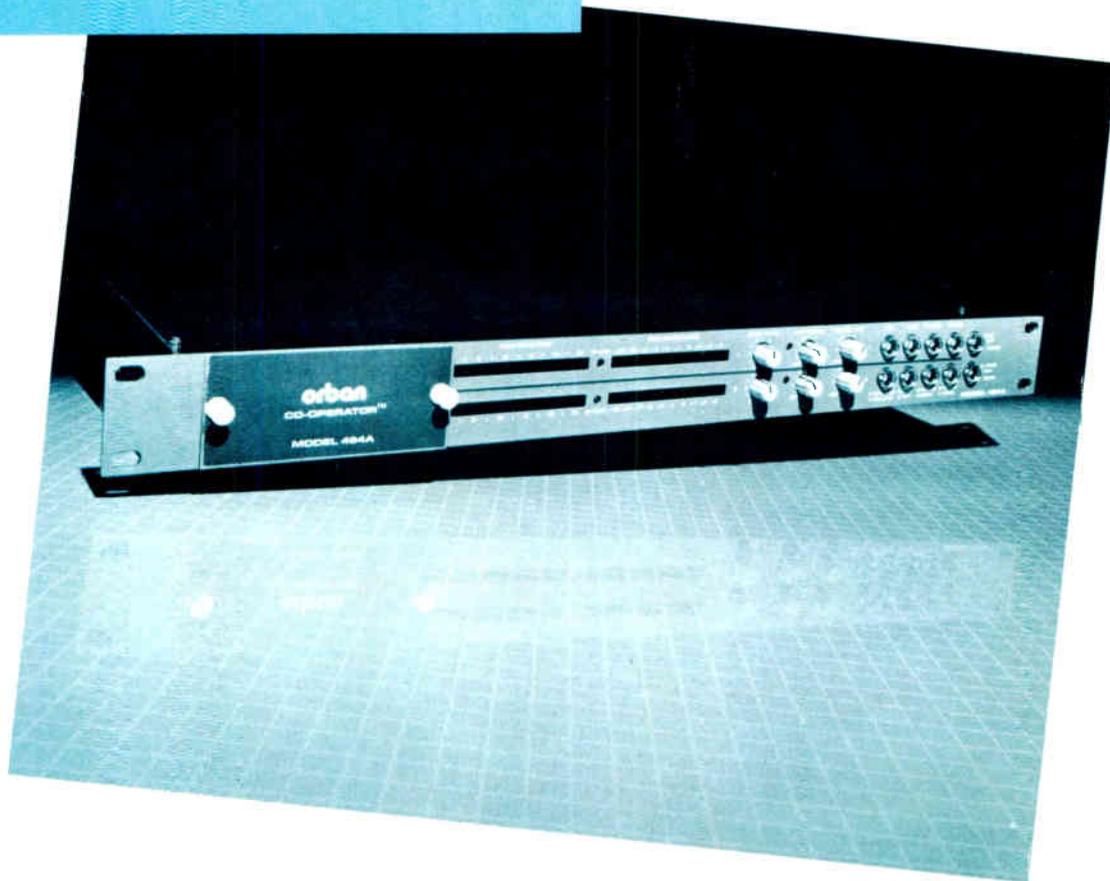
Phil Race, the man behind the Discotec CD pressing plant, which was at the time of Black Sunday just coming on stream, told me bluntly, "After that article was published, I honestly thought it would be very difficult for anyone else to raise the money to open a CD pressing plant in Britain.

"Bankers and investors get their information from papers like the *Sunday Times*. They don't read deeper articles in the specialist press. So they don't know the other side of the picture."

Also, because English is fast becoming the *de facto* language for most European countries, stories in the British press can carry inordinate weight.

Inevitably, the *Sunday Times* folklore was later regurgitated by other publications. *The Times* (daily) said more or less the same thing, reporting that Japan was going to "kill off the compact disc market before development costs have been recovered."

QUALITY CONTROLLER.



THE NEW ORBAN CO-OPERATOR AGC SYSTEM

Introducing the *Co-Operator*: an integrated, easy-to-use Gated Stereo Leveler/Compressor/HF Limiter/Peak Clipper in a powerful and economical dual-channel package. The *Co-Operator* automatically rides gain, controls excessive high frequency levels, and limits peaks while protecting audio and video tape recorders, cassette, CD, and digital masters, and high performance sound systems (and their associated HF drivers and power amps).

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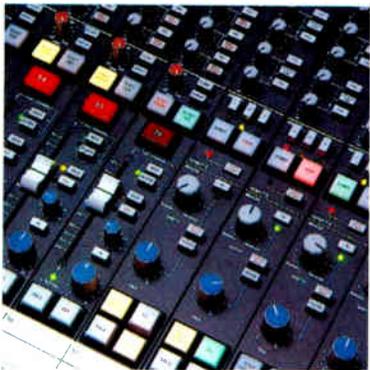
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CLEAR REASON

For the music studio owner, no decision is more critical than choosing a console. Both financially and creatively, the success of your operation may well depend on the capabilities and quality of the system you select, and the company that supports it. Clear reason, we suggest, to consider the SL 4000 E Series Master Studio System from Solid State Logic. But certainly not the only reason.

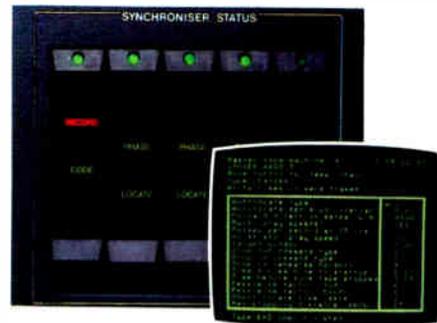


plus switchable phantom power, patchfree audio subgrouping, AFL and PFL monitoring, fader start for external devices,

and stereo modules with balance and Image Width controls. Consider, for instance, that only SSL has built-in track remotes on every channel, integrated with the industry's most versatile monitor fader and foldback facilities. Or that SSL alone provides pushbutton signal processor routing for each channel's noise gate and expander, compressor/limiter, high and low pass filters, and parametric equaliser —

and stereo modules with balance and Image Width controls.

Consider that SSL makes the industry's only comprehensive studio control system — with integral synchronisation of up to five audio/video machines, concise English commands,



tape location by timecode, foot/frames, cue numbers or key words, and complete session list management. And that SSL alone offers extensive fader, group and mute automation and mix manipulation plus optional programmable parametric equalisation and panning, multi-repeatable Events Control, and Automatic Dialogue Replacement.



When quizzed about where the reporter had checked her facts, the paper admitted that she was a temporary employee who had since left.

The London *Standard*, a popular evening newspaper, announced that, "Hardly have people started spending hundreds of pounds on compact discs, than a new technology is on the way that could make CDs virtually obsolete." And a specialist car magazine announced that DAT "could blow CD systems out of the window."

Almost without exception, the specialist technical and audio press in Europe rejected the idea that DAT will kill CD. Journalists, including myself, have since argued the case in print, and on radio. DAT is an exciting new medium. Of course it will bite into sales of conventional analog tape as used in the home, professional radio and recording studios. It will also bite deeply into the hybrid digital systems, like Sony's F1 and 1610 processors as used with video tape cassettes. DAT is the ideal medium for CD mastering. It may also kill the 2-track versions of DASH. A synchronized gang of DAT cassettes could also prove an interesting—and probably cheaper—alternative to multi-track DASH. But at the domestic level, DAT looks like it will become an ideal partner for compact

disc, just as the traditional Philips audio cassette has made the ideal partner for vinyl LPs.

Whereas the Philips audio cassette started out as a cheap and cheerful low-fi audio medium, and has been upgraded over the last 20 years to reach the level of a Nakamichi system, DAT must start at the top end of the price range and move down.

It took 20 years for sales of pre-recorded music cassettes to outstrip LP sales in Britain. The breakthrough came in 1985, when British record companies sold 53 million LPs and over 55 million cassettes. The slow rise of cassette sales (in 1978 only 21 million were sold, compared to 86 million LPs) was due mainly to the fact that for years the European record industry regarded tape as an enemy. Record companies took little care over the quality of duplication. They released titles later on tape than on disc and made the cassette price unattractive. It was the public's discontent with LP pressing quality and the coming of the Walkman that changed industry attitudes and the pattern of sales. CDs can be used in cars and portables; LPs can not. But it is pointless to try to predict how soon (and whether) DAT will erode the sales of other pre-recorded music media—there are just

too many variables in the equation.

The author of the original *Sunday Times* piece subsequently followed through with a fuller article arguing that those who had criticized his view "lack any perceived desire to inform the public... if big business says 'praise CD boys and we will reward you with endless free trips to Japan' they are going to praise CD and woe betide anybody who rocks the boat and threatens this cozy existence... I predict: in all confidence, DAT will quickly kill CD stone dead."

This puzzled the industry even more than the original article. The same Japanese companies that sell CDs are the ones that will be selling DAT, just as they are the same Japanese companies that have been selling both turntables and cassette decks. Why they should be developing a new product that they want to handicap by bribing journalists to praise CD is unclear!

Steve Harris of Marantz, the U.S. company that is now partly owned by Japanese investors and partly by Dutch Philips, puts it this way:

"Everyone is suddenly an expert on DAT, even though there are probably only around ten people in the country who have had an opportunity to actually play with a machine and know what it can do. It's not a threat to



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CD—it's a threat to Nakamichi. I can see it having enormous impact on the studio world, however. Apart from master recording, every studio wants to give an artist something to take away. A DAT cassette would be the ideal medium.

"There are so many unanswered questions," Harris continues, touching on one of the many practical and technical points which the DAT scare-mongers in Europe have glossed over, "like, for instance, how long the tape will last. We know that ordinary video tapes used with the F1 or 1610 only last a few dozen times before there is significant drop-out. How long will a 1500 oersted DAT tape last?"

Tony Faulkner, one of Europe's top independent recording engineers, was working on prototype Sony digital systems long before they went on the market. Faulkner recently engineered the fast-selling recording of *South Pacific* for CBS. Much of his work appears on a new batch of budget price CDs now being released in the United States by MCA, through a licensing deal with the British firm Pickwick.

"This DAT scare is a scandal manufactured by publicity seeking journalists," says Faulkner. "It's the AIDS of the record business. CD has been suc-

cessful because the software and hardware industries have cooperated. When hardware companies try and go it alone they run into trouble. Remember quadraphonics?"

The go-it-alone approach has been forced on the hardware companies. I was in Tokyo in October 1985 for the annual hi-fi show. All the major manufacturers had planned to launch DAT and it was advertised in their advance publicity. But the trade body for the Japanese retail shops brought pressure to bear on the show organizers. They feared that the launch of DAT would confuse the public, which was then just beginning to embrace CD and had only recently been offered 8mm video. The show organizers responded to this trade pressure and told the manufacturers not to show DAT.

As a compromise, some of the manufacturers got together and arranged a semi-private showing at a hotel near the-exhibition site in Tokyo. More pressure was brought to bear and only Sony demonstrated a DAT recorder, along with a prototype contact printer capable of making sandwich copies of DAT tapes at several hundred times normal running speed.

During the early part of 1986, Sony showed prototype DAT machines to broadcasters and studio engineers in

Europe, including the BBC in London. Sony also demonstrated DAT to engineers at the NAB convention in Dallas. No secret was made of the system potential although, for obvious commercial reasons, most of the Japanese manufacturers kept quiet about their marketing plans. All they would say was "Wait until the Tokyo show in October."

Then came the *Sunday Times* article and the panic. At the same time the record industry began to issue dire warnings about the darker side of DAT—its ability to make perfect copies of compact discs by direct digital dubbing, or near-perfect copies by analog dubbing.

Individually the record companies in Europe said that they would not release material on DAT cassette. The only thing that stopped them from issuing an all-industry boycott statement was fear of the U.S. anti-trust laws and the Common Market Treaty of Rome which bans cartel operation.

From its London offices, the IFPI (International Federation of Phonogram and Videogram Producers) has been talking with the EIAJ (Electronic Industries Association of Japan) via a middle man in Dusseldorf, Germany. The IFPI wants to persuade the Japanese manufacturers to build CBS Copy-

code anti-copy circuitry into all DAT recorders. This senses a trigger notch in Copycoded software and switches off the recorder to prevent analog copying. Direct digital dubbing from CD to DAT is prevented by making DAT domestic machines record only at 48kHz, which is a deliberate mismatch with the 44.1kHz sampling frequency used for CD.

The snag here is that in Europe the name CBS is not popular with audio experts. CBS is threatening to sue loudspeaker makers for using polypropylene cones. It was CBS who foisted the SQ quadrasonics system on an unwilling audio world, CBS who tried to corrupt LP recordings with the CX noise reduction system and it was CBS who has been trying to get European radio stations to use the FMX system. In each case there have been serious questions about compatibility. Now European audio buffs worry about whether the Copycode trigger notches can be heard. No demonstrations have been given to reassure them.

The issue for the IFPI negotiators has been complicated because a string of European governments have either put a levy tax on blank tape or pledged to do so. Clearly it is nonsense to put a tax on tape which legitimizes home

taping, and then sell recorders which will not record. As if to fire a warning shot across the bows of European legislators, at least two Japanese electronics companies have now shown prototype domestic DAT recorders, which can dub digits at 44.1kHz.

In the aftermath of Black Sunday and with so much politicking going on behind the scenes, the Japanese in Europe have clammed up on DAT. Anything said is only to trusted journalists, and usually in confidence. Sony in Britain took a considered decision not to show DAT at the important International Broadcasting Convention which was held at Brighton in September.

Although all the major electronics firms showed DAT at the October 1986 Tokyo Hi-Fi Show, there was no price or launch date. "We are ready; it's now a question of timing," said JVC.

The best considered estimate is a slow-burn launch for DAT in Japan for spring 1987, with a major European unveiling to coincide with the giant Berlin Funkasstellung (or Radio Show) which takes place every two years.

Philips remains largely silent on DAT. The company has a massive investment in CD player production, at its Hasselt factory in Belgium. With its

subsidiary Polygram, and U.S. chemical company Du Pont, Philips has an equally massive investment in disc production. The Polygram CD plant at Hanover in Germany is the largest in the world, now pressing 50 million discs a year.

Philips will say only that it has mastered DAT technology, and can manufacture recorders if necessary. Photographs of DAT prototypes, which were released prior to the DAT scare, are no longer available—in fact as far as Philips is concerned they no longer exist!

The West German company Grundig is now under financial control of Philips. Grundig pioneered tape in Europe and never invested in CD. "We have developed our own DAT technology," a Grundig spokesperson told me recently at their Nuremberg headquarters. "It will take us only six months to get into production. We shall have to make our decision next spring—six months before the Berlin Radio Show." Conveniently for Grundig, this looks likely to be exactly the time when the Japanese make their move and start selling DAT.

It is also the time when the AES meets in London, so there should be plenty of sore nerves to be touched. ■

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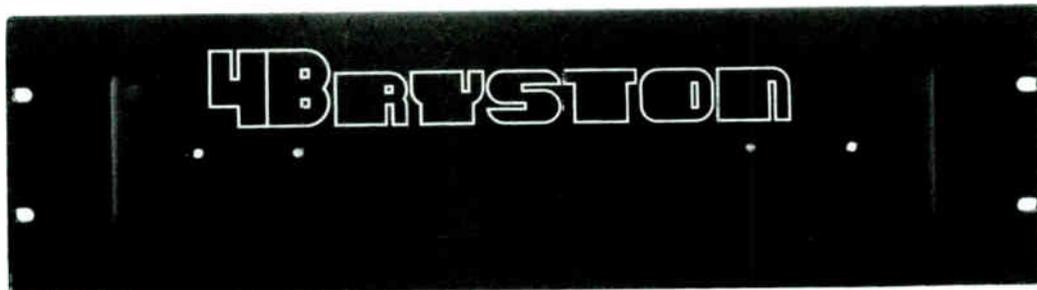
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THE RUSSIANS ARE STRUMMING! THE RUSSIANS ARE STRUMMING!

Iron Curtain Gives Way to New Metal



Joanna Stingray outside the Kremlin in Moscow

by Dan Daley

The snow is piled in drifts on the cobbled streets of Leningrad, the mist rising from the banks of the Neva River giving way only to the leaden sky overhead. A young woman stands in the city's Metro station, clutching a phone number and looking for a man she knows only by reputation. Some might say legend.

Suddenly, through a sea of suspi-

rious eyes, one pair stands out, electric, looking straight at her. His long brown hair falls from beneath a furred cap. She stands motionless, mesmerized. They move towards each other, tentatively at first, as though one false move, one simple gesture, will give them away. She has found Boris.

Days later, she walks through the corridors of Moscow's Sheremetievo Airport. The customs handler looks her over with hard eyes. He rummages

through her bag, returning it with a grunt and waving her onto the plane. And nestled beneath the innocent-looking mementoes of a trip to a strange land, in with the wrapped teacups and Sacha bears, the tapes are safe.

For now.

A John LeCarre thriller? Perhaps another lost Ian Fleming gem found at last?

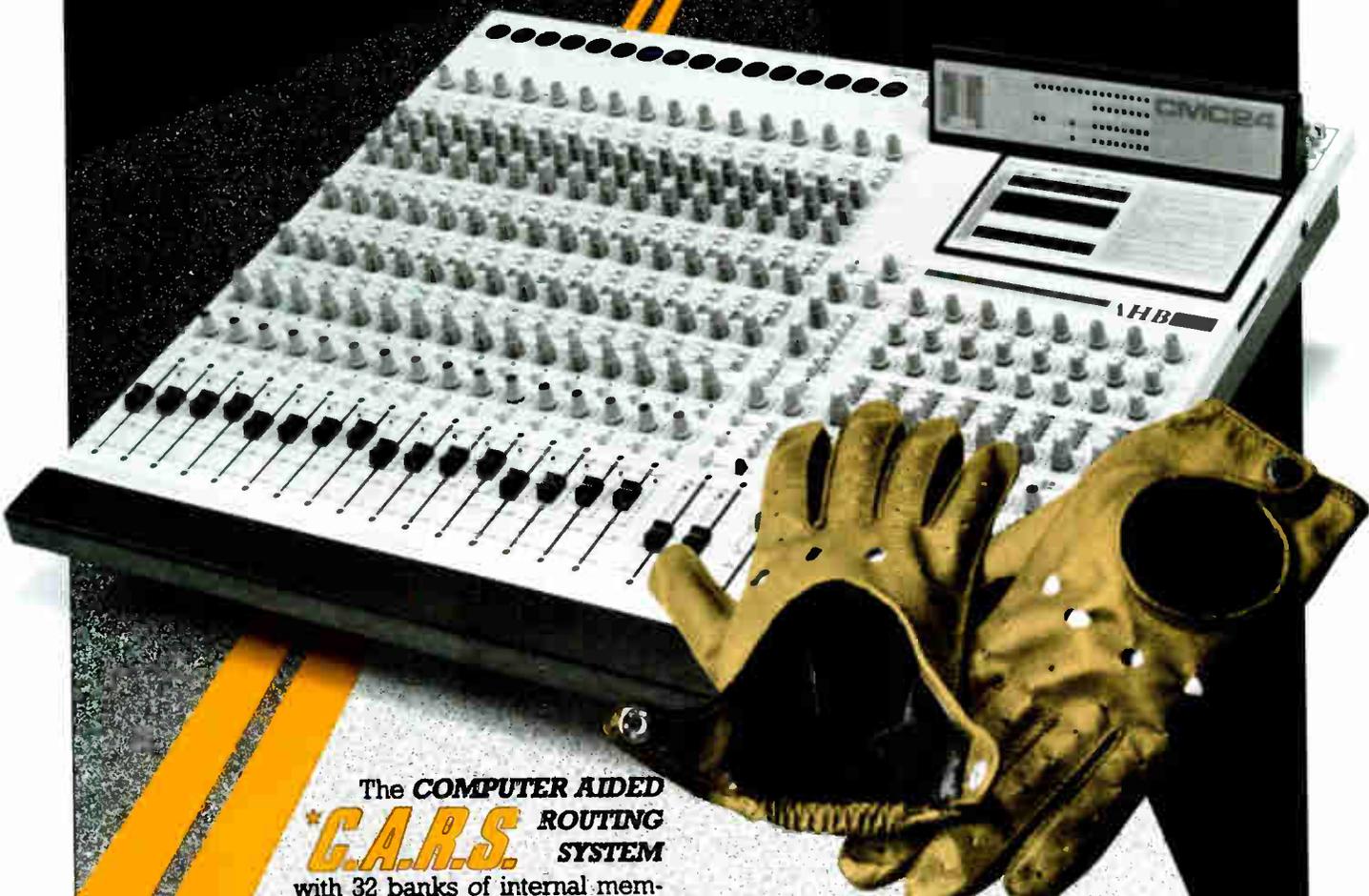
Hardly. This is real life. It's a story of rock and roll in the Great Socialist Worker's Paradise, and how Joanna Stingray, a singer/songwriter from Los Angeles, single-handedly punched a hole in the Iron Curtain and let the music out on a record called *Red Wave*.

The tale above is based on fact, as they say in the movies. Back in March, 1984, Joanna, 26, was getting over her initiation into the sleazier side of the music business—one of those, "You put up a few grand to make your record and we'll match it" deals that ended with a lawsuit and her EP being sent to the accountant's version of magnetic heaven.

Joanna's younger sister, Judy Ann, was about to go on an academically-sponsored tour of the USSR, and Joanna decided to join her to get her mind off the EP debacle. Enter Fate: "Right before I left, a Russian emigre here in Los Angeles called me and said I should get in touch with Boris Grebenschikov, who he said was the most famous rock musician in the Soviet Union," recalls Joanna. "I laughed at the idea of rock in Russia, but I took the number anyway."

Moscow was cold and gray, she found: "It was a place you go to once and never come back to." The tour group moved on to Leningrad, historically the center of Russian culture, Peter the Great's gateway to the West, immortalized by Pushkin and Tolstoi. But Grebenschikov's number was burning a hole in her pocket and her

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Aquarium (L to R): Vitya Sologub, Boris Grebenshikov, Victor Tsoi, Kostya Kinchev

curiosity got the better of her. Using bits and pieces of three languages, she finally got through to someone in Aquarium, Boris' band. "We planned a meeting at the Leningrad Metro station, which was wall-to-wall people, Joanna remembers. "I didn't know how I would recognize him. So I stood there looking for someone who looked like a rocker would look like in Russia, which is to say I didn't know what I was looking for. Then I caught this guy's eye through the crowd and knew immediately it was Boris."

It might have been that not a lot of men in the Soviet Union sport shoulder-length hair, or that few women have two-toned razor cut tresses like Joanna. But she saw more mystical implications in their initial attraction. "I sensed that there was something incredible about this person. He's one of those few people in the world who you just look at and know that there's something incredible about him. I knew right then that he would have a big effect on my life and that I would know him for the rest of my life. We spent the next three days together."

Through Boris, Joanna became friends with other underground musicians in Russia, and since that first meeting she's made over a dozen trips back to Leningrad, becoming intimate with a side of Soviet culture that the indigenous powers-that-be had at first censured, deeming it illegal and anti-Soviet (and you think we have problems with the PMRC!), and have been warily tolerant of ever since.

During those trips, Joanna got hold of recordings of a number of Russian rock acts, literally smuggling the tapes out under the noses of the Ministry of Culture and the KGB. Those tapes be-

came *Red Wave*, subtitled "Four Underground Bands From The USSR." The double LP set was released on Big Time Records, a California-based label that specializes in college markets and alternative radio. RCA Records has recently picked up the manufacturing and distribution side of Big Time, giving *Red Wave* a shot at a larger audience. While unit sales are barely into five figures so far, the attention the record has garnered has led Joanna Stingray to seek the management expertise of Ken "We Are the World" Kragen and company to handle the numerous queries from the press and from bidders interested in making a movie of her life story.

The double LP has a side devoted to each of four bands. Aquarium, Grebenshikov's outfit, is Slavo-punk, nervous and edgy. Kino's clean guitarwag and lead-footed rhythms are simple and sincere. Alisa is the most polished sounding; a Soviet band no longer intimidated by synthesizer technology. Strange Games is an exuberant college band, all speedball tempos and honky horns.

The bands sing in Russian, but the stiffly translated lyrics reflect the spiritual side of the Russian character, placing personal love in a larger, more societal, context than Western pop songs do. These sorts of ideas are then juxtaposed with more quotidian Russian concerns like the absence of privacy in the culture, as evidenced by the many allusions to crowded apartments and limited access to telephones. The sound and the production values range from fair to atrocious by contemporary Western standards. This is not a Phil Collins record, sonically speaking. But it is a sincere statement

by artists struggling in a hostile milieu.

You Say You Want a Revolution

Russian rock did not evolve in a vacuum. As with other forms of art, many Soviet pop artists took their lead from Western acts, like The Beatles and the Rolling Stones, Joanna points out. Except that they had to take it underground to do it. It wasn't your basic capital offense—you didn't get put up in front of a wall for playing rock and roll. But other types of harassment were serious and relentless: loss of privileges, apartments and jobs. Boris Grebenshikov was one of the first victims; he was denounced as anti-Soviet and lost his job. Bands had to play in parks and in neighbors' apartments.

But the music and the musicians persevered. About six years ago, when the authorities finally realized they couldn't stamp rock out altogether, they decided to keep an eye on it in two ways: on one hand they legitimized it, designating certain acts whose material they judged to be politically and socially correct as "official" bands. On the other hand, the remaining artists—the so-called "underground" bands—were given a 500-seat hall in Leningrad called "The Rock Club" as their only legal venue to play in, rendering these bands officially unofficial. (Joanna was instructed by the KGB not to sing at the club with any of the bands, since her presence as a Westerner with an approved visa would, from their Orwellian viewpoint, make an officially unofficial band appear unofficially official.)

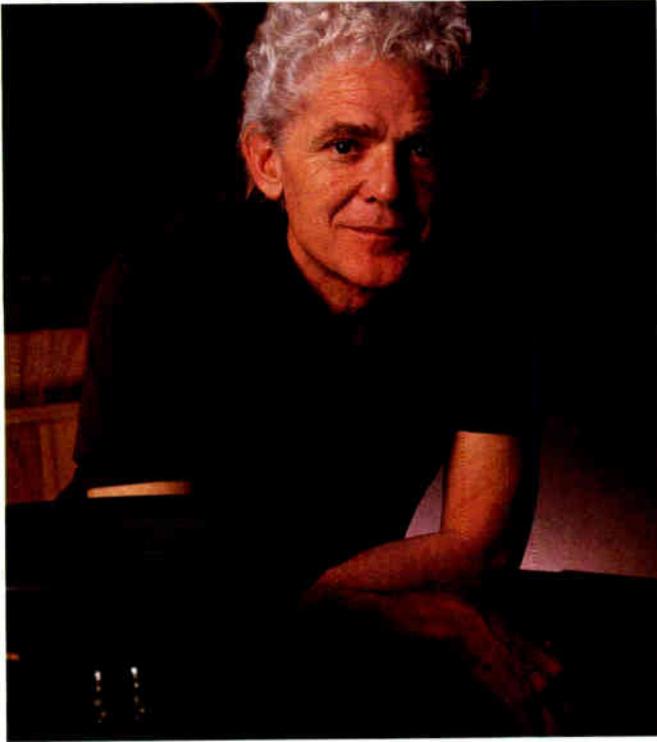
"Official bands are paid by the state," explains Joanna. "The government is their employer. They don't have to have other jobs like the unofficial bands do. They record on the state-owned label, Melodyia, which gives them access to 16- and 24-track studios, and they're paid to tour. They have to join the Composers Union and a concert organization and the government has to approve their content."

But the biggest difference between the two classifications is in attitude, says Joanna. "The creative energy is missing in the official bands, while it's the most apparent thing in the unofficial ones. In the official bands, they seem to be more like businessmen than creative artists, in the sense that the most important thing to them is to be big stars, have more privileges and live better than the average person. In unofficial bands, the most important thing is their creative freedom."

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

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

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

And thanks for listening.

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a cultural and economic Siberia, according to Joanna, forced to rely on fairly primitive equipment. One session that Joanna sat in on was typical of what *sub rosa* rockers have to endure. A Leningrad resident has converted his apartment into a 2-track studio. His last name, Vishna, translates in English as "Cherry," so it's informally known as Cherry Sound. One room is divided by a wall with a window in the center. The recording side has egg cartons on the wall as a sound baffle. The other side is a control room that houses a pair of 2-track decks of unknown make and vintage. The tape sits on the machine as a pancake with no flanges. After a period of rehearsal, the band plays all the musical parts together onto one 2-track. The singers then go to work, and the vocal signals and the previously recorded music tracks are mixed to the other 2-track simultaneously. The whole process is one big live bounce.

When Joanna sang harmony parts with one of the other singers, she found herself giggling at the way his Russian accent sounded as he struggled with the English lyrics. But she learned after a couple of passes that no one else found it funny: in this kind of a setup you can't punch, so a blown part means you have to start over again from the beginning.

What equipment there is mainly of European manufacture, says Joanna, with a smattering of American and Japanese items when they're available on the black market. "That's the most expensive stuff to get," she points out. "The equipment is very primitive for the most part. They didn't have synthesizers until recently."

Part of Joanna's mission now is to help the bands get better equipment. She went to several companies in the United States and has found sympathetic ears at Yamaha, Fender and L.A.'s Guitar Center store. "There was one guitar player who saved for years to buy a Yamaha guitar on the black market for the equivalent of \$3000," she recalls. "The guitar retailed for about \$200 in the States. I brought back a picture of him with the guitar and showed it to Doug Buttleman of Yamaha and told him about the price the guy had paid. Buttleman nearly had tears in his eyes. He said, 'Here, take a drum machine. Take this, take that. Help these people!' Yamaha has provided her with their RX-11 digital drum computer, and when she brought it over to Russia, it might as well have come from another planet. She gave it to one musician, along with a pair of distortion and digital delay effects pedals. The next time she saw him he

was running the drum machine through the pedals, with exactly the results you might expect. "He comes up with these noises that he plays for me and after a couple of hours it drives you crazy," she sighs. "They're fascinated by this stuff. All they want to do is play with it."

(Russian rockers aren't all that unsophisticated, she adds. They read every western music magazine they can lay their hands on, including *Mix*, and they give her detailed descriptions of the equipment they'd like her to get for them. "They give me the make and model numbers, but they'd give me the serial numbers too if they could.")

The Check's in the Mail, Comrade

Releasing an underground record in Russia is no summer cruise down the Volga. For starters, there's no vinyl or pressing plants available outside of official channels, so everything is released on reel-to-reel, though the cassette format is becoming more common as Walkmans make their way onto the black market. "Album" covers are photos taken by friends and pasted onto the tape boxes. Then it's back to the black market for sales, with copies of tapes passed like *samizdat* from one fan to another. What's known as "pirating" in the West is a standard distribution method for underground music in Russia. Copies of *Red Wave* smuggled into Russia sell for 200 rubles—\$250—on the black market.

Bookkeeping is simple: there aren't any royalties to keep track of. This little oversight doesn't bother the bands, though, says Joanna. "It doesn't take much money to survive in the Soviet Union. All they really want to do is play their music and have people hear it."

To make *Red Wave*, Joanna had to literally smuggle the tapes of the bands out of the country, a situation which didn't sit all that well with the Russian authorities. Joanna is prudently vague on the details of getting the tapes out. "It was like a scene from a James Bond movie," she shudders. She had attracted the attention of the KGB, who tailed her, wondering what she was up to, and the FBI, who she says also took a professional interest in her comings and goings.

"It certainly has affected my status," she says of *Red Wave*. "I was very nervous about whether they would grant me another visa after I learned that the KGB had gotten wind of the record through articles in magazines like *International Newsweek*. I did get my visa, but I'll never know if it was because the Soviet consulate in San Francisco didn't have me on their re-

fusal list or if Moscow realized that to decline my visa would create a PR problem for them."

Joanna has been trying to work more through official channels lately, talking with VAAP, the Soviet music publishing agency, about royalties for *Red Wave*. "You don't get anywhere if you don't play the Soviet's game," she says, explaining the fine line between pragmatism and principle she has to walk. (No royalties have been paid to the bands so far, says Joanna; all monies have been plowed back into the project. However, she did make a one-time financial settlement with VAAP for use of the songs. She also signed a document admitting that the record was released illegally, a move that was primarily designed to help Soviet officials save face after they realized *Red Wave* was a *fait accompli*.)

Some unofficial bands, eyeing the more sophisticated recording equipment at Melodyia, are discussing with officials the possibility of agreeing to some sort of official status, if they can do so with minimal artistic compromise. Boris Grebenshikov's Aquarium was the first to do so last November, and according to Joanna, such a move is significant since many underground musicians regard him as their spiritual leader.

Joanna will be getting more familiar with official channels in the future. This April, she's getting married to Yuri Kasparyan, Kino's guitarist, in Leningrad. Love, she says, grew from an initial attraction based on the fact that they both dye their hair blond on top.

While marriage will both simplify and complicate her efforts to get Russian rock a wider audience, Joanna believes that the USSR will become more open to rock music, both because of the policy of *glasnost* (openness) initiated under party leader Gorbachev, and for other, more pragmatic reasons.

"They realize there's a lot of money to be made on rock and roll," she says. "I was over there with UB 40, who asked me to give them some pointers on dealing with the Russians when they played there. One thing the Soviets learned from that concert was that they made a lot of money on it, and they certainly are in dire need of foreign currency, especially dollars, and rock is a way to do that."

Joanna Stingray remains boldly optimistic. "You can change the world," she says. "I learned that from everything that's happened with this. And you can change the Soviet system, mainly because the people there want a change. And music is a great place to start." ■



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BRAZIL

A RECORDING INDUSTRY IN FLUX

PHOTO: ISAAC MARKMAN



Mayrton Bahia, Production Director, EMI-Odeon

by Arnaldo Dines

Brazil's recording industry is going through a very peculiar crisis. It simply cannot produce and manufacture enough records to satisfy the demand. Studios are running around the clock while pressing plants are operating to the point of exhaustion, but that doesn't seem to be enough. The appetite of the public is insatiable and the only diet to remedy that is one of new investments, a risk that record companies don't seem willing to take.

To understand the situation, a little history is necessary. After 20 years of military dictatorship, Brazil's new civilian government was facing a crisis with an annual inflation rate of over 300%, driving consumer spending down to a record low. But as of February 1986, a new set of rules was issued to stimulate economic recovery. The main item was an immediate freeze on prices (which has been partly lifted now). On paper it was a great idea, but the problem was that many products had their prices frozen before being readjusted to inflation. One such case was the recording industry, suddenly left with a lower margin of profit on sales while facing an increase in

From a country where only one type of music could be accepted at a time, Brazil has gone through a process of cultural expansion where a good product will find a buying public, regardless of its style.

demand, exactly because the frozen prices were to the consumer's advantage. The price of an LP stabilized at 70 cruzados, or about \$5.

But this was not an isolated situation. All over the country, consumer spending went up to record levels. There was a waiting list of over six months to buy a car, for example. And if the situation with the recording industry hasn't reached that level yet, it may well get that desperate. Multi-national and Brazilian recording companies will have to invest in order to increase production, or they will risk losing the momentum of the economic recovery. Consumers will not wait as long for a record as they will for a car and they may just decide to spend their leisure money on something else.

If, in 1985, Brazil had 2.3 million LPs and 500,000 cassettes entering the market every month, in 1986 this average jumped to almost 4.2 million LPs and 1.2 million cassettes, representing a growth of over 90% on the total. And these numbers could be even more impressive. RCA, with the largest pressing plant in Brazil, is pumping out 3.5 million LPs a month. But according to its artistic director, Miguel Plopshi, the company has been able to deliver only 70% of the orders. According to Mario Rocha, Polygram's artistic director, "The recording companies will not exploit up to 40% of their potential market simply because there are just not enough records being manufactured, especially so during the hot period from October to January." RCA, Polygram and CBS are the three major companies with pressing plants of their own.

And the ones who are suffering most with this situation are smaller operations. Presently, no independent product with an order of fewer than 5000 units can expect to have a pressing without at least four months on a waiting list. On another front, Polygram decided to drastically cut its catalog in order to manage an increase of 30% on classical record sales. CBS's catalog was reduced from 600 to 100 titles, postponing reissues of older albums and releases of Brazilian folk

music, jazz and even classical. RCA, WEA and EMI-Odeon have followed suit, choosing to take advantage of the momentum to concentrate on popular groups and artists with the most potential.

This policy seems to be working out fairly well. A pressing of about 80,000 albums, which used to be considered a respectable order, is now less than what some new local acts are selling in a few weeks. And again, the numbers can be impressive, even by American standards. A rock group on CBS called RPM sold over a million copies of one record. Then, a few months later, a live album with basically the same songs again broke the one million mark. Another group, Camisa de Venus, gave WEA an unexpected surprise with initial orders totalling 500,000 copies for its first album. Other hot sellers include the model and actress Xuxa who is approaching two million copies sold, and the rock group Paralamas do Sucesso with 500,000. Of the internationals, Madonna's *True Blue* is first, selling 600,000 albums, followed by Sting's *Bring on the Night* with an initial pressing of 250,000, and Lionel Richie's *Dancing on the Ceiling* with 200,000. The surprise here came with the British group The Smiths whose album *The Queen*



PHOTO: ISAAC MARKMAN

Recording area, Nas Nuvens

is *Dead* sold 100,000 copies.

What doesn't seem to be a surprise is the fact that local pop music still takes a 60% bite of the market. From the percussive originality of samba to the complex harmonies of bossa nova, Brazilian music has always reflected the informality and variety of the people. But what is somewhat unexpected is that so many of the big sellers are now playing a hybrid style, mixing rock and roll with a twist of new wave and punk. As explained by Andre Midani, WEA's president in Brazil, there is a new plurality in the market: "From a country where only one type of music could be accepted at a time, Brazil has gone through a process of cultural expansion where a good product will find a buying public, regard-

less of its style."

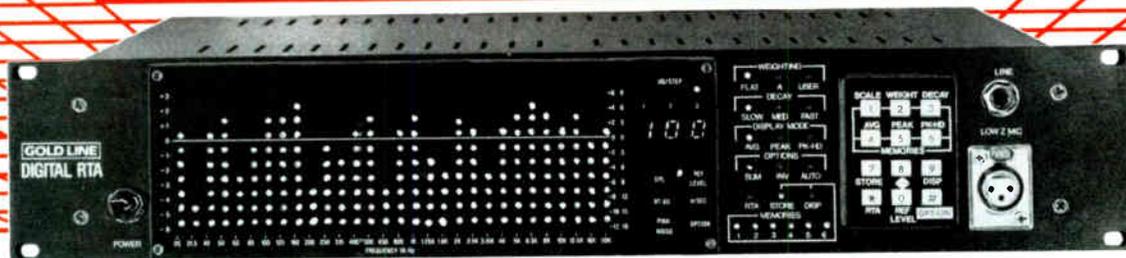
The explanation of this phenomenon lies first with a festival called Rock In Rio, which showcased acts such as Queen, Iron Maiden, James Taylor and Yes among other international and Brazilian artists. The huge success of the event demonstrated the strength of a younger age group in a market until then dominated by an older mentality.

It also marked a big transition from the essentially electro-acoustic textures of Brazilian pop music to a more electronic style in rock. But that is a transition that has not fully taken place yet and it may be a while before it is fully implemented. The main obstacles are import barriers inherited from the old dictatorship, imposing taxes of up to 200% on the retail price of electronic equipment. If no American or European studio can expect to make an investment under such conditions, neither can a studio in Brazil, which would have to pay the full price and taxes in dollars while generating revenues in local currency. As a result, many of the studios have become outdated, and unless new regulations are imposed, some of them may very well become obsolete.

To overcome these limitations, most studios rely on custom modifications

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PHOTO: ISAAC MARKMAN

Control Room Studio 1, Polygram

performed by their own personnel to keep older equipment running. Such is the case with the studios of EMI-Odeon, RCA and Polygram, all of them in Rio and all of them using vintage boards. EMI-Odeon, for instance, has a modified Neve MK III in one of its two studios that is said to have been used by The Beatles while recording *Sgt. Pepper's Lonely Hearts Club Band*. On the other side, they have just completed a big step, upgrading one studio from 16 to 24 tracks with the acquisition of a new AEG machine. According to Mayrton Bahia, the studio's production director, the move was a natural progression, since the roster of their artists comprises some promising new rock groups. "With synthesizers and drum machines," he says, "there is a need for more tracks, since the trend is to build tracks one by one, as opposed to recording a live take of the song in one of the rooms." Sounds familiar.

RCA has also been very busy in Brazil. Besides hiring some of the most distinguished artists around, such as Gal Costa, Maria Bethania and Chico Buarque, the company has been going through an extensive process to renovate its facilities. Both their studios feature heavily modified old Neve boards accompanied by Sony-MCI and Studer tape machines, but there is a lot of excitement about a second Studer machine soon to arrive and the upcoming installation of an SSL 4000E being transferred from RCA's studios in Mexico City. They also have an impressive array of outboard gear including a Lexicon 224XL, Prime Time and Eventide 949.

In terms of installations, Polygram's studios in the beautiful Barra da Tiju-

ca beach area just outside of Rio could rank with some of the best anywhere in the world. The two studios were built as separate structures of concrete, supported by blocks of neoprene and housed inside the main building. As explained by Luigi Hoffer, the studio manager, "This was done on speculation of heavy real estate development in the area which could cause a lot of vibration." And indeed, a new construction is going up right next door. Another detail is that all electrical installations and air conditioning are located in a separate structure off the main building. The first studio features a custom board built by Polygram in Europe. The second studio has an Audio Design board with a new monitoring section made by the studio's staff. The tape machines used are Studer and Ampex, and they are waiting to take delivery on AMS's new reverb.

In terms of equipment, Nas Nuvens is one of the best studios in Brazil at the moment. Although it is an independent studio, most of its time is sold to just one client, WEA. It was designed and built by Ricardo Garcia, who is now manager and one of the owners. Located in a beautiful residential neighborhood of Rio, the studio has a Harrison MR-3 board and a Studer A80 24 MKIII with 24 channels of Dolby. The outboard gear list includes a Lexicon 200 and Prime Time, Eventide 949 and Pultec equalizers. It should be noted that the studio is the main base for Gilberto Gil, one of the best selling artists in Brazil and also another of the owners.

There are six other 24-track studios in Rio, including Transamerica and Som Livre. Strangely enough, CBS doesn't have one, choosing instead to rent time from other studios. And with all this action going on, Rio has recovered its position as the principal musical market of the country from Sao Paulo. But the number of studios there should remain stabilized for a while, since an increase could saturate the market and bring rates down further. Currently the prices range from \$25 to \$35 per hour.

Another problem common to most studios is a lack of specialized personnel, which in turn has been holding up advances in other areas. For instance, none of the studios visited had any kind of console automation system due to a generalized fear of any kind of complex computer operation. With a few exceptions, the same goes for the use of MIDI—most keyboard players have yet to even take advantage of the possibilities of combining synthesizers or sequencing with computers. On the other hand, the use of synthesizers has been widely accepted, although with a tendency

Ricardo Garcia at Nas Nuvens



PHOTO: ISAAC MARKMAN

Recording companies are playing a game of wait-and-see before making new investments in Brazil.

to use over-saturated analog sounds. And sampling is still very new in Brazil, with just a few Emulator and Mirage samplers in the country.

There has been some talk about "going digital" in the next couple of years, but the main problem is a fear of format incompatibility, especially with the new hard-disc based systems. Despite this, Polygram, EMI-Odeon and Nas Nuvens are already using VCR-based digital audio processors—mainly the Nakamichi DMP-100—in some experimental mixdown situations. But no studio in Brazil has been willing to make a commitment to a digital multi-track package.

At this point, the future of the recording industry in Brazil is up in the air. The main factor that could affect its performance is changes in the economic picture, which are, of course, difficult to predict. One potentially positive recent development that could affect the industry was the announcement by a company called Microservice that it will begin manufacturing compact discs in 1987 from its base in Sao Paulo. Unofficially, there are some 25,000 CD players in the country, consuming 300,000 CDs in 1986. But Microservice's projections call for a production of six million units in the first year, doubling that amount in the second, since they plan to serve not only the local market, but the rest of Latin America, as well as North America and Europe.

But the facility of any prognostications is summed up by WEA's Andre Midani: "Brazil changes its course as one would change shirts. What is heaven today is hell tomorrow because no one can remember what happened yesterday."

And that explains why recording companies are playing a game of wait-and-see before making new investments in Brazil. ■

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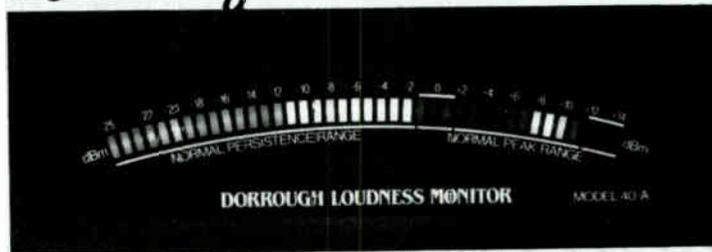


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Spirit's Shin Uetsuhara meets with record producer David Foster at the MTV Awards.

JAPAN:

LEADING EDGE OF THE PACIFIC RIM

by Lou CasaBianca

It has been said that Japan is a riddle wrapped in an enigma. A courteous people and a beautiful country; a fierce trading competitor and a shrewd world power. An archipelago with 120 million people densely packed into an area the size of California, Japan produces the equivalent in per capita productivity and national income as the U.S. The people of Japan are exposed to all kinds of television news and commentary programs—a blend of programming similar to BBC/PBS on the educational stations, mixed with game shows, drama, situation comedies and sports, spiced with a barrage of computer animation and videographics-based spots on the commercial channels.

I am in Tokyo on my second visit, working with two major high technology companies in a film/video production which will become an inter-

active videodisc. Dealing with the nuances of Japanese culture, and the language in translation for scripts and meetings, has been a particularly challenging experience. The one thing that has impressed me most about this country is the people. They are exceptionally courteous and considerate. It started on the flight over. Japan Airlines service is almost compulsively attentive, a refreshing change from the human conveyor belt treatment of some of California's commuter airlines. The one-hour trip from the Narita Airport to the City of Tokyo Air Terminal serves as a primer on Japanese highways and drivers. Motor bikes zip in and out of traffic as if they have a special immunity to the laws of gravity and mortality. Central Tokyo has one of the world's more impressive skylines. As you walk through the neighborhoods, the laughter is infectious—there is a vibrancy, a joy of life expressed from young and old alike.

As a city, Tokyo feels very much like London. The cars and people move forward on the left side of the street. The city is old and new at the same time. High-rise structures are in some cases built right next door to buildings or shrines that may be hundreds of years old. As you walk through the downtown business districts, almost everyone is dressed in formal Western business clothing. But that's where the similarities to London stop, and the gap between East and West emerges. Needless to say, the language barrier is formidable indeed.

The flow of information is abundant. There is a uniform preoccupation with access to diverse and accurate information about all kinds of subjects, from the origin of the blues or jazz, to the esoteric implications of the tea ceremony or the kimono. You can find Western cultural influences in the food, the clothes, and the music. English is taught in the high schools and colleges. At the same time, the language and the cultural tradition are nurtured and protected.

One of the most recent imports to Japan is MTV, in an arrangement set up in 1984 with Asahi Broadcasting Corporation and Spirit Enterprise in Tokyo, which handles post-production. Spirit Enterprise specializes in the distribution and production of music programming to Japan for broadcast radio and television, cable and home video markets. The company was founded about 15 years ago by Akio Tamura, the president of the company, as a joint venture with Tadashi Sasaki of Jun Corporation (which, among other activities, owns one of the largest clothing chains in Japan). The first program distributed to Japan by the new venture was *Soul Train*. Other programming distributed over the years by Spirit includes *In Concert*, *Midnight Special*, *California Jam*, *The Rutles*, and many other specials and concerts. Spirit has also handled post-production and distribution for video disc and video cassette projects with Pioneer Laserdisc, Japan Victor, Sony, Toshiba, Pony and other companies in Japan.

I interviewed Shin Uetsuhara, producer and director for MTV in Japan, for *Mix*, for a revealing overview of the Japanese music and video scene.

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World Radio History

(Thanks to Naotaka Saito for translation assistance.)

Mix: How long have you been with Spirit Enterprise?

Uetsuhara: About eight years. Before that I was with Tokyo Broadcasting System, where I first became involved with television engineering and technology. I also did freelance television commercial production. As I became more involved, I realized I was most interested in music production. Subsequently, I joined Spirit Enterprises which were specializing in this kind of work.

Mix: Have you produced Japanese music videos or are you primarily involved with programming?

Uetsuhara: I do not have much knowledge about Japanese music artists. I've been working principally on programming of American musical artists.

Mix: Who are the most well known Japanese music video directors?

Uetsuhara: There really is no word in Japanese for "music video director," and in fact because the budgets are so small, and there is so little work, the business is controlled by the producers. Also, there is very little time allowed to work on these productions and therefore very little creative freedom. Most of the music video work produced in Japan is for the networks, and is produced and directed by staff working for the networks, which do all kinds of other programming as well.

Mix: Is it fair to say that music video production is very tightly controlled because of this?

Uetsuhara: Yes, you could say there really is no independent video production scene in this country. However, there is a very open independent TV commercial market.

Mix: So, if someone's got a unique and recognizable production style they can break through and become successful in commercial production?

Uetsuhara: Yes. One of the most famous video clip directors in Japan is Kazami Kurigami, who started out as a still photographer, and moved into TV advertising. He recently did his first video for Island Records and Steve Winwood on "Freedom Overspill."

Mix: What kinds of music programming are available on Japanese TV?

Uetsuhara: We have the MTV program that is on from midnight to 1 a.m. Saturday and Sunday nights. There is also a network program called *Best Hits U.S.A.*, which is clips from *Solid Gold* re-edited into a new pack-

age for the Japanese market. On UHF there is a program called *Sony Music TV*, sponsored by Sony. It's popular music clips and interviews from the States, and runs two-and-a-half hours every Friday night. In addition, there are about 50 programs produced in each of the individual TV markets throughout Japan. These programs are in jeopardy of being eliminated because of the requirement for royalty payments for the use of clips by the record companies. Most music on Japanese TV is what you would call "middle of the road."

Mix: What would be considered a good rating for a music oriented program in Japan?

Uetsuhara: One percent would be typical. With MTV, however, there is a 4% rating. There are potentially many more viewers for music programs, but since there's very little TV programming available for them, and since much of it is not very interesting, they don't watch.

Mix: How do you reach those people? Do they go to concerts, watch videos at home, or use their Walkman?

Uetsuhara: Primarily, they go to a few concerts a year, rent video tapes and discs, and buy record albums and cassettes.

Mix: Can you describe the kind of radio programming available?

Uetsuhara: I feel the radio stations are not tuned in to the music market. For example, AM radio stations are mainly involved with Japanese pop artists and talk shows. By government regulation there's only one FM station per prefecture (there are 48 of these county-states in Japan). In Tokyo there's only one FM station in addition to the NHK. FM programming is very repetitive. It also is primarily talk, news, Japanese popular music, and only the current top American hits.

Mix: How would you describe the current concert scene in Japan?

Uetsuhara: The Budokan is the ultimate concert venue in Japan. At this point only American artists who are in the *Billboard* Top Ten are promoted in the Budokan. The promoters generally will use the U.S. Top Ten as the guide for bookings in this country.

Mix: Is there any club scene to develop or showcase artists?

Uetsuhara: There are clubs, but unfortunately, the Japanese artists playing in these clubs never seem to go beyond them. It becomes a job for them and very rarely are they able to go on to recording. If they come up

with a good song, it usually is turned into a pop track and reworked by the record company for a traditional Japanese artist. There are still many discos which are mainly concerned with being fashionable rather than with music. They concentrate on the volume and the lighting. Most discos are meeting places for the kids to check out each other's fashions.

Mix: Since television and radio programming are so limited, does software play a more important role in Japan?

Uetsuhara: Most kids really manage their money very carefully and try to get the most value out of it. Even though there's not much to watch on television, it's free. A live concert at the Budokan costs about 5000 yen (about \$30). Most people would rather spend that money on buying three albums than going to a concert. So most people only go to major concerts maybe three or four times a year, based on their own personal budget. Also, there is a difference between the records pressed in Japan and those imported from the States. The domestic records cost about 2500 yen (about \$15). The same album imported from the U.S. costs about 1500 yen (about \$9). There is a big difference between the U.S. and Japanese pressed albums. The Japanese version includes the English lyrics and credits translated into Japanese. Also, it includes background materials on the artist and the production. The import shops can usually only be found in the major cities. There has been a problem with rentals, which has decreased with the bankruptcy and withdrawal of the largest record rental company from the business.

Mix: Who would you say are currently the most active record companies in developing new artists in Japan, as well as promoting new artists from America?

Uetsuhara: I would have to say CBS-Sony. They have taken an in-depth approach from designing the record covers and creating an entire package for the artist. Their people can concentrate on the artists they select and work with the record, with contests and other kinds of retail promotions. Many of the other distributors have many, many labels with many artists. CBS-Sony seems to be able to concentrate better on its artists. Warner-Pioneer is good, and has many artists, but doesn't have as many people on their staff working those artists. Canyon-Pony distributes A&M Records and is part of another major company which distributes newspapers

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and other products. They have somewhat the same problem.

Mix: How is the video music software business doing in general?

Uetsuhara: Usually, most fans would prefer to buy records than video software. So the market is not that great. However, jazz and material for older fans is beginning to sell in larger quantities, probably because they have more money to spend. Most videos are rented rather than purchased. I would say, for the most part, the market for video software in Japan is really in feature films, not music. There is a demand for good quality concerts and specials for broadcast.

Mix: Which studios would you characterize as "world class" in Japan?

Uetsuhara: CBS-Sony in Tokyo would qualify as the studio with the most advanced technology—Neve boards, with Studer and Otari machines. Sony released their first PCM digital recorder to this studio. While there may be state-of-the-art equipment available, the "ears" of the engineers are not that great. Many Japanese artists will go to Los Angeles, New York or London to have access to the best engineers. There is also Sound City, which has audio and video recording, and film and video editing. Pony-Canyon also has another good recording facility.

Mix: One of the trends in U.S. recording is the "home studio." Since a great deal of recording is now digital the signal can be recorded direct to tape. Is this becoming a factor in Japan?

Uetsuhara: This is also becoming a trend in Japan. More and more artists are going into this form of production as well. Most of the recording done by Japanese artists is instrumental. Most record companies consider the vocal talent and the lyric writing ability to be minimal. In many cases, if the musical track is good the record company will convert the music to a Japanese pop form called *kayokyō*. This has the effect of destroying the talent and not allowing music to grow naturally. Instrumental music has allowed artists like Kitaro and Tommita to gain a world audience. Part of this is cultural protectivism, part of it is control by the record companies.

Mix: Outside of NHK and the other broadcast facilities, what are some of the more advanced video production facilities in Tokyo?

Uetsuhara: Imagica. They have Grass Valley paint box, ADO, Scanimate, Mirage, Grass Valley switcher. Eizo House has squeeze zoom, ADO and most of the other tools required for

high quality video production.

Mix: What are some of your future goals in this field?

Uetsuhara: Well, I would like to direct music videos for American recording artists. I think there are more creative and innovative techniques that have yet to be used in music video production. I don't see the opportunities in Japan with Japanese artists. There are skills that I have acquired in making commercials and editing programming that I think will be very useful in video music production. At the same time I would like to see more of the valid contributions that Japanese culture has made to the world be incor-

porated in more projects.

Mix: That reminds me of a comment I heard about the difference in life perspective the Japanese have in part because of sleeping and living lower to the ground. It seems that the new generation is adapting to Western furniture and food, and for better or worse will look at the world slightly differently than earlier generations.

Uetsuhara: Yes. Also, jobs may not be as secure for this generation in the future, and this may contribute to a more experimental attitude toward life. Risk taking is part of what it takes to grow and create innovation in music or in technology. ■

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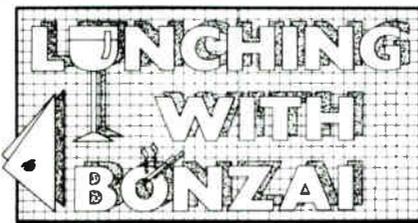


PHOTO: MR. BONZAI

KITARO

COMES DOWN FROM THE MOUNTAIN

“There is old energy that comes from somewhere, and passes through us. Creating music is using this energy to communicate with an audience.”



by Mr. Bonzai

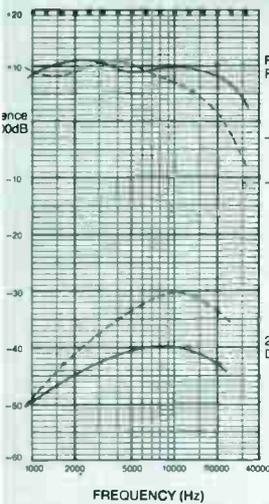
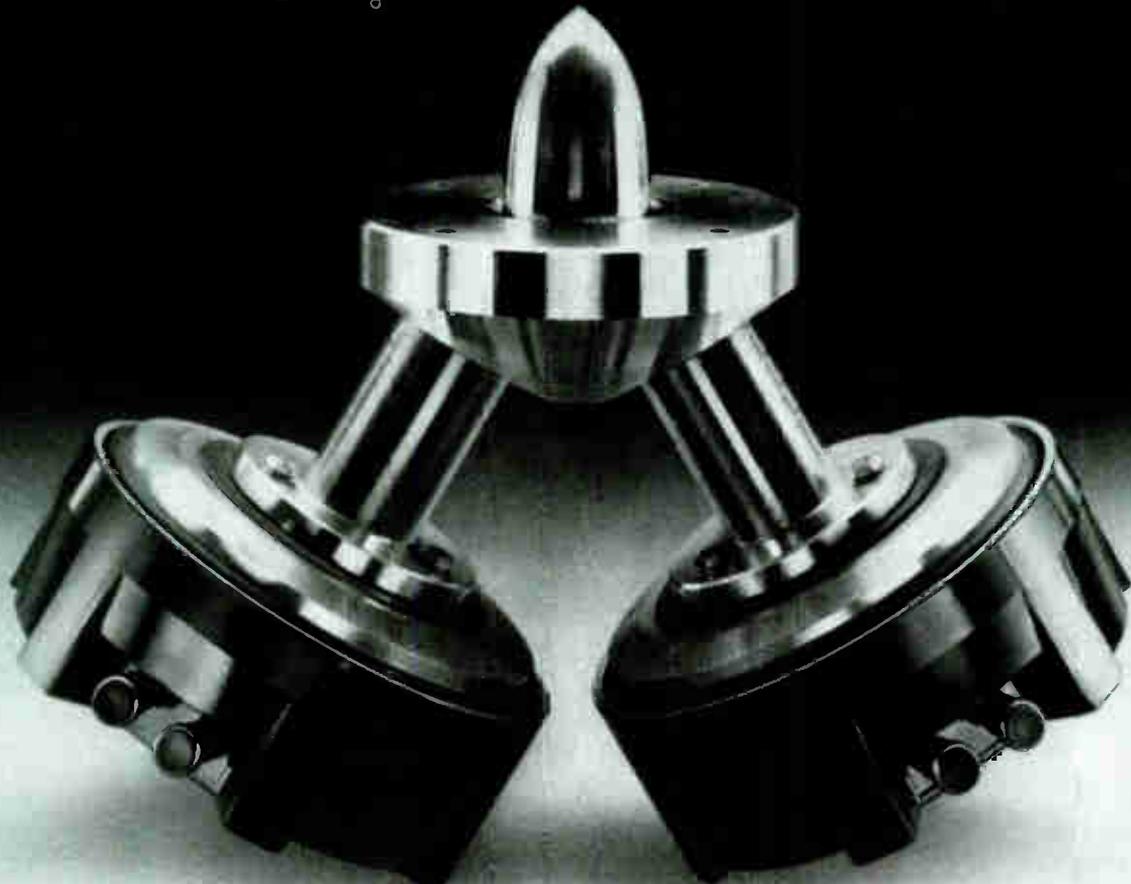
To most of the world, Kitaro—the man—is an enigma. He lives and records far from Tokyo, isolated in the mountains. Kitaro first earned widespread popularity in 1980 for music he composed for *Silk Road*, an hour-long TV documentary about the overland trade route from Europe to Japan. The program was so well-received that it became a series and ran for five

years. Kitaro sold millions of albums and became an international figure.

The son of farmers, he began his musical career in high school. A fan of American R&B, his first instrument was the guitar. He formed the Far East Family Band, released two albums, and later began his exploration of synthesized music. His work creates a mood of natural contemplation, breathing with his appreciation of nature.

Kitaro recently signed with Geffen Records for worldwide distribution of his new album, *Tenku*, and previous releases. During a recent visit to Los Angeles with his manager Eiichi Naito, I suggested that we lunch at Katsu, an elegantly simple Japanese restaurant known for its artful atmosphere and the best sushi in town. Chef Katsu gave

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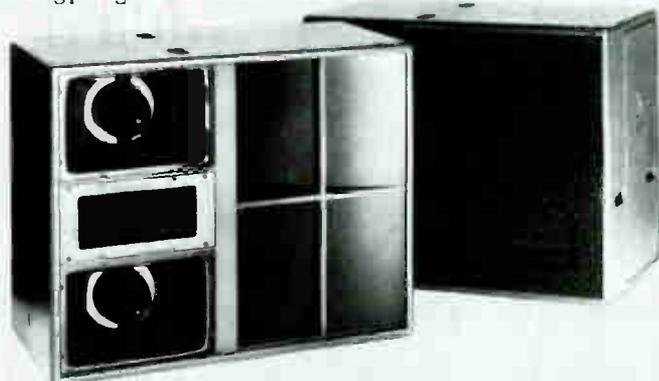
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text that conveys the flavor of Kitaro's words and meaning.

Keiko explained to me that Kitaro likes to take alternating hot and cold baths in the wintertime. Afterwards, he feels empty, but "empty isn't zero—it is full with nothing."

Bonzai: What music would you like played at your funeral?

Kitaro: (laughs) Funeral? . . . whose?

Bonzai: Your funeral.

Kitaro: *Mochiron* . . . naturally, I would like to hear my music.

Bonzai: What did your parents give you as a child?

Kitaro: My parents were farmers and I lived in a regular farmhouse. I don't have one particular image, but I lived close with nature every day. My parents watched after me gently, but I can't point to one particular gift.

Bonzai: Did they encourage your music?

Kitaro: Not at all. When I was a child I liked sports—I never thought about making music.

PHOTO: MR. BONZAI

us his special attention, preparing an elaborate meal and serving us personally. Kitaro spoke bilingually and our conversation flowed easily from

Japanese to English, with Keiko (Mrs. Bonzai) providing translation and timely insights. Afterwards, she and I worked together to create an English

Bonzai: Can you remember the first music you heard?

Kitaro: The first music I heard was folk songs, traditional music. When I

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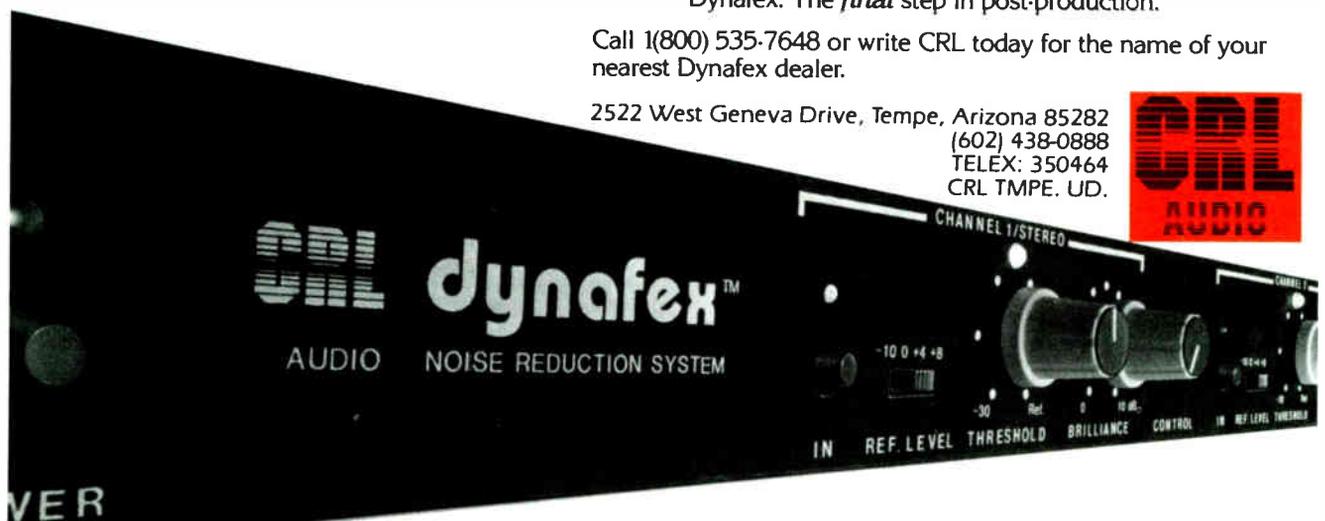
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began to hear popular music, I became interested in the guitar and wanted to learn how to play. I thought The Beatles were great, and R&B—my favorite was Otis Redding.

Bonzai: What did his music mean to you?

Kitaro: A warm feeling—very spiritual.

Bonzai: Who are the great musicians today?

Kitaro: Every musician who tries to explore is great. I feel that I am exploring—I am not perfect yet, but I am always trying to do more and more.

Bonzai: If you could meet anyone in the world, who would it be?

Kitaro: I want to meet many kinds of people. On this visit to America I had a very interesting meeting with Vangelis and John Anderson of Yes. Their music is different from mine, but it was fun—we met as friends, not only musicians. I hope to meet many other types of artists, musicians—from many countries, and to exchange cultures.

Bonzai: What is the most important question you can ask yourself?

Kitaro: I am constantly checking myself—always trying to clean up inside. I talk to myself—“Is this the right way? What am I doing?”

Bonzai: “New age” music is a common label these days, but I’ve heard your music referred to as “new science.” What does this mean?

Kitaro: Who said “new science?”—Oh, I said that. It really means *shizen*—nature. There is big energy and we move in it. This is a principle that I try to understand and use in my work. It

means more than science, though; it means spirit—a return to the spirit. It is science; it is spirit; it is religion—everything. Finally, these concepts become one. There is old energy that comes from somewhere, and passes through us. Creating music is using this energy to communicate with an audience. Like being a messenger. This is “new science.”

Bonzai: So, it’s “old science,” as well.

Kitaro: Yes. I wonder about this “new age” music. I don’t think everyone understands. For me, it is a new philosophy, a new lifestyle—looking forward to the next human beings. That’s all.

Bonzai: I’ve heard that you have an outdoor concert once a year and play the giant “wadiako” drum.

Kitaro: Yes, near my home at the base of Mt. Fuji.

Bonzai: Can anyone come?

Kitaro: I don’t publicize the concert. It is for my neighbors and friends. Not many people know about it. I try to communicate my appreciation of the environment where I live, of Fuji-san. I hope to invite Vangelis and other artists to join with me next August at the Full Moon for a musical gathering.

Bonzai: Would you describe your studio?

Kitaro: My studio has 24 tracks—an Otari MTR-90. I am using a Sound Workshop console, but next year I will buy an SSL. I have Dolby noise reduction and Lexicon reverb, and an EMT echo plate. I use a Kurzweil, and a

Kitaro in concert



Yamaha DX7 synthesizer. I have many MIDI devices and sequencers, and also a Minimoog, a Roland Jupiter 8—and an old Korg. Vangelis told me he uses a Korg, too—it is a favorite of mine. The Minimoog is just a little synthesizer, but the sound is so big. Many musicians don’t use the Moog now, but I like the sound.

Bonzai: What about your home?

Kitaro: It is in the countryside at an elevation of about 3000 feet. My house is a 200-year-old farmhouse. I have remodelled and inside is my studio, and a fireplace, and a pool table. The house has a thatched roof.

Bonzai: And a big bathtub?

Kitaro: Big enough for four or five people.

Bonzai: In America your music is thought of as meditative music, but I’ve heard in Japan that it is party music.

Kitaro: I think the meaning is different. . . .

Bonzai: My feeling was that most parties in America are so noisy that no one really talks to each other—that “party music” in Japan meant music that creates an atmosphere of communication.

Kitaro: That is a good image.

Bonzai: Ki-ta-ro means “very happy man?”

Kitaro: Yes.

Bonzai: Did you choose this name?

Kitaro: It was a nickname I was given in high school.

Bonzai: Do you know the old *shamisen* master, Chikuzan Takahashi? We met him recently on his first tour of America.

Kitaro: I know his music, but we haven’t met. I don’t have many relationships with musicians in Japan. Many musicians in Japan—I don’t mean Chikuzan—are only interested in the show, to make a name and to make money. Their meaning is superficial. If people are making music, they should have a philosophy of life. I think carefully about making music, because it influences people. If I didn’t care about the world I could make any kind of sound, but I feel we should create circumstances that are peaceful, that protect us from a panic feeling toward life. Trouble can pass smoothly. We should think about the next age and make a good circumstance. If we don’t, the world will get worse.

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My idea of "new age" music is that we should have a philosophy, and an appreciation of traditional ways, and we should also think of the future. If people think that our generation will be the end, then there is no hope for the next generation. Most people, especially young musicians in Japan, don't think of the next generation for the world. Maybe they are so young that they aren't aware of their effect on the future. We should have freedom, and move beyond destruction. In past times, we have had many kinds of destruction. We should move on.

We should be aware of what we give to others. If someone listens to



music, maybe their ideas will change. The responsibility comes to me. It relates to my feelings about Otis Redding, for instance. He is dead now, but there is still a big influence. So I can't do my work easily; I must act carefully.

Often, musicians will come to me and want to have a session. I usually say "*sumi masen*," I am sorry—I can't do it. If their meaning is shallow, then it is corrupt. If they just want to have fun, then they should do it by themselves.

Mrs. Bonzai: Before our trip to Japan last year we contacted Geffen Records for your biography, because we hoped to meet you for an interview. They said it was nearly impossible. We had an image of you as a mysterious hermit recording in isolation on Mt. Fuji.
Kitaro: This is an image people have

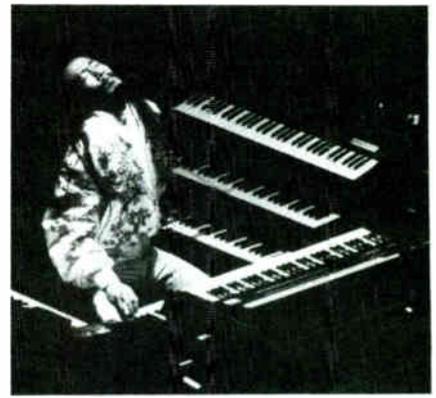
of me. Perhaps it keeps me free from those who have no real reason to meet with me. But I am not isolated from the world—on this trip I met with some great artists who I hope will join me for some special concerts. I have invited them to come to Japan. In April I am planning a performance in Kyoto to commemorate the 400th year of Chio-in Temple. The concert will be in the temple's garden. There will only be one performance, and I hope to make a film of the music and the ceremony. I have been asked to perform for the entire night and I hope to have other musicians join the performance. This may be the end of my performing in Japan, and I am thinking of moving here afterwards. But I will do my music on the mountain in August. This is my celebration and my prayer for Mt. Fuji. That's all. There is a gathering of dancers and *ikebana* [flower arrangement] artists. It is a festival, with wadaiko drumming. There are many festivals throughout Japan at this time of year. I begin at sunset and continue drumming until I see the sun rise. It is kind of a trance experience. We must feel something to play through the entire night. My dream is to have this festival happening at the same time throughout the world—Mt. Fuji time, not Greenwich time.

Mrs. Bonzai: In Los Angeles, we have been to many wadaiko drum festivals, with performances by California groups and by Japanese groups.

Kitaro: It has become very popular, but true wadaiko is much more than just technique. Something happens when the drumming continues all night long. There is a struggle with one's self. The energy is great. The experience moves a person beyond their individuality—you can play on and on. It is difficult to describe—it is like a meditation. I am not a professional wadaiko drummer, but I feel the drum. The tradition comes from village people who wanted healthy crops and protection for their homes.

Many people think that I am a distant and serious person, who only says profound and heavy things. But I am not this way. I like sports, I play around like a child. I am not a serious, difficult person to understand. It sometimes makes it hard to talk to people because of this long-haired image of a master. I am a natural man, a human being. I am not pretending to be a big guru.

I have a friend that I met when he was on a 1000-day walking journey—it's a trek that takes about seven years, because you walk 80 kilometers each day for a few days and then stop at a shrine, and then continue on. I walked for three days—no food, no water—and I felt a death feeling, like I was



dying. Obviously, it created a change in me.

Bonzai: You are most famous in Japan for your music for the *Silk Road* television series about China—how did you come up with that music?

Kitaro: I hadn't visited China yet. I just composed from my own image of China. I didn't study photos or videos of China. Later, I visited and saw the real China. I had finished the music, and I was relaxed. I could travel freely, without thinking of my work. And still now, I feel that the music is good and not so different from the real China. It fits. I know that there is always much more than the media image we have of foreign places or peoples. I saw the dirt—more than the clean view. I don't believe the media.

Bonzai: Do you have any advice on nutrition?

Kitaro: Everybody should eat sushi! (laughs). I fast from time to time. I'll tell you about the four-day fast...

Bonzai: Ah, "The Kitaro Diet"...

Kitaro: (laughs) Yes—on the first day breakfast is tea and salad. The lunch menu is just tea, and milk. Dinner is water with lemon juice. Water only on the second and third day—but not too much. The brain becomes clear and there is no useless movement. Every move has a purpose. A realized person moves slowly and only with a purpose. We shouldn't waste energy. In the tea ceremony there is no useless movement, so we can see one continuous current in the movement. If the movement is quick, we can't feel the current of the ceremony.

Mrs. Bonzai: While you are fasting, do you stop your normal activity?

Kitaro: No, I continue with my usual daily life. On the fourth day, breakfast is lemon water, and then later tea, and milk. In the evening, salad. After fasting, gradually return to your regular diet and habits. If you do this fasting, I think you can extend your lifespan by ten years. ■

◻ NEXT IN LINE FOR ◻ STEREO TV

by Richard Dean

Last September, the UK government approved a BBC-developed system for stereo sound TV which, if all goes according to plan, could be running by late 1988 or early 1989.

It certainly won't be the first time that the much-maligned TV soundtrack has been elevated to a more dignified position alongside increasingly complex and cleverly manipulated pictures. Germany and Japan started the ball rolling several years ago, and the U.S. joined the stereo fray in early 1985. But it will be the first system to broadcast stereo in digital form.

The official endorsement follows the results of detailed compatibility checks in the interference-blighted mountains and valleys of Wales, and more recently a full-scale test service from South London's Crystal Palace transmitter on BBC2.

This continues for the benefit of receiver manufacturers and to broaden staff experience, and shortly will be extended to BBC1 transmissions from the same site. Stereo soundtracks from films are played where available—which amounts to around two or three a week—with library music from compact disc at other times.

Routine Refurbishment

In contrast with stereo radio on FM/VHF, where the service painfully rolled out from London over several years, the BBC wants to have 60-70% of the UK covered from the start. Both BBC and ITV are adding stereo installations in the course of routine refurbishment as far as possible, to dissipate costs.

According to a BBC spokesman, the upgrading of the Corporation's vast studio facilities—a continuous process likened to the painting of the Forth Bridge—has resulted in half of Television Centre's eight major production studios in London now being ster-

eo-capable, with the regional centers to follow. Meanwhile, virtually all the major studios of the so-called "Big Five" program-providing companies within ITV use stereo consoles.

By a fortunate coincidence, the BBC's most important transmitters are about to come up for renewal. To realize its target coverage for the 1988/9 launch, the Corporation could have as few as seven antennae to replace. But it's a different story for ITV, whose transmitters are built and maintained for an annual turnover-related rental by the IBA (Independent Broadcasting Authority).

In June, the IBA signed a deal to begin the replacement of its entire TV transmitter network, now nearly 30 years old, at an ultimate cost of £40 million spread over ten years (today's prices). The good news is that only main transmitters need be upgraded—the relay stations used to echo the signal around the country need no adjustment—and the more modern designs will save the network an estimated £350,000 per year in electricity. The bad news is that work is not due to start until 1988—the date when the British Radio & Electrical Manufacturers' Association says its members hope to start selling the first stereo TV sets. So the BBC seems likely to have a significant lead over its commercial rivals; its hi-tech transmitter at Crystal Palace already covers some 20% of UK homes taking relay stations into account.

Distribution Debate

There's also some uncertainty about how ITV should distribute the sound to the transmitters. They currently use landlines leased from British Telecom to convey transmitter sound separately alongside vision cables.

The BBC has its own system of distribution called Nicam 3 (Near Instantaneous Companding And Multiplex) which uses sound-in-sync (SIS) techniques to allow sound and vision to

pass down one line. A short (4.7 μ S) burst of digital audio is inserted into end-of-line video scans, using 14-bit words compressed to 10-bit and sampled at 32kHz. This neatly ties in technically with their digital links used on trunk routes for radio.

Nicam was rejected for ITV on the basis that converting to and from digital for monitoring across its entire network would be too difficult or expensive. Another argument against SIS is that the loss of one line means losing both picture and sound, although modern transmitters can automatically generate phone-programmable fault apology captions. But it has since been adopted for the UK's relatively recent and, more importantly national, Channel 4 network.

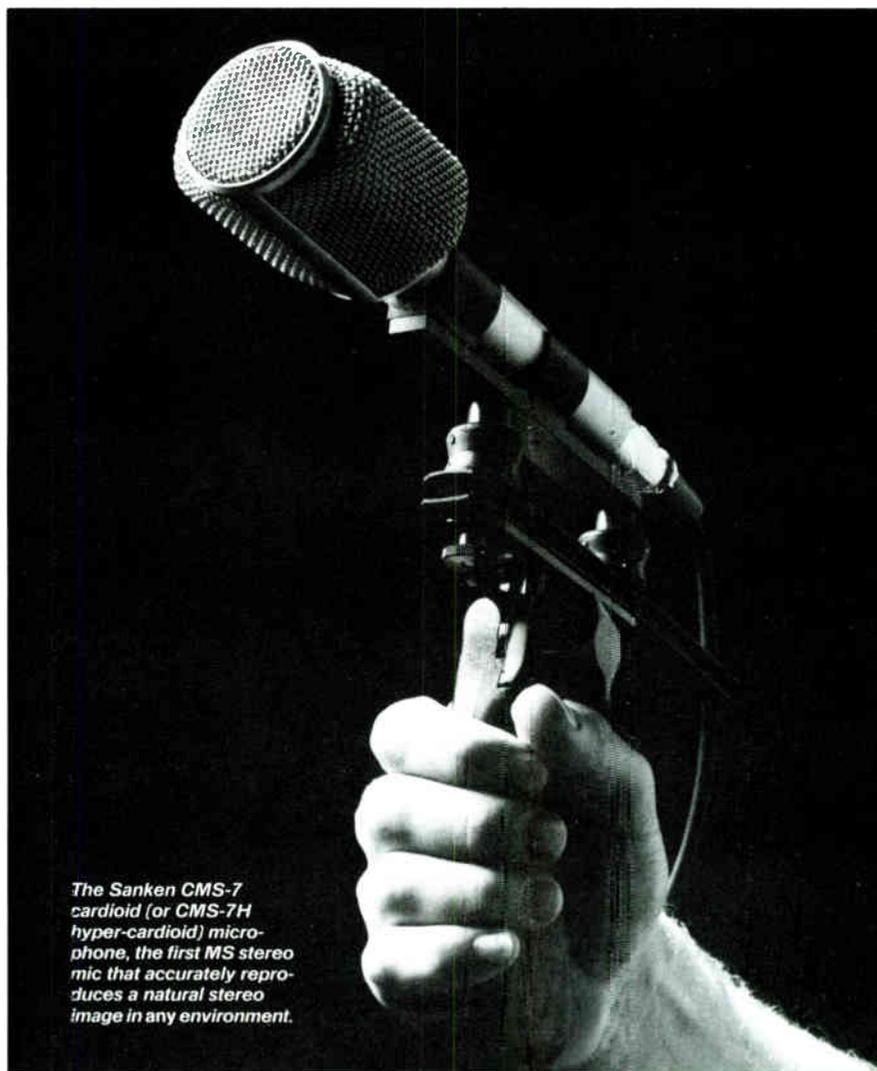
Many observers also thought Nicam would never have the bandwidth to carry stereo. But by using extra compansion techniques, the Corporation's engineering researchers, in collaboration with Pye TVT, managed to shoe-horn four levels of digital data instead of the normal two into the same time slot, for extraction as a separate channel at the other end, again to the same 32kHz/compressed 14-bit format.

ITV isn't sure whether to rent extra cables to carry stereo, or change across to a sound-in-sync system, which would actually save a small fortune on existing mono audio line rentals. But higher caliber and thus more expensive cables may be required to carry sound with vision.

If ILR (Independent Local Radio) is anything to go by, commercial TV stations will wait until a strong demand exists before paying for more or higher quality lines. Only two programs are networked on ILR—news, which goes out to all stations from the ILR news agency IRN on the hour, and *The Network Chart Show* once a week.

The Chart Show is the jewel in ILR's crown, designed to compete on a national basis with BBC Radio One's established *Pick of the Pops*, with the same coverage in high-quality FM as well as Medium Wave. News goes out via a special distribution circuit linking all ILR stations.

The shared news link is mono, as you might expect. But so too is *The Chart Show* in most regions outside London, because it's sent down the same news network. Hiring a special stereo line would be too expensive according to the IBA. They say a once-weekly line booking would take them onto the premium rate occasional-user rate card. They question whether it really matters to the target audience. And anyway, they say they've received no complaints.



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Stereo TV—The Systems

The U.S. uses a multiplex system similar to normal Zenith/GE stereo radio. This superimposes an AM carrier containing channel difference (left minus right) onto the existing FM mono carrier. A simple sum and difference matrix on stereo sets derives separate left and right channels while mono sets are unaffected. One of the prime movers in the initiative was NBC, which decided to break the consumers-waiting-for-programs/programmers-waiting-for-consumers conundrum by boldly re-equipping its studios with stereo broadcast consoles from SSL.

Several years earlier the Germans had decided not to multiplex, but add an extra FM carrier to broadcast TV for stereo. Italy and Austria, as well as Australia, now seem likely to follow this so-called dual-FM route. The BBC favored dual-FM for a time, too. Then the EBU approved the MAC family of standards with digital sound, and up to eight channels at that, for future DBS (direct broadcast by satellite) transmissions. Also, compact disc began to gain momentum. So attention turned to digital techniques.

As with any dual-carrier format, the German system can cause pattern interference as the two frequencies "beat" on screen. So the second carrier's amplitude has to be reduced. This in turn impairs coverage.

Another problem is buzz on sound, to which the U.S. system is also vulnerable. But to make matters worse, if on a dual-FM system the extra carrier is a difference signal (L-R) as with Zenith/GE, the buzz conspicuously pitches its tent on one side of the soundfield. So the Germans send only right-channel information on the extra carrier and use a different matrix. This way, any buzz sits on the center where it's less likely to be noticed.

In contrast, Japan adds difference information to the existing FM carrier, as with Zenith/GE multiplex. But this is done with FM rather than AM techniques. Never seriously considered in Europe, this "FM/FM" format is thought to suffer less from crosstalk than the German and U.S. systems; a vital parameter in a country like Japan where the stereo facility is used for bi-lingual dialog. Every aspiring Japanese—in other words the sort of people who can afford stereo TV—wants to learn English.

The BBC system resembles dual-FM, with the second carrier 6.552MHz above the vision RF. But the crucial difference is that the signal modulating this carrier is digital instead of analog, using a technique called Quad-

ature Phase Shift Keying (QPSK). Also the -20dB secondary carrier contains the complete stereo signal and does not depend on matrixing with existing mono. It has the same resolution and sampling rate as Nicam 3: compressed 14-bit at 32kHz. The BBC ultimately plans to install sampling-rate converters in each studio, to enable sound to pass from CD and other digital sources to the home without ever dipping into the analog domain.

Because QPSK-stereo is digital, crosstalk is zero, which bodes well for the don't-knows among multi-lingual continental Europe. Standards differ slightly: while the UK has only been allotted UHF for TV (no VHF), it has some 8MHz clearance between stations compared to the tighter 7MHz of mainland Europe, which also uses PAL B and PAL G rather than the UK's PAL I variant. But so far tests in Scandinavia, which is committed collectively to adopting digital techniques for a future stereo TV system, show that the system can cope with PAL B.

The reasons for Scandinavia's digital commitment are obvious enough. In Finland for example, a significant proportion of people speak the tongue of their former Swedish rulers. The current solution is to run English-speaking movies with obtrusive tiers of dual-language captions. But a dual-language soundtrack wouldn't be much better if each channel had someone else babbling away in the background. So Finland is particularly keen among the Nordic group to implement the crosstalk-free QPSK-stereo system as an audio solution to its language headaches. Indeed with talk of a launch sometime this year, it could become the first nation to start public broadcasts.

It's even worse in countries where literacy is low. Hong Kong, which uses the UK PAL I standard, has to cater to English and Chinese viewers. Written Chinese is famously difficult to learn, let alone caption, so the language barrier is vaulted almost entirely with dubbing. The upshot is that movies have to be screened twice. Apart from anything else, a dual-language soundtrack allows stations to deliver bigger audiences to advertisers more cheaply. Tests with the BBC's stereo equipment began early in 1985.

Other countries, like New Zealand, are attracted to the system more on the basis of high-quality stereo reproduction. Apart from its frequency response, stereo separation and dynamic range, BBC engineers claim that soundtrack interference manifests itself as noise rather than the more distracting line-frequency-related hum of other systems. The French are meanwhile working on their own stereo system to overcome the difficulties of add-

ing an extra carrier to the SECAM TV standard. Little is known about this embryonic project, but it is believed to involve digital sound.

As internationally-exchanged programs become increasingly likely to carry a soundtrack in stereo, some sort of stereo-image guidelines may soon have to be agreed upon in the interests of compatibility, especially for drama or musical dialogue. One answer is to lock vocals onto a virtual center, in the style of the hard center of a cinema. But the two media have little in common either in scale or environment.

Movement or positions on-screen are more likely to be reflected to some extent on the soundtrack, and experience so far indicates that this will mostly be achieved with panpots rather than Blumlein mic placement or UHJ/Ambisonic Soundfield techniques.

The question is, how much panning? According to BBC Television Centre sound chief Jeff Baker, who recently gave a talk on stereo TV sound to the UK's IEEE (Institute of Electrical & Electronic Engineers), vocal panning should be restrained within the central third of the soundfield.

One argument is that a wider movement might ridicule the limited dimension of domestic TVs. But there's also the question of mono compatibility—even with the BBC system, where the stereo signal is autonomous from normal mono—because lines to the transmitters will be shared on the grounds of cost. So mono sets will receive the sum of the stereo pair, as with radio and other stereo TV systems. Too much panning could distort the sound balance on older sets.

A number of other questions remain as to whether the mix should change on close-up, and does the engineer adopt the best-seat-in-the-house maximum of radio concert coverage, or attempt to follow the vision mixer with a more "realistic" soundfield?

Several pop producers have already expressed an interest in the impact-enhancing possibilities of broadcasting high-quality surround-sound on the BBC digital system. Options exist on the bitstream for alerting sets to stereo/multi-lingual modes, or even downloading data in the manner of teletext, which could equally be used to flag home surround-sound decoders.

You need a Dolby Stereo cinema encoder, joystick panpots (to emulate the 70mm rear-stereo version), and rear monitors. Which is almost enough to make those pioneering studios that backed Quadraphonic in the early '70s wish they hadn't ripped out all their old rear monitors and joystick panpots when the concept flopped on steam vinyl disc. ■

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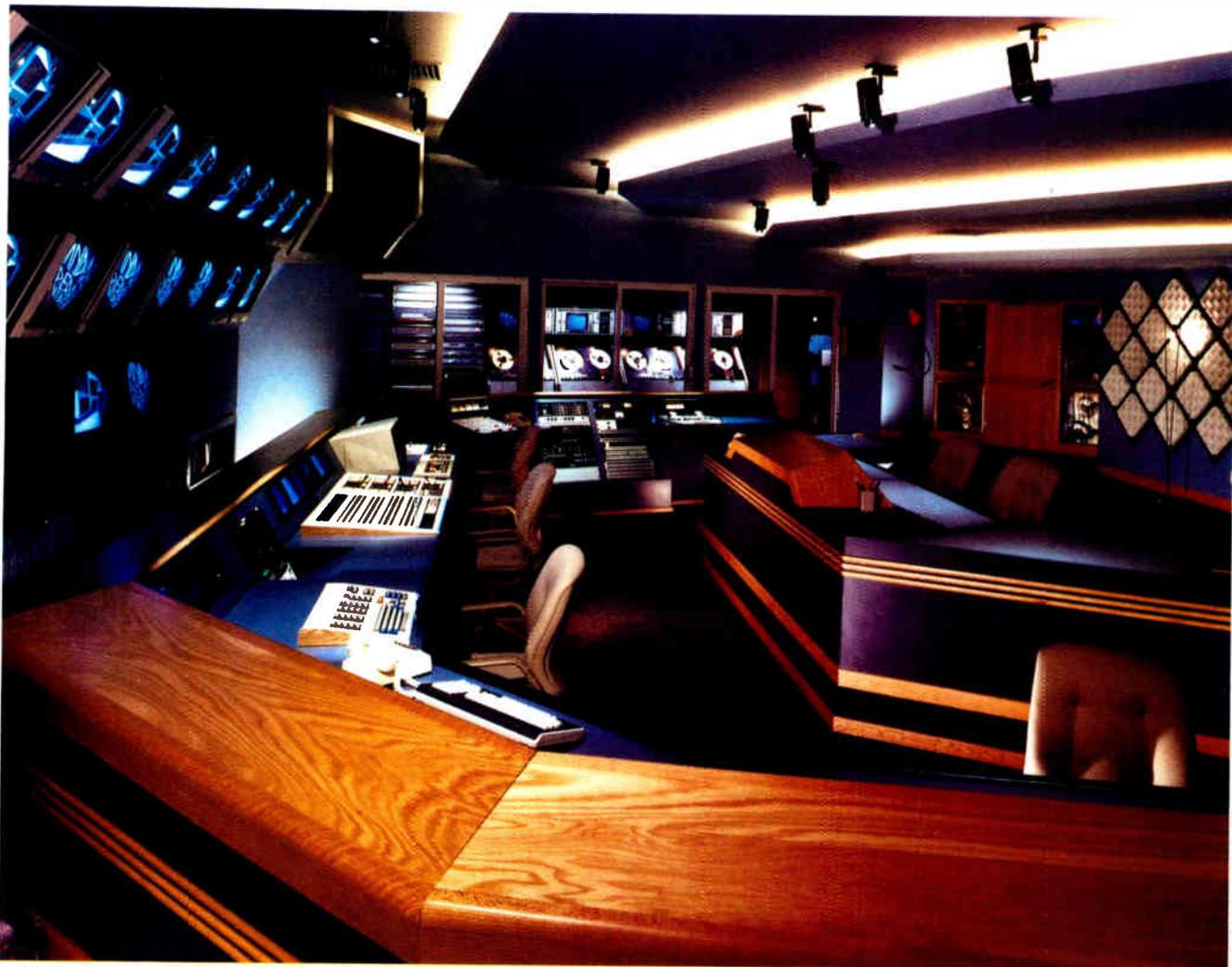


PHOTO: NEOFILM MONTREAL

Andre Perry Video Command Center

by Linda Jacobson

On the edge of a lake-dotted mountain town lies Le Studio, a world-famous hideaway that musicians cross nations and oceans to visit. The people who run Le Studio are themselves transported from all over the world—Great Britain, the United States, Israel, and the cities of Canada. Their guests speak French and English, not to mention the languages of music, video, film and television.

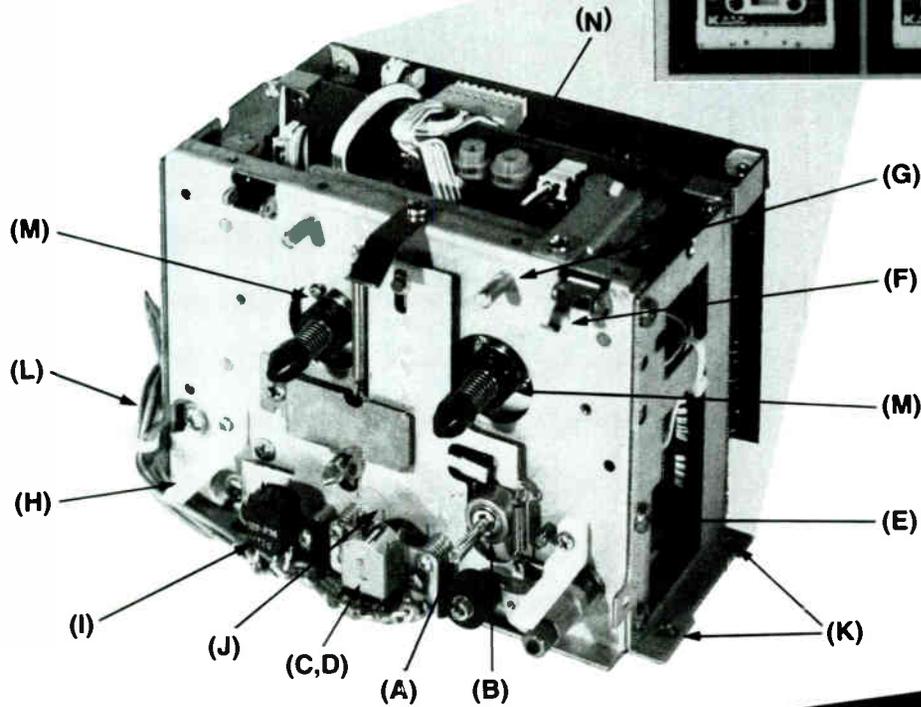
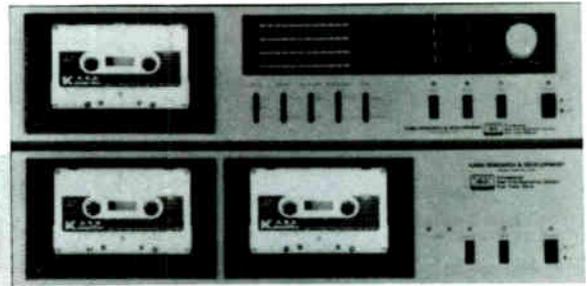
Le Studio is the brainchild of producer Andre Perry, who, some say, wants to create the Taj Mahal of the recording and production industry. At the very least he has created the poshest and most technically sophisticated facility in Canada. Perry's musical

career began in the '50s. He was a jazz drummer in Quebec who particularly appreciated the art and science of recording. In 1962, Perry opened a basement studio in suburban Montreal and set about establishing a reputation as a creative, technological wizard. After John Lennon and Yoko Ono asked Perry to record "Give Peace a Chance" during their 1969 "Bed-In" at a Montreal hotel, the growing recognition of Perry's talent paved a path to Le Studio. He set it up in '74 on a 300-acre estate an hour north of Montreal, amidst the ski resorts of Quebec's Morin Heights.

Today, Andre Perry's 48-track Le Studio and his newer venture, Andre Perry Video, are Morin Heights' largest income earners. The region's restaurants and bars have grown accus-

tomed to serving famous pop and rock faces who have frequented Le Studio, such as the Bee Gees, Chicago, Cat Stevens, Bryan Adams, Rush, and Asia. David Bowie recorded his *Tonight LP*, The Police their *Synchronicity* album, and Sting, his *Dream of the Blue Turtles* here. In Le Studio itself, dozens of gold and platinum records adorn the walls. The 1350 sq. ft., futuristic-looking studio is set in a structure so plush, contemporary, and innovative that it's been featured in an interior design magazine. The cedar-walled building has curving, pastel pink walls, lush interior landscaping, finely finished oak trim and skylights. The guest accommodations are appointed with VCRs, fireplace, grand piano, video games, jacuzzi; even a housekeeper. The complex overlooks Perry's own

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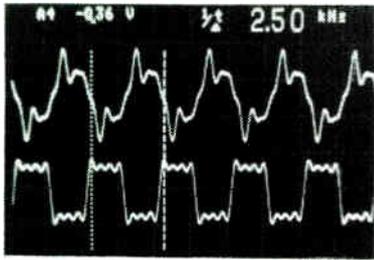
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Andre Perry (right) and Yael Brandeis put Le Studio on the Montreal Stock Exchange, with the help of Rene Jarry (left), VP of Geoffrion Leclerc brokerage.

Lake Kateri. No, it doesn't come cheap, but then again, the Canadian dollar is weaker than the American dollar, and there's no sales tax in Canada.

The major reason for Le Studio's success, says Perry, is his good relationships with people. These people include not only clients (whom he prefers to call "guests"), but his talented, 40-member staff. They're all here because of Perry's ability to predict the needs of the production market; another reason why Le Studio is a leader.

A couple of years ago, Perry's foresight whispered "video," and Andre Perry Video was born. Located in a separate building, the video operation interfaces completely with the audio center next door. A technical director, creative director, two Bosch FGS-4000 operators and two Quantel Paintbox operators—along with Perry himself—provide the talent and skills necessary to produce dazzling video projects for music, TV, and commercial clients. Montreal recording artist Michel Lemiux went there to conceptualize a video, which Le Studio actualized; they tracked and mixed the music, shot Lemiux's performance on the video facility's 30' x 37' shooting stage, spectra-keyed it on-line (using the Ampex AVC 33 Production Switcher), created backgrounds (using the Bosch and Paintbox), and then edited it (on an ISC Superedit 41). Says Perry of the ethereal computer animation that characterizes this and other projects: "The people doing it are becoming more sensitive, more poetic. If Bach would be around, or Stravinsky, or any of the great composers, they would use it."

Since opening two years ago, Andre Perry Video has created many music videos, major commercials, network television IDs and promos, and industrial video programs, and edited a one-hour TV special for the Kennedy Foundation. The video side of Perry's business has grown so quickly that it now accounts for 80% of the company's sales.

This past year, Perry installed some equipment that further enhances his video facility—Canada's first Quantel Mirage video effects unit, and an option-packed Synclavier. To help raise funds for these and other enhancements, the Andre Perry Group Canada, Inc. went public last August, offering over one million shares at \$3.50 per unit on the Montreal Stock Exchange. Within two days, 3000 investors snapped up the issues. (Those investors included Le Studio employees, who received interest-free loans from their boss so they could enjoy some trading activity.) As a result of the sale, the Andre Perry Group invested three million dollars in studio renovation and new gear.

To accommodate the Synclavier, Le Studio had to transform one of their two lounges into a Synclavier Suite. This suite—Le Tapeless Studio—handled three major projects in its first month of operation: a musical, multimedia presentation starring Michel Lemiux, sponsored by the Canadian government; sound effects creation and soundtrack mixing for *Dynamen*, a CBC network TV series (29 half-hour shows); and the soundtrack for a CBC-TV gangster movie, *And Then You Die*.

Some say that Andre Perry wants to create the Taj Mahal of the recording and production industry.

Lately Le Studio's been hosting a lot of synthesizer-based bands. Thanks to the recent addition of a machine room, they can now bring all their keyboards and MIDI toys into the control room. In fact, the popularity of synths, programming, and MIDI pre-production has changed the nature of Le Studio's booking schedule.

Yael Brandeis, executive vice president of the business, who's been working with Andre Perry since 1965, told *Mix*, "We've done a lot more Canadian acts this year than we've ever done before. One reason is because we're doing many more shorter sessions. Before, Canadian acts couldn't get in here because they wanted short sessions and we were always booked for months at a time by international artists. But now, because the bigger acts are doing more pre-programming on synthesizers, they're doing shorter sessions. So there's more of a turnaround. This gives the Canadian acts more opportunity to come in here."

Canadian acts who have booked Le Studio in the past year include Glass Tiger, Corey Hart, who recorded *Steals the Fire* there, Kim Mitchell (whose *Shakin' Like a Human Being* went platinum in Canada) and Montreal artist Luba. As you read this, Men Without Hats are in Le Studio.

Le Studio is not only located in a resort, but in a region where two distinct cultures, French and English, live side by side. Add to this the recording artists who visit from all over the world, and you have a cultural melting pot.

When asked to differentiate Le Studio from other recording facilities in the States or London, chief engineer Paul Northfield spoke about the artists' use of technology: "There are people that take the high-tech approach to

music, and those that are more traditional, Nashville types, that don't do wild things with sounds. That's the simple, refined, elegant approach. English bands are more concept-oriented—they're not always great groove players, so in the studio they tend to use innovative approaches and more experimental sounds. North American acts have a much better player's base, so in America the engineering supports more solid musical arranging. American bands can play clubs a lot and work to get rhythm sections that really smoke. That happens much less in England, so they do more crazy things to make up for the fact that they have great ideas but can only play with two fingers. In Le Studio, we see more of that style, because we have so many English acts through here, and because I'm English."

Northfield emigrated to Canada eight years ago at age 23 from London, where, as an engineer, he freelanced and also worked at Advision. His past clients include Yes and ELP. Soon after his first visit to Le Studio while freelancing for Polygram, he was asked by Perry to return for good.

Northfield also programs keyboards, a talent he developed while helping Geddy Lee program Oberheim sounds for five different Rush albums which Northfield engineered. Later, while guest engineer Hugh Padgham handled Bowie's *Tonight* project, Northfield programmed the synths for it. The fact that his job includes sound design and programming brings up another reason he's committed to Le Studio.

"We bounce ideas off each other and inspire each other," he says. "When we do music that involves graphics stuff, we have big discussions to organize what type of music tracks will work best with what effects. We did a bank commercial that had a completely synthesized score and completely synthesized graphics, using the Bosch. It was really fun to design sounds to match the visuals."

Northfield, who calls himself "somewhat bilingual," engineers many projects which include French voice-overs or vocals. He says, "the French have a really different culture, and this gives you a more balanced look at people in general. For example, the French have an incredible love of food, which affects their entire approach to life. Even in the lowest budget sessions, they'll take three-hour dinner breaks and spend large fortunes eating. Whereas with some English sessions, where people can afford to spend fortunes on food, they order in pizza.

"The French have a real spirit for living—they're more poetic and emo-



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tional in the way they write, and lyrics are really important to them. Far more significant than lyrics are in English music. The French are more interested in making a statement. But their language doesn't groove, so it's much harder to sing rhythmically, which affects the way the music works best. Some of the best stuff is where the romanticism and poetry of the language is really integrated in the music. This changes the way you work in the studio. For a long time, with French music you had to put up the vocals really loud at the expense of everything else. But their music is maturing and their arranging techniques now are more appropriate for the language, so that's changing."

There's another important difference between recording in the States or London and recording in Canada—money. Americans can save between 10% and 30% when they work in Canada.

This was the point made by Yael Brandeis, when we asked her to compare Le Studio with recording facilities outside of Canada. She adds, "Otherwise, the equipment is the same. We've got the SSL, the Urei speakers, the JVC digital recording, the Studer 24-track, the same kind of equipment that you see anywhere else. What makes one studio distinguished from another is the way it's set up, the attitude of the people, the players behind the system. How people are received, how they're treated. But otherwise there's no basic difference, we are so close to each other, Canada and the United States."

Brandeis states that Le Studio's philosophy is to offer not only technical talent and support, but a large variety of integrated, creative services which are all interactive. "When a project comes here, the whole studio is devoted to it," Brandeis says. "Our people

Perry's dream is to set up a string of facilities across North America, interconnected by satellite.

work together with the artists and the producer, and the whole staff contributes to the project without holding back. Just the fact that somebody has taken the effort to come all the way out here warrants that.

"Above everything else, people are our most important resource. Our system is very flexible and easy to live with, so there's a very positive attitude here. You don't feel like, oh well, another hour up, time for the next session.

"Also, we have a reputation for being ahead of our time in audio, and we're continuing that in video. Not only in technology, but visually, in the working atmosphere, the way everything is laid out. We're very systems-oriented; it's not a bunch of rooms, each room doing its thing. It's very harmonious. Most of our projects go through every room—we shoot something on the shooting stage, then it goes into computer graphics for background, then into the Synclavier room for sound effects, and then to the audio studio for music. Then we edit it all in post-production. Each element is part of a whole. We're going to continue that in Washington."

Andre Perry's original focus was musical recording; but as the industry changes, so does Le Studio. Witness

the advent of a video production facility and Synclavier, and the move into soundtracks and computer graphics for advertising, television, and corporate markets. Adapting to change is what keeps you up front.

Now, Perry's dream is to set up a string of similar facilities across North America, all interconnected via satellite, which Perry says is "the wave of the future." His first step is in the direction of the U.S. capital, a move that surely will augment his international clientele. The new Andre Perry facility in Washington D.C. opens this summer.

The world's first communications supermarket is the new Mediaplex in Washington, a few blocks from the White House. Mediaplex is located in the three-towered Lafayette Center, which also includes a glass-domed, special events facility. Mediaplex will be the home of various technical facilities, supplies, and talent, a place where you can shop for any kind of communications piece, from TV commercial to teleconference to four-color brochure. The goal of Mediaplex is to attract film and video production facilities and talent to Washington. Its flagship tenant is, of course, Andre Perry.

Washington's no musical town, so the Andre Perry Group will focus on video production and post-production. The Group's team of video experts includes VP and general manager Douglas Weiss, a Washington resident and former Capitol Video president, and director of engineering John W. Nash, another Washingtonian, formerly with CBS-TV. Perry and Brandeis will join them often. The Group recently finalized architectural plans for a video, computer graphics, and audio post-production facility that they claim rivals any in L.A. and New York. It will offer videotaping and multi-track digital recording, half-inch and one-inch video editing, a Synclavier suite, film-to-tape transfer, and tape duplication. The whole shebang will be linked by satellite to Le Studio.

Once the Washington facility is up and running, the Andre Perry Group begins work on their next outpost. A year ago they had plans for a video facility in Austria, but decided against it, primarily because of communications difficulties. Today, although they will say they're looking for a second site in the States, Brandeis adds, "We're not ready to announce where. Things change so quickly in this business." She did say that it *wouldn't* be in a major metropolitan area; "Look at New York and Los Angeles—there's enough there already. This business is becoming decentralized, and that's our head space." ■

EUROPEAN MANUFACTURING and the World Market

by Al Swanson

Brighton, England, is a charming Victorian resort city, overlooking the English Channel, altogether a wonderful spot to hold the International Broadcasting Convention. The city has plenty of boutiques, beer, bed & breakfasts, and a beautiful beach. It also has an occasional bombing, like at the 1984 IBC, when the Prime Minister was staying at the Grand Hotel (on other business). But Mrs. Thatcher had other things to do this time, and all was tranquil.

The scene *inside* (the Metropole Hotel—the venue for most of the exhibits) was somewhat less placid, for the IBC is one of Europe's largest trade shows, halfway between SMPTE and NAB—in scope if not in real estate. This is to say, everyone who's anyone in the industry shows up.

I was there also, to soak up (in addition to the aforementioned beer) rumors, gossip, and any other information I could regarding the state and future of all things audio and video on the Continent, plus implications for the same in the U.S.

Whew. Handling such an unwieldy subject requires a few organizational constraints, so I will break, roughly, my comments into three areas: how the present market in Europe is constituted; how European manufacturers propose to satisfy this market while maintaining some level of worldwide influence; and how this all translates into specific products for the near and not-so-near future.

To begin with, the European market for audio and video products is dominated to a large degree by government-run broadcasting networks, with many of their policies and practices established internationally. Equipment purchases made by such organizations have a great impact on manufacturers. (Independent studios have comparatively little influence—even though the aggregate monetary value of their purchases is considerable, the *individual* clout quotient is proportion-

“For a Swiss company, Studer is considered to be relatively large, with some 1500 employees. Sony, on the other hand, might have that many engineers working on a single project.”

ately low.) Moreover, those who authorize purchases for the mega-broadcasters are most often several bureaucratic steps away from those who pay the bills (and, in any case, the money

spent is the taxpayers', not the stockholders'). Thus, there is no particular impetus for the suppliers to keep hardware costs low. It is much more important for them to meet complex international specifications. Then, too, it should be noted that these purchasing personnel are generally engineering types who have risen through the ranks—which is to say that they may not have been on the front line of hardware *use* for several years. As a consequence, there is a strong tendency to emphasize familiarity over innovation.

(There are, of course, pluses and minuses to all this. On the one hand, we can see that engineering creativity takes second place to bureaucratic requirements. On the other, the system frees broadcaster Smith, for instance, from having to keep up with broadcaster Jones in terms of the number of new toys he has.)

Now, how does this affect European domestic manufacturers, who, nevertheless, wish to be worldwide players? Item: The world's largest market for A-V products is North America. Item: A major segment of that market is made up of independent studios who “need” new gadgets, new fodder for the hype machine, on almost a monthly basis. Item: “Purchasing agents” for these studios are more often than not the owners of said institutions. Taking all this into account, it obviously behooves any would-be world player to take into account novelty, hype value, and low cost—all of which are, to the North American market, considered at least as important as *performance*, and much *more* important than *longevity*.

But low-cost hardware with frequent bell-and-whistle updates is precisely what traditional mainline European manufacturers are not geared up to produce. Says Marcel Groos, audio-video products manager at Kudelski (most famous for the manufacture of Nagra tape recorders), “We are, to put it bluntly, incapable of building anything other than exceptionally fine equipment that performs very well

flexibility...



Audio consoles were once designed for particular applications. You decided up front what type of clients you were going after, and then picked a console accordingly, keeping your fingers crossed that the clients would approve.

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indeed for many years and costs a lot of money."

A main concern is the lack of flexibility. "For a Swiss company," says Studer's Bruno Hochstrasser, "we are considered to be relatively large, with some 1500 employees. Sony, on the other hand, might have that many engineers working on a single project. On a development level, how can we compete with that?"

Stefan Kudelski himself acknowledges the problem: "We do not have the production capacity needed to build large numbers [of tape recorders], and we do not have the engineering staff necessary to develop many different products at the same time. Cost is only a question of numbers. Therefore, what we build will never be cheap, and we must be prepared to concentrate on only a small part of the market."

"Specifically," continues Groos, "this means that we are planning to go after the 'elite market' [i.e., television and major post-production studios] in a big way. However, there are some potential problems with this. We have always been able to market our products on the basis of our reputation. But because our reputation is not as well known in this 'elite market,' it will be necessary for us to learn to *sell* things to it. And this is where we do not have

a lot of experience."

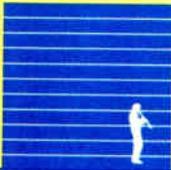
Of course, development of "elite" products demands a massive R&D expenditure—particularly when the window of marketability is small, which is often the case with broadcast equipment. A competitor can reasonably say, "Sure, they have the best product today, but why not wait until next month, when you can get from us an even more advanced product?" And the risk is high. Hochstrasser points out that Studer needed to go in with Sony in the development of DASH technology, because "besides the benefits of technology sharing, we could not afford to decide by ourselves on the format, only to have the world choose something else before we could finish building a machine."

This fact of economic life would seem to favor large, vertically integrated conglomerations, although it doesn't always have to. According to Neve's marketing director, John Andrews, sometimes smallness is advantageous. "There are three parts to the development of a commercially successful product. First, you have to identify a market niche, secondly you create something to fill it, and thirdly, you have to sell it. It is true that a very large engineering staff is desirable during the second stage, and a well organized marketing department is

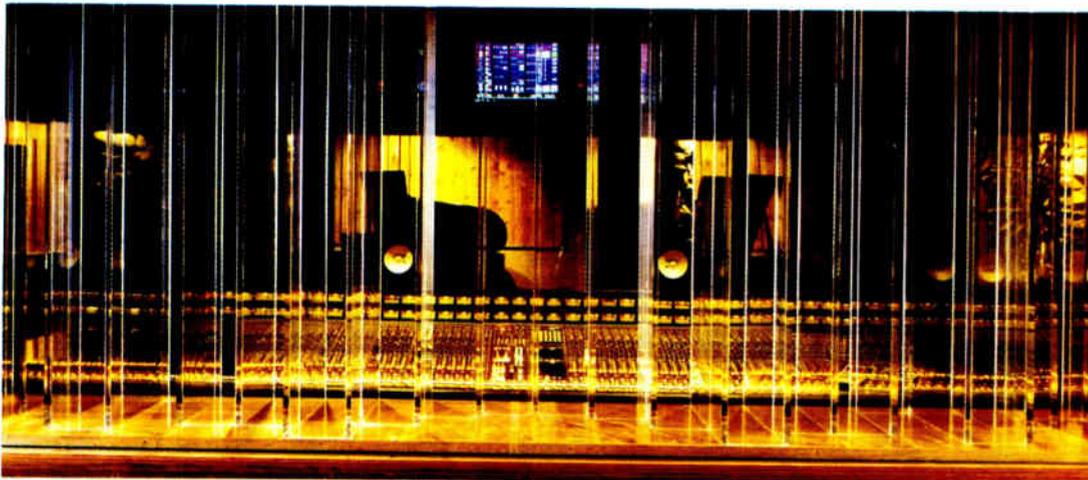
necessary during the third, but discerning a need in the first place is often the province of individual visionaries. Neve has always been good at identifying the needs of the user early on. Also, to begin work on a new desk, for instance, does not in our case require running a bureaucratic maze before final approval is given."

Nevertheless, Neve now feels compelled to play it both ways, and recently became a subsidiary of the multinational electronics giant, Siemens. Neve's digital console, while admittedly fulfilling an important need (and giving the company a large head start in DSP technology), represented R&D expenses far in excess of what was originally anticipated—and, more to the point, what could be comfortably handled. Now, says Andrews, Neve will have the capital backing necessary to continue and expand its DSP research, plus access to the parent company's own considerable technical and worldwide marketing experience.

Neve is not the only company trying to solve its R&D dilemma via the merger route. A cross-cultural case in point is the purchase by AKG, a financially stable, conservative old-line (European) manufacturer, of the small-but-innovative (American) Ursa Major. What AKG has gotten from

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this union is access to the smaller company's microprocessor technology; the ADR Digital Reverb and Effects Processor now carries the AKG logo.

A somewhat different, more "open," marriage was recently formalized when Solid State Logic joined the UEI group, Quantel's parent corporation. Neither company needed the other's money—both have a strong profit ratio and excellent capitalization. Rather, the chief benefit of their merger is expected to be one of long-term engineering synergism: Quantel is planning for, and has largely implemented (with its Paintbox and Harry systems), the "all-digital video studio," while SSL has become increasingly involved with console designs useful for video post-production.

Our recent buzzword among console manufacturers is the "virtual," or "assignable," console, wherein many control elements (potentiometers and switches) are programmable, so that many functions can be assigned, often remotely, to one control set or another. This type of design has widespread desirability to broadcasters, and most builders catering to this market have developed or are developing some sort of assignable console. However, SSL's founder Colin Sanders points out that this sort of design is fraught with problems if realized using available analog technology. On the other hand, there is a long technical row to hoe (mostly having to deal with real-time operational speed) before large, complex desks, such as SSL is famous for, can be implemented with all-digital designs. Therefore, SSL is heavily committed to digital signal processing R&D—which, not-at-all-incidentally, will undoubtedly be abetted fruitfully by a corporate conjugal relationship with Quantel, although each company says that it will pursue largely separate careers for the near-term.

Yet another cooperative approach was taken by two certifiable behemoths. Unfettered by U.S. antitrust considerations, Bosch and Philips have formed a third company, Broadcast Television Systems, mostly for the purpose of promulgating MAC (Multiplexed Analog Components) television transmission standards. A little background is in order. Accepted MAC standards would encompass several different, yet theoretically compatible schemes (even with existing receiving equipment)—to accommodate cable transmission, direct (satellite) broadcast, pay TV, multiple high fidelity audio channels, and high definition television (HDTV). Therefore, two purposes could be fulfilled: 1) to execute an evolutionary end run around the limitations of PAL, SECAM

(the present European), and perhaps even NTSC (the present North American and Japanese) systems; 2) serve as a pan-European way to avoid having to accept the Japanese MUSE system for NDTV (which, like NTSC is based on 60 Hz, and is therefore not compatible with the 50 Hz European systems).

Thus, the idea behind the formation of BTS, is, according to a Philips executive, that with two industry heavyweights cooperating in the development of standards, hardware, and research, enough momentum will be established that all other manufacturers and governments will necessarily fall into line. This would have the further effect of encouraging European producers to come up with more and

better programming, since neither MUSE nor ordinary NTSC material (the U.S. is currently the major worldwide software supplier) will translate particularly well into 50 Hz high definition MAC.

What does this all mean for the future? Well, it does not mean that prices of European products are coming down much if any, nor does it mean that the high-brow Continental manufacturers are likely to begin catering to the basement studio trade, although some of their products may begin featuring a few more items useful to the masses. What is probable is that we will see much more international market research (don't be surprised if you are regularly asked about your

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studio habits), and more mergers or other cooperative ventures involving both R&D and commercial aspects. Regarding that latter point, any major new product, such as a digital video recorder, will likely be "second-sourced" before its development begins, since no manufacturer wants to be left twisting in the ill wind of white elephantitis. As far as broadcast standards are concerned, look for increasing polarization between Europe on the one hand, and Japan/North America on the other; this polarization will undoubtedly affect equipment design and marketing strategies to some extent—just how much remains to be seen.

Concerning specific products, here are my predictions:

- 1) New professional digital recorders from the Continent are probably at least a year away, may well be a completely different format than what we've seen so far, and possibly be announced by a consortium of manufacturers.
- 2) The development of full-capability digital disc (and other quasi-random access) recorders will proceed slowly, lagging behind similar efforts in America and Japan, although editing systems using Winchester-type disc storage are coming on strong, largely for use in video sweetening studios.
- 3) We will see several assignable, or partially assignable, analog consoles during the next few months, with small-scale digital desks following closely. Larger digital units will be rare for several years.
- 4) Software intensive items, such as reverberation and delay units, and other effects boxes, may not, unlike the mass produced units from elsewhere, get less expensive, but will attain high plateaus of versatility as the control programs become increasingly sophisticated.

Finally, regarding the future of the industry as a whole, a few comments by Colin Sanders seem to sum things up well: "The traditional distinctions between audio recording studios, video production houses and broadcast production facilities have begun to fade. As each industry seeks to diversify the services it offers and to improve its technical and competitive capabilities, it has begun to 'borrow' the techniques and the technology developed by the other sectors. As a result, a much broader and larger service industry is emerging, which could be described as the communications productions industry. It embraces all aspects of sound and vision production for electronic media." ■

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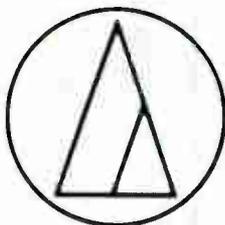
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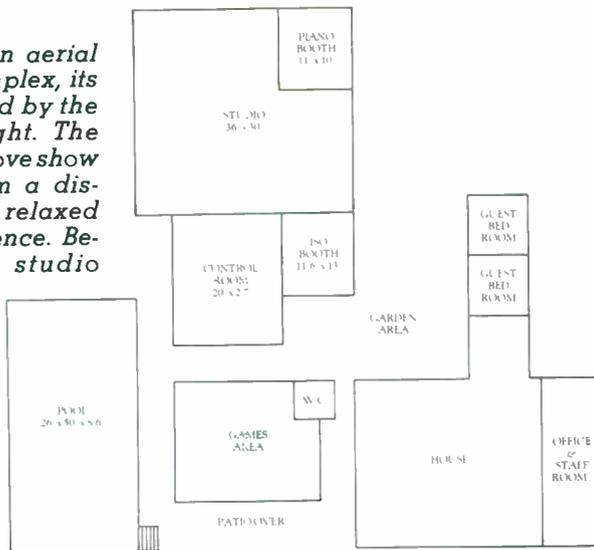
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AIR MONTSERRAT

THE BEST OF BOTH WORLDS

Above left is an aerial view of the complex, its layout identified by the diagram at right. The other photos above show the studio from a distance with its relaxed poolside ambience. Below is recent studio client Boy George, working on his debut solo album at Air Montserrat.



Y by Diana Wendling and Stacy Baird

ou wouldn't think that a great amount of work could be accomplished while tucked away on an island in the West Indies. You might conclude that a tropical clime and secluded beach coves are not exactly conducive to cutting edge creativity and on-schedule productivity. You could completely dismiss the notion of spending time and money in an environment where the temptation is to lie in the sun rather than lay down a track. But then, you wouldn't be fully aware of how a particularly unique and fully self-contained recording studio operates. You would, in a sense, be missing the boat

—CONTINUED ON PAGE 109



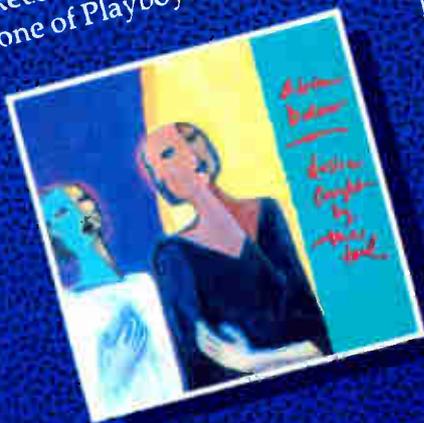
PHOTO ANDRE CSILLAG



After logging many solo musical miles, and a multitude more with the likes of Frank Zappa, David Bowie, Paul Simon, Laurie Anderson, King Crimson, and the Talking Heads, guitarist/producer Adrian Belew decided to check in for a sample of Royal Recorders' fabled royal treatment. His experiences with the studio began in earnest with work on his album "Desire Caught by the Tail", and went on to include group efforts with a new band, The Bears. Today, Adrian admits it was love at first sight, and to consummate the relationship, he has joined the Royal court by becoming their artist/producer in residence.

Besides their formidable array of equipment capable of recording 80 independent tracks, Adrian enjoys the natural beauty surrounding Royal Recorders at Southern Wisconsin's Americana Lake Geneva Resort. Formerly one of Playboy's premier Midwestern clubs, recreational accommodations ranging from golf to skiing, plus a complete physical fitness center are available at the Americana, and are at the complete disposal of Royal Recorders' clients.

"Creatively, the atmosphere here is perfect, especially if you work best away from the trappings of normal hectic life," Adrian says. "Add to that the copious amounts of the best equipment around, a studio staff that couldn't be more cooperative, and I feel confident in saying that there is no finer studio."



Adrian Belew...



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—FROM PAGE 105, AIR MONTSERRAT

—the one heading to AIR Montserrat.

"Montserrat turned out to be the perfect place for this project. We were far enough removed from all pressures, which allowed us to really get down to what we were doing. We went there basically with no songs; just with this vision of where to make a solo album for Boy George."

Stewart Levine, producer of the upcoming Boy George solo LP, didn't miss the boat. Neither did Lamont Dozier, a seasoned group of session musicians from London and, of course, Boy George. Levine is confident that his crew succeeded in capturing a gritty R&B sound for Boy George's first solo effort. Arriving without any material, their eight-song LP was recorded in eleven days. The songwriting was a collaborative process, with Boy George at the helm, Lamont Dozier penning four and the carefully selected band members contributing to two of the tracks.

It would appear that Montserrat's tranquil environment encouraged a healthy atmosphere for group productivity. Removed from daily distractions, it was an opportunity for Boy George to completely submerge himself in songwriting. When George wryly observed that his surroundings could compare to Devil's Island, Levine was quick to point out that if he "wanted to get off the rock he simply had to write the songs and get them done."

This approach proved effective. According to Levine, "We got into what we were there for. We had a job to do and we had everything there to accommodate our needs. It made us feel like we were able to just get down, be creative and do what's important, which is not always the case in a recording studio, because there are so many distractions. We worked from nine or ten in the morning to around midnight each night and still managed to get in our fair share of sun."

In choosing AIR Montserrat, Levine's objectives were two-fold: to remove Boy George from the press and pressures of London, and to work on the new SSL 4000E and Focusrite submixer designed by Rupert Neve. In fact, Levine and his engineer, Glen Skinner, hold the distinction of being the first team to produce on this highly innovative custom console. For Levine it was the ideal opportunity to experience the best of both worlds.

"Having the Focusrite submixer in the SSL was very helpful because I'm not a very big fan of SSL EQ, although I'm a fan of the console and I love the computer," he says. "By having these modules along with the SSL we were able to put an awful lot of things through the Focusrite as we were

recording. We had the bass recorded through the Focusrite and a lot of our drum overhead mics were there. We used it on all the vocals and on most of the overdubs, like an acoustic guitar or percussion so we could use the EQ. It's more subtle and much smoother. It's more in tune with the way I like to hear things sound."

George Martin, chairman of AIR Studios (London and Montserrat) and pre-eminent producer, also happens to prefer the Neve sound for recording. According to Martin, Neve is "better for the voice and bass. That doesn't mean to say that I don't like the SSL sound, but I would choose the Rupert Neve for certain recording sounds. On the other hand, I do prefer the SSL when it comes to mixdown. I think the automated mixing that's available on the SSL is the best in the world. So what I decided to do was try and get the best of both worlds."

In order to attain the best of both worlds, AIR's management decided to call upon one of the most respected names in console design: Rupert Neve. This seemed a natural choice considering that they have historically enjoyed a collaborative and prosperous relationship, employing Neve consoles at both AIR facilities. In fact, the sound that AIR Studios became famous for was due in large part to their custom designed Neve consoles. Montserrat received AIR's first customized Neve console upon its opening in 1979. The

Writer-arranger Lamont Dozier on hand for the recent Boy George sessions in AIR Montserrat.



PHOTO: ANDRE CSILLAG

reviews, particularly from George Martin and Geoff Emerick, were so enthusiastic that two more were installed in AIR London's Studio 1 and 2. (It is interesting to note that the original Montserrat console can now be found in Herb Albert's A&M studio. Like most used equipment working in Hollywood, it has recently undergone a facelift and is, once again, performing at top speed.)

For AIR's design team, it was of utmost concern to preserve this Neve sound while embracing the high-tech advantages of SSL's automated, total recall console. Propitious timing was a key factor in consulting with Rupert Neve about the possibility of designing a submixer to complement the SSL; a "console-within-a-console." In January '86, Mr. Neve was no longer contractually obligated to a non-competitive agreement with his former company, and therefore was ready to work with AIR as the founder of his new company, Focusrite.

Focusrite had an input amplifier design ready to manufacture so the "console-within-a-console" concept was quite viable. After consulting with AIR's design team—George Martin, John Burgess, co-founder and studio director of AIR, Malcolm Atkin, AIR London's studio manager and former technical director, and David Harries, manager of AIR Video—Rupert Neve formulated the design of a 12-input, eight-bus mixer that would fit within the frame of the SSL. The SSL was ordered, 48 modules fitted in a 64-channel frame, with a few ribs removed to create space for the Focusrite submixer.

Studio director Malcolm Atkin feels that the SSL with the Focusrite submixer is "a marriage of two very well respected sonic viewpoints in the business. I think where we've done our homework, technically, is to interface the two together properly in terms of the solo and cut bus. We've also interfaced the mix/record logic and taken the output buses on the auxiliary so that they tie straight back to the SSL."

The final design of the submixer incorporates 12 input channels utilizing the ISA 110 input amplifier and a custom designed switching module (with eight auxiliary sends, pan, insert, solo and mute) which carries the selection of the signal path to the eight bus amplifiers. Each bus amplifier has a pre-fader insert, metering and fader. Each module is transformer-coupled, with switchable insert points between each. The eight auxiliary sends are the only audio signal path common with the SSL; all other inputs, inserts and outputs appear only at the patchbay. This is, according to Malcolm,

Combining Rupert Neve's Focusrite submixer with a Solid State Logic 4000E offered the best of both worlds.

"for the purist who wishes a direct signal path to the recorder."

Rupert Neve's design philosophy evolves from his awareness that in order to build, one must first have a foundation. The foundation for Focusrite is the Input Signal Amplifier module, the ISA 110. He believes that every audio device has a "personality;" the personality of the designer. As Rupert explains, "If you read the specs you say 'what's the difference?' But if you take various parameters together, there are very subtle differences that come out. You can really only express them as being part of the personalities of the people or person who designed it." For Rupert, collaboration is an essential element in the design process. He emphasizes that optimal results are achieved when working with people, to their personalized system needs, rather than "working in big company style with black and white specifications." Concerning his rapport with AIR, Rupert replies "I have had a very good relationship with the AIR people, particularly George Martin. I suppose this is because when he wants something special, he and I get talking and often something special does happen."

The design parameters for the Focusrite are established to meet the greatest possible flexibility in application and the widest freedom of interface with other equipment in the chain. By using transformer coupling at the input, insert points, and output, the ISA and all Focusrite devices interface with other equipment without noticeable signal degradation.

Rupert, a transformer designer for 30 years, is a firm believer in its use. He is also aware of the contribution the transformer has made to the sound that is synonymous with Neve. The transformer design he is presently using in the Focusrite is based on the toroidal type used in the Neve console formerly housed at AIR. It has considerably broader bandwidth (500 kHz, although rolled off to -1 dB @ 100 kHz and -3 @ 175 kHz in the ISA) and lower distortion figures than previous designs.

The ISA 110 consists of two fully parametric, continuously variable mid-

band EQ, high and low frequency EQ each with five selectable frequencies, and high and low pass filters that provide a 20 dB/octave cut at five selectable points for each filter. Rupert pointed out that with variable "Q" equalization, it is very important to maintain a well defined "Q" slope over the entire amplitude range. The sound of the equalizer compares favorably to the Neve from which it evolved, although it offers increased flexibility and impressive transparency. This design was conceived to encompass a broad range of recording demands—from choral performances to complex multi-track mixing.

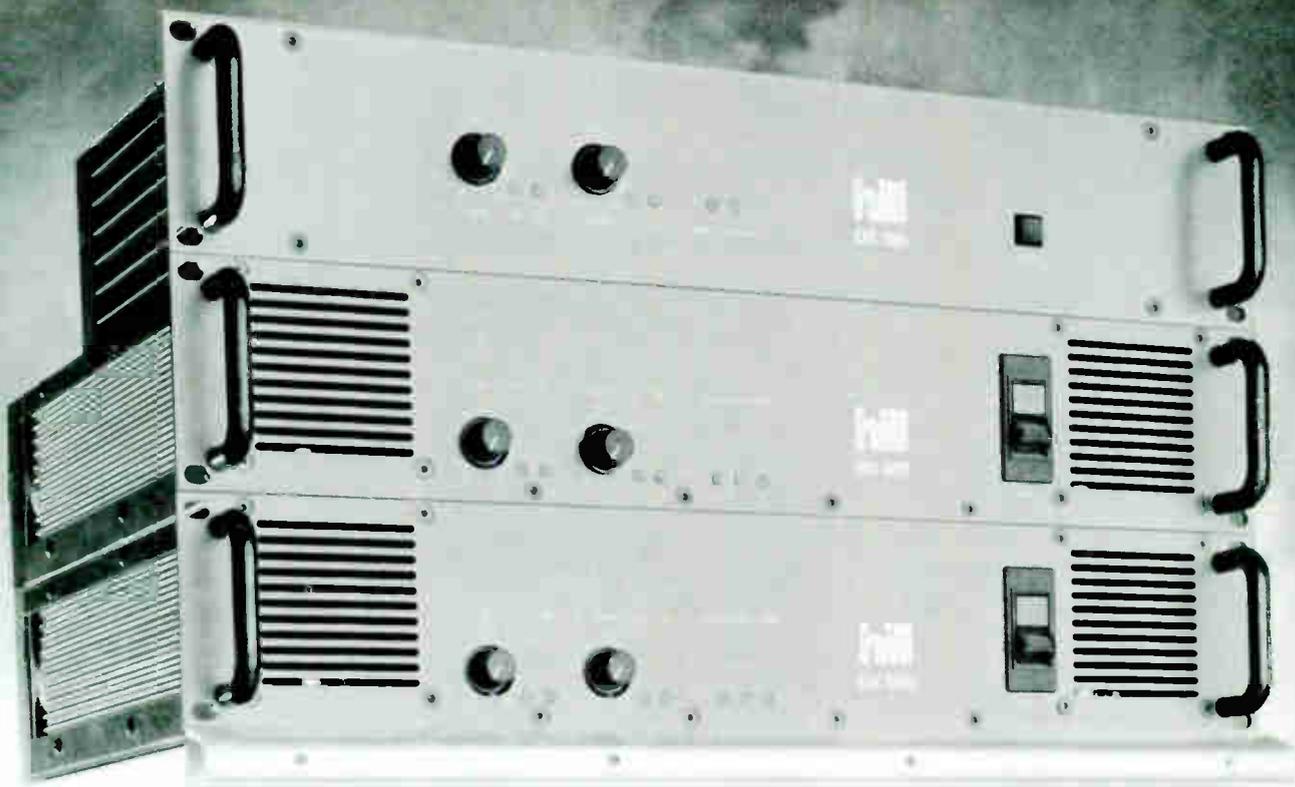
Surrounding the SSL console/Focusrite submixer is a wide array of outboard equipment, a Studer A-800 24-track and MCI 24-track recorder, and a full range of microphones. Most notably, AIR Montserrat is equipped for complete digital recording and mixdown and two 32-track Mitsubishi X-850 recorders and two 2-track Mitsubishi X-86's.

One of the primary concerns in operating an island recording studio is equipment maintenance. To ensure that all equipment is running smoothly at all times, a full time maintenance department is rotated with the staff at AIR London. This strategy has also been effective in staving off "Island Fever." Additionally, AIR's inventory includes a complete stock of duplicate parts and multiples of high-demand equipment to insure minimal down-time.

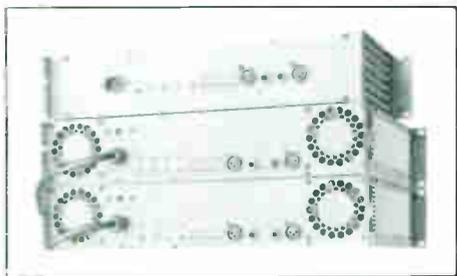
AIR Montserrat has played host to a diverse roster of recording artists—The Police, Dire Straits, Earth Wind & Fire, Art Garfunkel and Black Sabbath are among those who speak highly about Montserrat's state-of-the-art facility and recreational amenities. Rumor has it that the staff at Montserrat also scores high in the culinary arts—Chef George's pumpkin soup is said to be superb.

Offering further testimony to the mysterious infusion of creative energy found on the island, Roger Glover and Ian Gillan, during a brief sabbatical from Deep Purple, wrote seven tracks in five days. "Going to a big studio in the middle of New York wouldn't have made it," Glover says. "At Montserrat we can live at the studio and the surroundings are very conducive to creativity."

AIR Montserrat may not be the most convenient locale for artists locked into tight schedules and peripheral obligations. Paradoxically, this may be the reason why so many choose to explore a fresh approach to recording—and relaxing. In the end they find the experience well worth that extra bit of effort. ■



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DX1500 output power: 300 watts into 8 Ω , 500 watts into 4 Ω , 750 watts into 2 Ω (per channel, both channels driven, 20Hz - 20kHz, -0.5dB), 1000 watts into 8 Ω , 1500 watts into 4 Ω (bridged mono) 1500 watts into 2 Ω , 1600 watts into 1 Ω (burst power*) distortion (250mW to rated power at 8 Ω): IMD SMPTE: < 0.01%. THD (1kHz): < 0.01%. THD (20Hz-20kHz DIN): < 0.02% size: 2 rack spaces, 13" behind front panel weight: 15Kgs, 34 lbs. cooling: 2 servo controlled DC fans.

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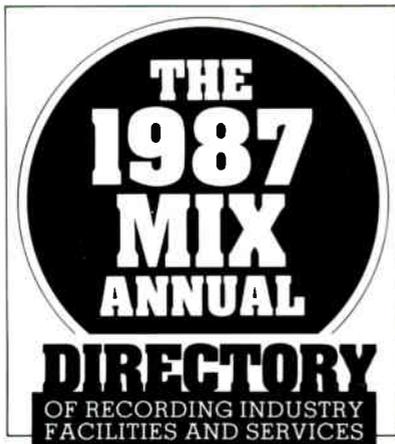
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(215) 649-3277

Owner: Joe Alexander, Sam Moses, Kurt Shore, Moishe Goldfarb
Engineers: Mitch Goldfarb, Joe Alexander, Terry Hoffman, Jim Campbell, Brian Dorn, Joe Hauserman

Dimensions of Studios: Hexagonal 35 x 30, plus an adjacent 2,000 sq. ft. ambient w/25-foot ceilings.

Dimensions of Control Rooms: 22 x 20.
Tape Recorders: Studer A-80, 24-track; Otari MTR-90, 24-track; Studer A-80 1/2-inch, 2-track; Studer B-67 1/4-inch, 2-track.

Mixing Consoles: Solid State Logic w/primary and Total Recall computers 4000 E 48 x 32.

Monitor Amplifiers: Crown, Hafler.
Monitor Speakers: UREI, Yamaha, Auratone.

Echo, Reverb & Delay Systems: EMT, AMS, Sony, Lexicon, Yamaha, Ursa Major.

Other Outboard Equipment: AMS, Eventide, Lexicon, UREI, Teletronix, Valley People, Audio Design & Research, Scamp, API, BBE, MXR, dbx, EXR, DeltaLab, Acoustilog, Pultec, OmniCraft, Hush II.

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Nashville, TN

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Mastering, Tape Duplication, CD Services

28 Music Square East, Nashville, TN 37203

(615) 327-4533

Contact: Margaret Meadows, office mgr.

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Cutting Lathes: Neumann VMS70 (3), Zuma equipped.

Console: Neumann (2).
Tape Machines: JVC digital, Sony 1610, Sony PCM-F1.

Monitor Speakers: Hidley/Kinoshita Model 3 vertical, Yamaha NS-10, etc.

Signal Processing: JVC digital disc mastering console, Sontec and usual goodies.

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Rates: Available upon request.
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Method of Duplication: In cassette.

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2169 Francisco Blvd. J-1, San Rafael, CA 94901
(415) 459-2888

Contact: Jerry Jacob
Services offered, credits, specialization: Chips Davis designed and built the first LEDE control room in 1978 in Las Vegas, NV. Since then, Davis has defined and set the standards for LEDE and LEDE-type monitoring environments. Davis' research and continued commitment to the scientific principles involved have made him the acknowledged expert in the field. Among Chips Davis-designed facilities you might wish to visit are: Tarpan Studio, San Rafael, CA; Crescendo Audio Productions, San Juan, PR; Radio-TV Caracas, Caracas, Venezuela; Audio Archives, Syracuse University, Syracuse, NY; NBC Training Center, NY; ABC, NY; Sounds Inter-

change, Toronto, Ont., Canada; MBC Center, Winnipeg, Manitoba, Canada; NBC PPS 1, CRs 2 and 4 Burbank, Brooklyn 2, Brooklyn, NY (Bill Cosby Show); National Public Radio, Washington, DC; JBL, Columbia Academy, Vancouver, BC, Canada; Granny's House, Reno, NV; Starstudio, Hamburg, W. Germany. Services offered: design, consultation, seminars and training, TDS™ measurements, electronic and product design consultation, marketing and management services as well as on-site supervision and turnkey services.

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Synchronizer: EECO, Time-Lynx
Switchers/editors: (4) CDL 480; GVG 300/3.

Cameras: (2) Sony BVP-3; Ikegami EC35, ITC 730; Bosch FDL60 telecine.
Audio recorders: Ampex MM-1200, ATR-100; MCI 110B; Otari MTR-90 II, MTR-20, MTR-12; Dolby and dbx noise reduction.

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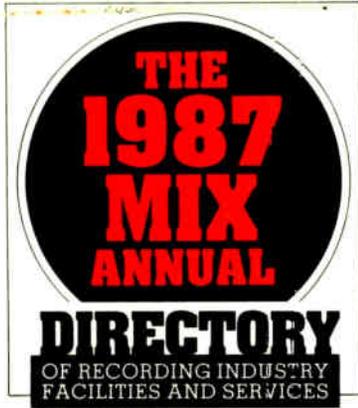
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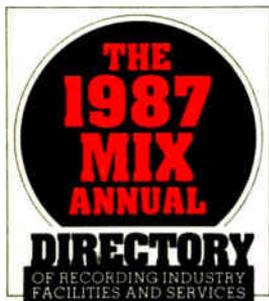
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APRS AT 30



PHOTO: DOUG MCKENZIE

by Terri Anderson

The formation of the APRS in 1956 announced that recording in the UK was an established profession in its own right, and that it expected of itself professional standards—to be first defined and then adhered to.

It, incidentally, made it clear that there was a sufficient number of professional studios to form such an association, and that those studios were taking a long-term and wide-angle view of their business. The APRS has since grown to encompass professional audio equipment manufacturers as well as studios.

Many British professional recording businesses see the APRS as a collective voice with which to speak to government, press, clients and other industry organizations. The first time that the collective voice was heard was when the APRS, very soon after its formation, successfully fought the imposition of purchase tax on the discs which were originally part of a client's recording package (they paid for recording time and a certain number of

finished discs).

These days, APRS is speaking with the British Overseas Trade Board (from which it consistently wins the right to administer government subsidies for overseas exhibitions), with the Department of Trade & Industry; with the Treasury on the always vexed topic of high tax levels, which push recording artists into living abroad and recording outside the UK; and most recently with the British Home Office and Department of Employment. These latter discussions have been on the subject of permits for overseas (non-EEC) visitors wanting to work in UK studios; the APRS is pressing increasingly hard for shortening of the eight-week application period, which studios believe is particularly deterring many U.S. artists from working in the UK.

The APRS long ago perceived a need for a regular course to which working engineers could come for a refresher. The APRS Engineers Course is now in its 13th year. It has lengthened by popular demand from the original two days to a week, and has added more hands-on workshops cov-

ering such topics as digital editing, test equipment, analog mastering in comparison with digital, noise reduction systems, classical and pop mix-down. Several years ago an extra preliminary evening was added, for those who wanted a quick trip back to Ohms Law and other basics—useful for those who were about to plunge into five solid days of instruction and demonstration in a language which was foreign to them.

The mix of "students" varies from year to year, but has increasingly leaned heavily towards film and TV and radio broadcast, video production, and maintenance (from equipment manufacturers). Education chairman, Clive Green, believes that this reflects the little attention paid to audio engineering training in the visual media; and the whole industry's voracious appetite for maintenance skills.

The APRS Engineers Course is held at the University of Surry, which offers the only Tonmeister degree course in the UK. The long association with the University led to the setting up of the annual Jacques Levy Memorial awards

Photo above: APRS executive members and VIPs gather for the opening reception at the London Olympia 2 Exhibition Centre (seated, left to right): Leo Abse, member of Parliament; Peter Brook, member of Parliament; Bill Foster, APRS Committee member; Philip Rase, APRS member; Bob Hine, APRS Committee member; (standing, left to right) Edward Masek, APRS treasurer and organizer of '87 APRS show; Phil Dudderidge, APRS Committee member; John Deacon, director general BPI; Stuart Nevison, APRS member; Colin Sanders, APRS member; George Martin, APRS president; Mike Beville, APRS Committee member; Tim Cuthbertson, APRS Committee member; Ken Townsend, APRS Committee chairman. (Not shown is Philip Vaughn, new APRS secretary general, who replaces Edward Masek.)

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DIR satellite link live from London's Abbey Road Studios to the States. Left to right: DJ Jack the Wack, engineer Tim Mulligan, producers Richard Robinson and Peter Kauf, Sting, and host Lisa Robinson.

to Tonmeister students—in memory of the late long-serving and inspirational chairman of the association.

The APRS has also produced a handbook for engineers, *Sound Recording Practice*, now being revised for publication of its third edition with Oxford University Press.

The Technical sub-committee, chaired by Bill Foster (of London's Tape One Studios), also organizes pro-audio demonstrations and discussions on technical subjects for members. Recently Dolby demonstrated SR; and another event invited debate on DATs and what standards and formats the UK industry would want in the next generation of machines—and the first generation of professional DAT cassette recorders. Another seminar which created considerable interest was on ambisonic surround sound, organized jointly by the APRS and the British Technology Group.

Competition must be, and be seen to be, free; any hint of collective price fixing is out of the question. The APRS, however, can and does regularly exhort members to charge the full and proper rate in relation to facilities offered. There is full recognition of the need for the trade body to encourage an understanding that higher standards must mean higher rates—and those, in turn, mean better service from APRS member studios.

In the service of these members the APRS organizes occasional credit control meetings. These are deliberately informal—open to all studio members, with no taking of minutes and an understanding that business discussed will remain privy only to those who attend. Cases of non-payment by clients are taken up by the executive at the request of member studios (it has long been found that a suitably stern letter from the secretary is extremely effective). Beyond that, the APRS has written a set of terms and conditions, copyrighted to the Association, designed to ensure that studios have control over masters until fees are paid. This document was a positive response to a test case fought (and eventually lost on appeal) by one member studio against a debtor.

For the Association's manufacturing members there are two main, and major, aids to export offered. One is the annual sponsorship of UK companies to attend the European AES Convention. This is done with the APRS undertaking a "Joint Venture" with the British Overseas Trade Board, to collect and distribute practical details for exhibitors. The other main thrust to the export drive is the annual APRS Show. It grew from a very small gathering of manufacturers, on APRS

initiative, in 1968 through four changes of venue, to the biggest-ever show at London's Olympia 2 exhibition hall in 1986. This show is attracting more exhibitors annually, and pulling in increasing numbers of overseas visitors. APRS '86 had 2500 square meters of stand space booked five months before the event. The show is the greatest recurring achievement of Edward Masek on the Association's behalf, and after retirement he has agreed to act as consultant organizer for at least one further show.

"The UK has an exceptional recording studio and equipment base," says outgoing APRS chairman Mike Beville of Audio & Design (who is to be succeeded by Ken Townsend of Abbey Road Studios). "Embodied in APRS is a unique, friendly relationship between studios, producers and suppliers, based on mutual respect and a genuine concern for the well-being of the business as a whole." ■

APRS MEMBERS LIST

The Association of Professional Recording Studios of the United Kingdom

Note: Studio track capability is indicated in parentheses before each listing.

(24-48) ABBEY ROAD STUDIOS
See also *EMI Recording Studios*
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London NW8 9AY 01-286 1161

(24) ABBOT STUDIO
1 Seahill Road
Saughall, Chester 0244 881708

(24-48) ADVISION LIMITED
23 Gosfield Street
London W1P 7HB 01-580 5707

(24-48) AIR RECORDING STUDIOS
214 Oxford Street
London W1 01-637 2758

(24) AMAZON STUDIOS
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Simonswood, Liverpool LL33 4YA
051 546 6444/0434

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—FROM PAGE 121, APRS LIST

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STRANGERS IN STRANGE LANDS

The Joys and Perils of Overseas Recording

by Blair Jackson

It sounds like a dream assignment over the phone. After years of engineering in top Manhattan studios, you're contacted by an Italian band familiar with your work asking you to come to Milan to help them record their new album. It's a hard deal to resist—the money is more than generous, plus it offers an excuse to see the world, or at least Italy. No more overpriced Madison Avenue Italian shoes and flabby Upper East Side fettucine for you!

It sounds too good to be true—and unfortunately it is. In your excitement to tackle the assignment, you neglect to properly check out the Milan studio in advance and it isn't until you arrive at the first session that you learn that Studio Milano is perfectly equipped—for 1967, not '86. Fortunately you'd trained on that kind of ancient 8-track years ago, but even so, the monitors are a mystery, the outboard gear nil. It turns out the band doesn't speak English and has little studio experience. Still, you slog through it all like a pro and, remarkably, the record company is delighted with your work.

A month later you go home, just a bit broken and dispirited. A few pounds heavier but the proud owner of some great shoes, you vow that next time you work overseas you'll do things differently—if you go at all. Back in Manhattan, the Lexington Avenue subway has never looked so good.

• • •
This is the stuff of (bad) fiction, of course (everyone knows that restaur-

rants on the Upper East Side don't survive if their fettucine is flabby), but the fact remains that recording in unfamiliar environments, particularly in foreign countries, sometimes can take on nightmarish qualities for American engineers and producers—not because there is anything inherently bad about working overseas, but simply because it is always a little unnerving to veer far from the places and equipment that are part of your world. Working in an alien recording environment is sort of like being forced to commandeer a car with a clutch you've never driven—usually you're in for a bumpy ride.'

At the outset, so there is no misunderstanding, we should say that most technologically advanced nations possess recording studios—sometimes government-run, other times privately owned—that are equipped to make records that sonically rival anything coming out of the hit factories in New York and Los Angeles. There are those who would even argue that the best studios in London and Tokyo surpass the most advanced America has to offer, but this article isn't about superiority and inferiority. It is about preparation, acclimatization and lessons learned the hard way by Americans working outside the United States.

It is a relatively unusual occurrence for engineers to work outside the cities where they are based, let alone

overseas—rare indeed is the recording budget that allows the expenditure for such travel. But it does happen from time to time and the engineers we spoke with emphasized that the key to success in the occasionally strange situation was to keep a cool head and the ability to improvise. Alas, sometimes they also had to lower their exacting standards.

The engineers agreed that the most difficult situations arose out of physical problems with the studios. "One of the studios I used in Australia," remembers producer Harry Maslin (the owner of Los Angeles studio Image Recording), who worked "down under" with Air Supply and others, "was built right next to a railway station. We couldn't record strings or anything that required much quiet because every five minutes a train would go by. Another studio there was built under a book depository and people were always dropping huge loads of books on the ceiling of the studio. Another one was built right next to an exercise studio that played loud music all the time. It was really pretty bad all over. Some of it was a lack of perception about the kind of isolation a recording studio needs, and some of it was just miscalculation."

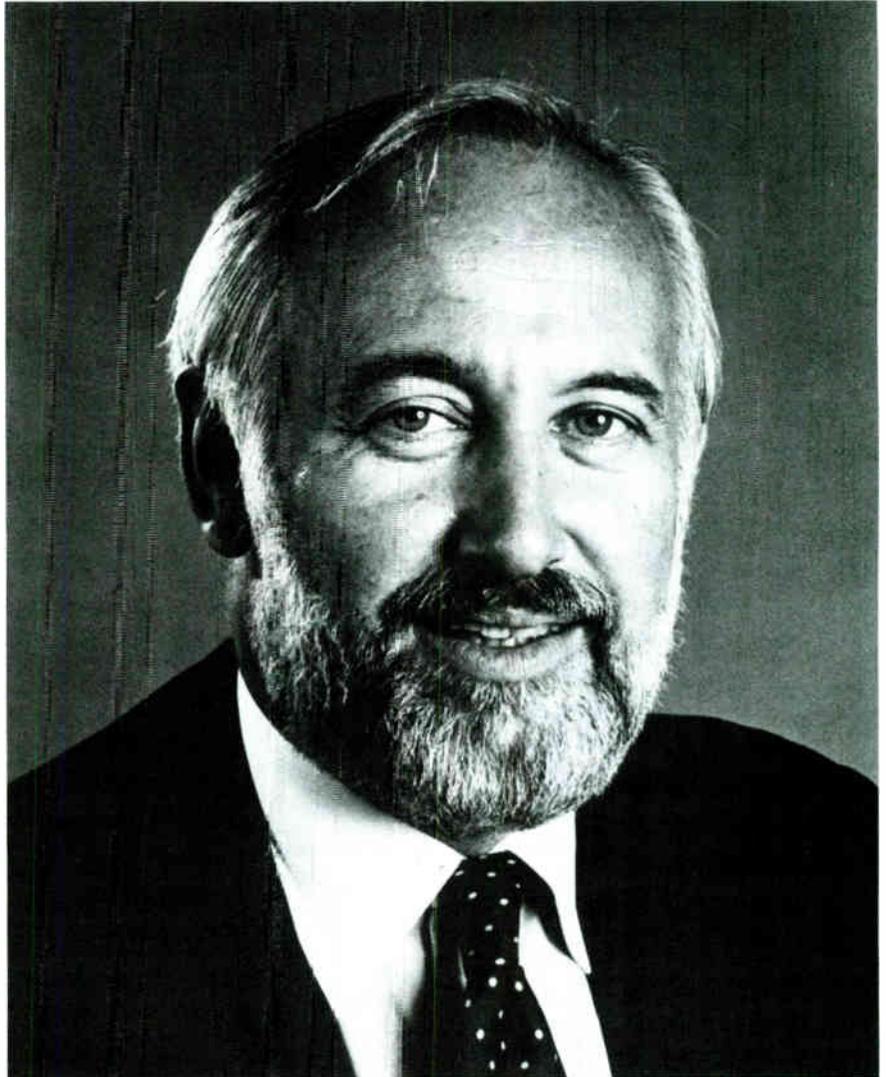
According to John Stronach, a top Los Angeles independent engineer who has worked with the likes of Alvin Lee, Jimmy Cliff (including the singer's best album, *Give Thanks*) and others, "the studios I saw in Jamaica were

—CONTINUED ON PAGE 148

MOVERS & SHAKERS

BRUCE LUNDVALL

His Kingdom For A Song



by Neal Weinstock

He was high in the ranks of one of the world's largest record companies, and formerly on top of the biggest of the big. But Bruce Lundvall quit the presidency of Elektra/Asylum/Nonesuch to run a moribund jazz label and start a fusion label. Put in such stark form, this does not sound like a logical thing to do. Even identifying the labels—Blue Note, one of the greatest names in jazz, and Manhattan, which in a few short months of existence has put several hits on the charts—it's hard to understand the move. Unless, that is, you understand the man.

Lundvall has been a jazz fan since

*"I'm not just a
lawyer or
businessman—
I'm a listener
and a fan."*

he was in high school in Englewood, New Jersey, sneaking into Manhattan whenever he could to hang out at the legendary 52nd Street clubs. "Listening to Art Tatum and Bud Powell and Charlie Parker as a kid trained my ears," he says. "They were magical. They decided the direction of my life."

Lundvall remembers, "When I was 14, I went into Colony Records and bought my first 78s, and they were Blue Notes, by Monk and Milt Jackson."

When he was in college, Lundvall spent more time trying to play the sax than studying, but today he sadly admits his talents were more in being a listener than a player. He got a degree in business, and when he came out of the military in 1960 joined CBS Rec-

ords at the bottom, as a merchandising trainee. He was president of CBS' domestic division from 1976 to 1981, the years of the company's greatest growth even with the industry's slump. He signed Willie Nelson, Herbie Hancock, James Taylor, Kenny Loggins, Deneice Williams, Toto, Larry Gatlin, and many other names on top of the era's charts. Lundvall put together a pretty good jazz roster there, too.

He puts this on the top line of his official company biography: "I'm not just a lawyer or a businessman who is just someone to make a deal with. I'm a listener and a fan."

Lundvall wasn't getting to do enough listening to what he likes most at CBS. He wanted to build something of his own, too. So in 1981 he went over to Elektra/Asylum on the promise of a new jazz label of his own, Musician Records. He brought out records by Al DiMeola, Bill Evans, Bobby McFerrin, Clifford Brown, Billy Cobham, and Material, signed Ruben Blades, Howard Jones, Steel Pulse and Rupert Holmes, and brought Elektra/Asylum/Nonesuch back from Los Angeles to New York. In 1984 he was about to sign another contract when he got a call from Bhaskar Menon, the chairman of EMI and Capitol.

"It was the kind of opportunity I'd been working for all my life," Lundvall says in his memorabilia-filled office high above 52nd Street. Ask him to explain why and you get a long and lively discussion of what his current labels, Manhattan and Blue Note, are about.

"Blue Note is the pure jazz side of this company. That company never really died—there had been re-releases coming out on the label in recent years—but it was not coming out with anything new, or even making the most of the old material. Bhaskar Menon realized that in this new era of superior sound, there is a strong, reliable market for the Blue Note material. We put out about 40 Blue Note albums in our first year, several of which had sides of previously unreleased material. This was not Grade B stuff, either, but classic work by Miles Davis, Coltrane, Wayne Shorter, Jimmy Smith, several others. These things hadn't been released because people thought the market wasn't there. The market is not an easy one, but if you handle it right, if you give these things the attention they deserve, you don't have to lose your shirt.

"Part of that is bringing out hot new releases on the same label. We've had Kenny Burrell and Grover Washington's *Togethering*, George Russell, and the Town Hall album, which has been a great commercial success. Not to

*"Jazz labels have
foundered
financially, and
lost their way
musically, by trying
to be too
successful."*

mention that the night at Town Hall was the biggest lump in my throat in my life, I think."

"One Night With Blue Note" was the name of a concert and a four-record album box of that Town Hall show, given on February 22, 1985 to celebrate the rebirth of Blue Note. Lundvall hosted the evening, which featured an incredible line-up of Blue Note alumni—like Herbie Hancock, Freddie Hubbard, Cecil Taylor, Art Blakey, Jackie McLean and Joe Henderson—blowing hot at the midtown Manhattan stage till dawn.

Lundvall has no dreams of the pop charts for Blue Note. He believes that "jazz labels have foundered financially, and lost their way musically, by trying to be too successful." The right formula for a jazz label's success, he implies, is a pairing with a strong pop and fusion label—like Manhattan.

"We've done extremely well with Manhattan in our first year and a half; better, I think, than anybody thought to hope," he says. "Especially when you consider that the first six months we didn't release anything; it was a time for building. You know, I've never had to put together an office before. There was always somebody to order the furniture for me, find the space. Here, we had to do all of that. And more important, since we wanted a tight operation, we had to get just exactly the right people. Everybody here is very good at what they do and everybody is here because they love music and believe in what we're doing. Even our lawyer has a music degree from North Texas State and our chief of finance hangs out in the clubs at night looking for new talent." Lundvall, too, is known for club-hopping in the wee hours in search of new talent.

Manhattan's releases have included a more pop kind of jazz than Blue Note can put out, along with rock, fusion, and a couple of Broadway shows.

In a way, the theater soundtracks, *Ma Rainey's Black Bottom* and *Me and My Girl*, are the key to understanding this label: both pop and sophisticated. Lundvall says, "We're not going to make a lot of money on *Me and My Girl*, but it's a statement about where we want to be." And the label's rock releases make that statement, too—some more than others. Lundvall jumped at the chance to do the anti-apartheid extravaganza *Sun City*. Grace Jones' *Slave to the Rhythm* may not demonstrate commitment, but it certainly demonstrates a sort of sophistication. Newcomers Rob Jungklas, Bernard Wright's top five R&B hit, *Who Do You Love* and Baltimora's top ten CHR *Tarzan Boy* demonstrate their own interpretation of sophistication, while being more like standard fare for any major label. Lundvall has distribution rights for the Philadelphia International label, too (Philadelphia's only an hour from Manhattan by Metroliner train), bringing Phyllis Hyman and the O'Jays onto the roster. And then there are releases from the likes of Tania Maria, Al DiMeola, and Stanley Jordan's phenomenal half-million seller, *Magic Touch*.

"That sophistication is a lot of the reason we're in New York," says Lundvall. "This place was abandoned by the record companies in the '70s and they've all suffered as a result. There's more good new music coming up here than anywhere, and I think the failure to be here, to hear these artists and bring them to the public, had a lot to do with the hard times the business had. You just can't divorce the music from the business. And you've got to have a presence in New York. Now, Stanley Jordan has been playing in Milwaukee for years and this is his debut album. No, he certainly wasn't living in New York; you could say Los Angeles is just as close to Milwaukee. But not really. For one, he wanted to come here to play because this is where the action is. And on our side, it's all part of being the kind of company that actively goes out seeking new jazz talent. We've had phenomenal success with *Out of the Blue*; much more success than we hoped for. It's a kind of Jazz Messengers thing with the best of the new talent that we auditioned. It's doing particularly well in Japan.

"Anyway, the majors have their offices here, but for this kind of label, this is the only place to be. Besides, EMI and Capitol are both in California, and, of course, in London. This was the uncovered base."

Obviously, covering the uncovered base involves some scrambling. For example, Lundvall is an unashamed

exponent of independent distribution: "We've got Philadelphia working with us. Those guys decided to get back into business, and they used to be tremendous, just the best around. They have their personal knowledge of the industry, and they're forced to work harder by the very nature of that business. I'm very excited about working with them."

Isn't that relationship dictated by Manhattan's weak position versus the majors? What else does Manhattan have to do differently from the way Lundvall might prefer to operate if he were still helming CBS or Elektra/Asylum?

"We do get a bit nervous sometimes. We don't release something every week. In fact, months may go by without a release. Sometimes you wonder if you're still in the record business. We can devote more energy to a particular release or artist here, but the flip side is that we *have* to. And then, when you do put all that work into something, you just don't know for a while how things are going to turn out."

For jazz records as well as for Manhattan's pop releases, "There has to be a concept behind an album," Lundvall says. "I mean, you can't just get artists in a studio and release what they do anymore, even if it's great. Bring together people who've never played together but who the public would love to hear together—like Kenny Burrell and Grover Washington. There's got to be a reason for the record. Economics at a major label means decisions like this aren't so critical each time around, so you can muffle a few. Here we can't, for better or worse."

Could Manhattan Records be destroyed by success? If it grows quickly into a major label, why wouldn't it be like any other major label?

"I hope not," says Lundvall. "I guess anything can change, but I don't think that Manhattan—well, I don't think we'll grow quite so fast. But there's an optimum size. I think having a roster of 30 or 40 is manageable, and I don't think we'll go beyond that."

Lundvall takes such a close interest in his artists—a fan's interest, really—that this last statement rings true. When we met he was still glowing from his experience with *Round Midnight*, the film based on Bud Powell's life that stars Dexter Gordon. Lundvall signed Gordon to CBS "many years ago," and maintains a close relationship even though Gordon has not recorded for Blue Note or Manhattan—yet. He introduced Gordon to the movie's director, Bertrand Tavernier, who was quickly smitten by Gordon's star persona. Lundvall and Tavernier worked

to persuade the film's producer that Gordon was the man to play Powell, "but when Dexter came out of that lunch," says Lundvall, and he does a creditable Dexter Gordon imitation, "he said, 'Man, I don't think I got it. We were talkin' different languages in there.'" Needless to say, Gordon got the part, and Lundvall commuted to Paris several times during the shooting just to hang out on the set. And he had recently been at a cast party. "There's so much music in the movie," say Lundvall, "though we don't have the rights to the soundtrack—it was already tied up—we'll bring out another album in 1987 called *After Midnight*. But it wasn't really a business thing at all. It was just a great pleasure

being involved with this whole beautiful film."

There's little point in asking Bruce Lundvall whether he loves what he's doing, or if he could imagine anyplace else he'd rather be. Clearly he loves music and musicians, and loves being a mogul, too. An evening interview with him was interrupted by constant phone calls, with decisions made on all sorts of life and death matters. A sagging star wants to record a famed relative's signature hit. A well-known rock group wants half a million for two records. An agent offers a package of the good, bad and ugly. "We're not going to deal with the likes of the Rolling Stones here," says Lundvall. "But we'll have fun." ■

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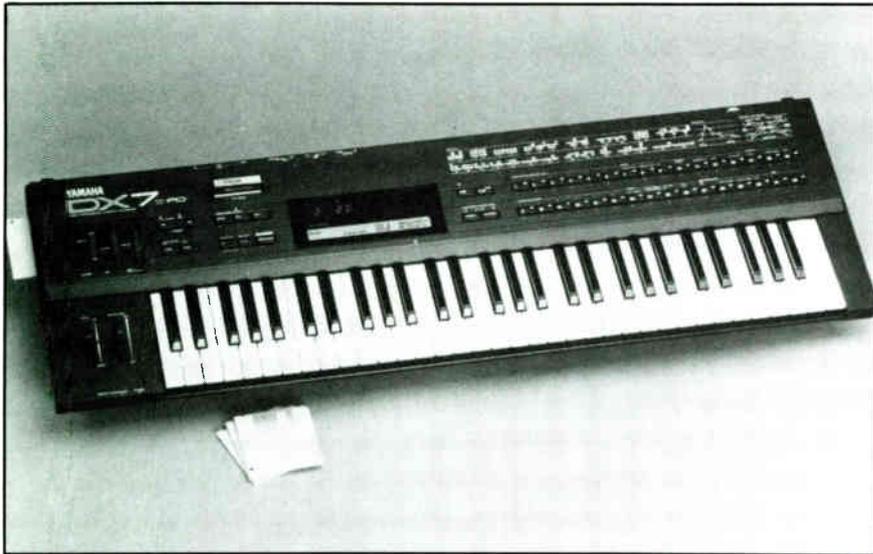
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Meet the SUPER DX

by Craig Anderton

After months of rumors, Yamaha unveiled their new line of X-series products at X-Days, an educational convention they hold twice yearly in Japan to familiarize the public with electronic music technology. These products were introduced to the U.S. market at the Winter NAMM show, with shipments to dealers scheduled shortly thereafter—as early as this month, but probably no later than March. (As of this writing, prices have not yet been finalized on the new products.)

The biggest news is that the DX7 is no more, and was in fact discontinued last August. But it has been replaced by two new DX7s, the DX7 IID and DX7 IIFD. These two are virtually identical except that the IIFD includes a floppy disk (more on this later).

Musicians with DX voices they have painstakingly tweaked over the years will be happy to know that the new DXs retain full voice compatibility with existing DX voices. There is a new cartridge, however, that holds 64 voices and 32 performance memories; a simple adapter allows old cartridges to be used as well.

So much for what's the same; let's

now look at what's different. The major new features of the "Super DX" models are:

Dual and split mode. By split, I mean a true split, not one achieved by programming tricks as with the DX7. Thanks to 16 voices, you still have 8 voice polyphony in dual mode. The split and dual voices can be accessed over individual MIDI channels as well.

Improved sound quality. The old DX7 used 12-bit technology internally, which has now been upgraded to 16 bits. Although this required a re-design of the custom VLSI chips used by Yamaha, the results are worth it: the high end is free of "grit," and the low notes no longer have that kind of quantization noise. I had always found the DX7 a little dirty to my ears, but that problem has now been remedied.

Microtonal capabilities. Yamaha wanted to introduce features that they felt were missing from existing synthesizers, and therefore included 11 preset microtonal scales (just, mean, quarter-tone, eighth-tone, etc.) and two user-programmable scales. Note, however, that several user-programmable scales can be stored on cartridge for those who need more than two custom scales. The microtonal resolution is

1.17 cents (14-bit). I'm very pleased to see a company with Yamaha's influence include this type of feature, and hope other manufacturers follow suit.

Panning. Yes, there are two outputs on the back! Panning can be triggered in a variety of ways (aftertouch, velocity, envelope, etc.). In dual and split modes, where different sounds come out the two different jacks, panning produces a cross-fade effect where as one sound fades out, the other fades in.

Additional memory. There are now 64 voice memories and 32 performance memories. Several global parameters are memorized as part of the voice; performance memories include such parameters as the selection of voices to be used for split and dual modes. Each voice can store one of the 32 available performance memories.

Real time parameter change. Two continuous sliders, called CS1 and CS2, can be assigned to any parameter in edit mode and accessed in play mode. CS1 can also be assigned to the foot controller. This gives a taste of the flexibility we used to have with analog synths, where every parameter had its own control or switch. With this feature, it is possible to create effects such as footpedal-controlled selection between two different voices; or you could vary parameters in real time with your left hand while playing a lead line with your right hand. Between CS1, CS2, foot control, velocity, aftertouch, and so on, you have a *lot* of expressive control at your fingertips.

Thicker, fatter, analog-type sounds. Apparently Yamaha took complaints about a "thin" sound to heart, and chose several approaches to solve this. The first is the use of multiple LFOs with individual delays. This does wonders to thicken up string patches and the like, as each key brings in its own LFO (however, there are no rate variations between these multiple LFOs). The new DX7s also feature random detuning (similar to the OB-8's Page 2 Voice Detune function), and two unison modes. Unison poly plays four layers of four notes, while unison mono layers four notes on one key.

Enhanced master keyboard capabilities. The two sliders can be used as real time parameter controls to send out MIDI continuous controller data, assignable to any controller number. Also, the program select switches can be "mapped" so that calling up, say,



Detail of the DX7IIIFD's side-mounted 3.5-inch disk drive.

program 42 on the DX sends, say, program 114 over MIDI to a slave module.

Disk drive. The purpose of the DX7 IIIFD's drive is not only to store patches, but also, to help with big MIDI systems (YCAMS etc.) by allowing the musician to set up each machine. It does this by storing MIDI system exclusive data and sending it out to any individual instrument. Thus, sequence, patch, and similar information for songs can be stored on disk and transmitted before starting the song. The disk uses 3.5-inch MS-DOS formatted disks and stores 1 Megabyte (unformatted). And of course, you can also store voices on disk as well.

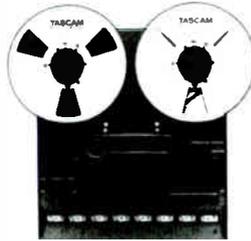
Fractional scaling. Most DX7 owners are familiar with the scaling curves obtainable with a standard DX7. Fractional scaling allows for specifying very detailed curves—you can even change the scaling for every three notes. In one extreme example, Yamaha consultant Gary Leuenberger set up a patch that alternated between trumpet and French horn every three notes.

The Super DX keyboards will come with a ROM cartridge that contains 128 voice data programs and 64 performance data programs. Internally, more of the electronics are integrated into custom LSI chips, which should lead to enhanced reliability. In fact, probably the only cause for concern is the addition of a disk drive, although naturally there's not much Yamaha can do about that—if you want a disk drive, you need to handle it with care. Finally, the LCD is now backlit, and there are some accompanying seven-segment readouts so that you can easily see what program number is selected.

Yamaha also introduced the RX5 drum machine and TX81Z... both of which are very interesting products. But we're out of space, so tune in again next month for the details. ■

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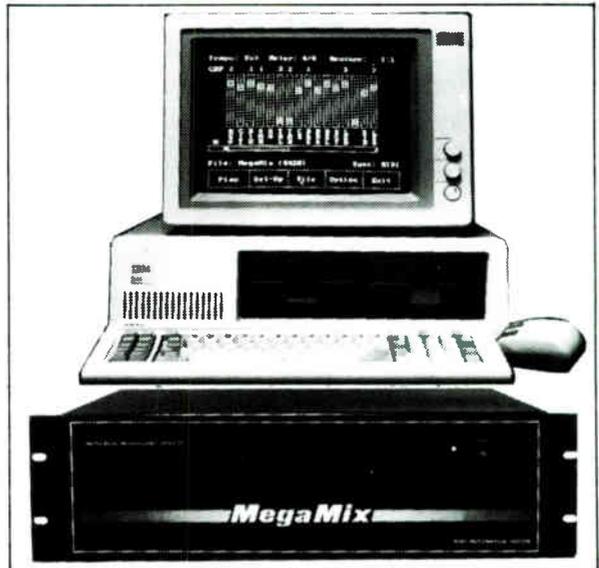
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PHOTO: MICHAEL PUTLAND

Bruce Hornsby (center right) and the Range

Bruce Hornsby Finds Success Close to Home

by Derk Richardson

The backstage crush was worthy of a superstar more like Huey Lewis than a relative unknown from Virginia named Bruce Hornsby. Male musicians and songwriters jammed into the dressing room, clutching bottles of beer, and young women stood on tiptoe to get a glimpse of this unlikely romantic object. Hornsby had just finished his Northern California debut, at Wolfgang's in San Francisco, and the audience had responded to the newcomer by cheering, stomping and crowding the stage as if he were a longtime hero or heartthrob. "If they're swooning for a bald 30-year-old geek like me," Hornsby laughed after the show, "they're hurtin'."

In the summer of '86, Hornsby burst out of nowhere with "Every Little Kiss," a piano-laden, rolling romantic anthem that sounded like a cross between Don Henley's "The Boys of Summer" and Jackson Browne's best road songs. Taken from *The Way It Is*, the debut RCA album by Bruce Hornsby and the Range, "Every Little Kiss" garnered

heavy regional airplay, paving the way for the fall release of the title track. Hornsby found himself opening for selected dates on Steve Winwood's U.S. tour and preparing for a major European and American stint opening for Huey Lewis and the News.

No one was more surprised than Hornsby himself. Just a few years ago he was mired in an apparently dead-end job as staff songwriter for 20th Century Fox, doing session keyboard and vocal work on the side. But in a classic Hollywood story, a combination of lucky breaks and persistence brought Hornsby from behind-the-scenes to center stage.

The luck started back in Hornsby's home state of Virginia. "We were playing in this steak 'n' ale bar," he remembers, "and Mike McDonald of the Doobie Brothers came and heard our band. He and I became friends and he became a fan of my songwriting and through him I met a bunch of people." Guided by McDonald, Hornsby and his band, which then included his older brother Bobby, moved to Los Angeles in late 1979. Among the people he met was former Doobie Jeff Baxter, who used his rehearsal studio to set up showcase gigs for Hornsby's band. Baxter, then an aspiring producer, hoped to win a record deal for Hornsby and invited A&R and publishing folks to hear the band. But then Horns-

by's career took an unexpected turn. "The same thing that turned the record companies off," Hornsby says, "was what turned the publishers on, because they thought 'Oh, these are songs that we could get cut because they're kind of like the songs that are on the radio.' What was good for one type of thing was not good for the other."

Hornsby landed a deal with 20th Century Fox as a songwriter and the rest of the band, except for drummer John Molo, went home. For nearly three years, he and his lyricist, younger brother John, plugged away with very little reward. "They come to you and say write us a song just like 'Physical' for Laura Branigan," he says. "We found that neither were we very good at it nor did we have much interest in that type of formula songwriting." After cranking out publishing demos for 20th and Chrysalis Music, and doing session work on the odd milk commercial or record debut by a soap opera actress, Bruce and John decided it was time to be truer to their hearts. "Once we had a little experience trying to do the other, we knew we wanted to try something unique to us," Hornsby recalls. "My brother and I tried to write songs about things we knew about in Virginia, going back to those sort of folk roots, bluegrass, even a little jazz. Just being freer about it and not worrying about, well, is this right for the radio? Maybe it's a ballsy move in the commercial area because it's

THE FAR SIDE By GARY LARSON



"Sorry to bother you, sir, but there's another salesman out here - you want me to tell him to go to heaven?"

all so formulated for those commercial niches."

The Hornsby roots are in the Southern soil of Virginia. As a teenager, Bruce played guitar, singing songs by Neil Young, the Rolling Stones and other favorites. But, he says, "I was more into sports. I wanted to be like the next Bill Bradley. I wanted to be a pro basketball player." He didn't take up piano seriously until he was 17, finally succumbing to the grand piano in his family home. "Once I got interested," he says, "I worked real hard at it. I was kind of tunnel-visioned about it." His inspirations were exceptionally diverse, from rockers Leon Russell and Elton John, to classic blues and R&B stylists Otis Spann and Professor Longhair, and such jazz giants as Bill Evans, Keith Jarrett, McCoy Tyner, Chick Corea and Bud Powell.

When it became clear that the keyboard was to be his career vehicle, Hornsby studied music at the University of Miami, Florida. "Most people think of it as Sun Tan U.," he laughs, "a place for Northern rich kids to go get a four-year paid vacation, but the music school is great. Pat Metheny, the Dixie Dregs, Jaco Pastorius all went there."

Back in Virginia after college, Hornsby started performing, and it was then that he formed the Bruce Hornsby Band that would later evolve into The Range. But it is only now, through the circuitous route of working the local clubs and then grinding away in the Hollywood hit factories, that Hornsby is getting to express himself as an individual talent.

"It took me a while to find my own voice and figure out a certain vision that worked for us," he explains. But he has no regrets about the dues he's paid along the way, and he feels that the hack work helped him and his brother John, who still co-writes by long distance from law school in Virginia, to develop discipline as composers. "Going through that apprenticeship of trying to work within that real constricted pop format of writing sound-alike songs really taught us the craft of songwriting," Hornsby says. "At this point, while we write songs that are really for us, we're still very aware of the craft of writing."

The Hornsbys gave up writing generic love songs and gravitated to themes closer to the work, weather, and search-for-meaning back home. According to Bruce, it was anything but a calculated move for pop success. "After a few years of looking for this vague thing called style," he says, "what worked for us was when I made a tape with blatant disregard for what commercial radio was playing. Think—

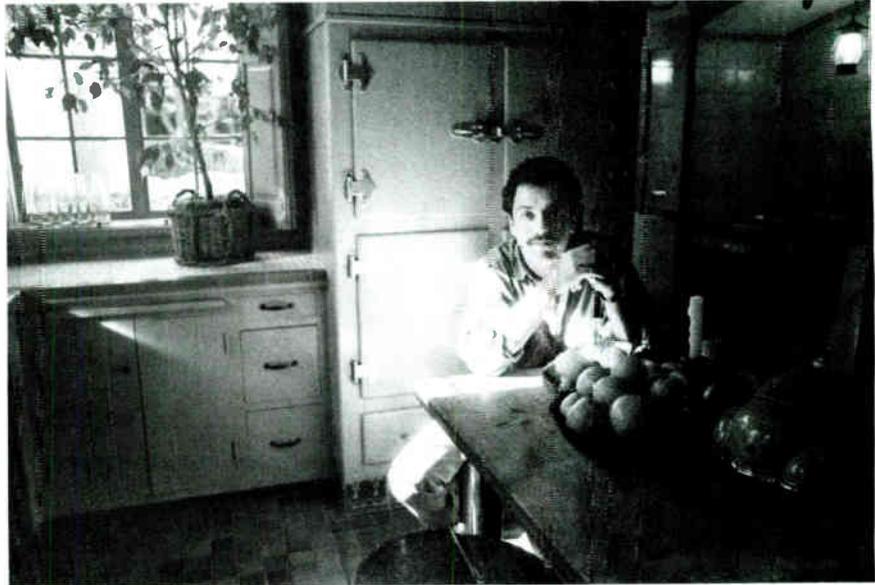


PHOTO: JONI MITCHELL

Larry Klein

Larry Klein: From the Bass on Out

by Robin Tolleson

Emerging as one of the hottest studio bassists of the past several years apparently wasn't enough for Larry Klein. Influential appearances by the mustachioed 29-year-old on such diverse projects as Don Henley's "Boys of Summer," Peter Gabriel's *So*, Fee Waybill's *Read My Lips* and Wayne Shorter's *Atlantis* are only part of the story. He's become increasingly involved with production. He played on, co-wrote and co-produced Joni Mitchell's last two records and just finished doing the same for Benjamin Orr's (The Cars) new record. And he's equally intrigued by film scoring, and lists *Raging Bull*, *King of Comedy* and *The Man With One Red Shoe* among his credits. "The process of matching sound to picture is really thrilling," says Klein. "It's as good or better than finding the perfect part when you're producing or playing on something. To find the perfect sound, coupled with picture, kind of sends a chill down your spine."

Klein grew up in Montebello, California, and played bass in funk and rock bands in high school. He took all the music classes he could at Cal State Los Angeles for two years, then accepted an offer from jazz trumpet great Freddie Hubbard to join his band. Through his exposure with Hubbard, Klein also got to perform with saxman Joe Henderson, vibist Bobby Hutcherson and others from the jazz world. Among currently hot bassists, Klein admires the work of Tony Levin, Anthony Jackson, and U2's Adam

Clayton. "When I was learning the instrument I really liked Chuck Rainey, Larry Graham, and I loved Sly Stone's bass playing on the *Fresh* album. It's amazing how much of that you can hear in Prince."

An open mind and some very demanding ears have helped make Klein a force in the studio. "I'm very definite about knowing what I like and don't like, and I think that's just from doing a lot of recording, observing and noting," he says.

Klein began dating Joni Mitchell when they were working on her *Wild Things Run Fast* LP, and the two were married not long after that. He claims he was a casual fan of Mitchell's music up to that point—he liked her *Court and Spark* and *Hejira* albums—but certainly wasn't locked into any mindset about what she could do musically. "I guess I did exert a certain amount of influence on *Wild Things*, in that we went for more rock-oriented players [Steve Lukather, Mike Landau, Vinnie Colaiuta]. Before that she had been using more jazz-oriented guys," the bassist says. "So in that way I exerted some influence, and also sound-wise, just in being kind of picky about the sounds we were going for. But she's pretty self-sufficient about knowing where she wants to go with songs."

Mitchell's last album, *Dog Eat Dog*, is a sonically rich recording, with Klein, engineer Mike Shipley and co-producer Thomas Dolby crafting crystalline layers for the singer to weave in and out of. Mitchell's voice is sampled and used as an instrument via the Synclavier on several tunes. A cigarette machine is sampled on one song, and on another a siren wails while hammering sounds add a sense of real life to the track.

"*Dog Eat Dog* was a kind of payoff, because we got to the place that we couldn't quite get to at the end of *Wild Things*. Instrument-wise it was more machine-oriented," Klein explains. "We decided a number of months before we started that the songs suited an approach using a lot of synths and sequenced drums. So I took a few months off and took some computer classes and took lessons on the Fairlight, getting comfortable on the Fairlight and the PPG 2.3 and other synthesizers, so I'd have a good background when we started.

"The thing about synth music is that a lot of times it just sounds cold. I try to use them and still have a warmth to them, still have the warmth of real instruments. I work real hard at trying to get synth sounds that I haven't heard a lot. The mentality among synthesizer programmers with the advent of MIDI is that if you take a bad sound and add three more sounds to it it'll sound interesting. But in my own use of synthesizers, if I'm going to use a MIDI sound, I go for each component of the sound being really interesting and different sounding in itself so that the whole is something and it doesn't just sound like a mish-mash. A lot of the synth sounds that I hear now just sound like somebody threw together five sounds that didn't hold their own, and said 'Oh, that's better.'

"I go through most of my synths and put starting points in," Klein continues. "I have cassettes full of starting points, good points for me to depart from. If I'm going for a certain direction and I know that a certain pre-set that I've stored away is a good starting point, then I'll work spontaneously from that point and develop it into something different for each thing that we do."

Dog Eat Dog was a different kind of record for Mitchell because of all the advance planning. Klein explains, "One of the things that was distasteful for her about making that record was that by programming all the drums and other parts out you lose the element of spontaneous magic." Klein and Mitchell are co-producing the singer's new album, which the bassist says is more of a "playing" record—actually a compromise between *Wild Things* and *Dog Eat Dog*. The new record features drummer/percussionist Manu Katche, a talented French/African Klein worked alongside on Peter Gabriel's last record. A Gabriel-Mitchell duet highlights the record. Guitarist Mike Landau contributes again, there's one Thomas Dolby tune, and Wayne Shorter once again figures in the plans. Mitchell even wrote the lyrics to one song completely from a racing sheet, using the names of the

horses.

"What we did on the new record was block everything out in the studio with synths and drum machines," says Klein. "Then we came in and played live with drums, bass and guitar to the tracks that we had blocked out. We've tried to assimilate the best of both worlds, because that enables there to be some chemistry and some magical accidents. I think magical accidents are kind of Joni's religion. Those are the things that she remembers about records. So in that way, *Dog Eat Dog* was a bit trying for her—and also having to sit around in a chair while Thomas or I were working feverishly, typing away on a Fairlight for 20 minutes. To her it just seemed like we were treading water or something. That kind of made her a bit nervous."

In 1983, Mitchell told *Musician* magazine that Klein had "come up in an era that's more sound-conscious than the previous wave. He stretched my ear in certain areas, like drum sounds, which we'd never fussed much with before." "Joni is starting to hear more on the bottom end," says her husband, "but for a long time the way she heard things was really focused up high, and so she didn't really listen for the bottom end of the track, like the drum sound and the bass sound. She's gotten a lot more aware of that area in the track."

While Klein was working with his partner Mike Shipley on Ben Orr's record in Beckington, England, at Tears For Fears' studio (called The Wool Hall), he was called to appear on "In Your Eyes" and "Mercy Street" on Peter Gabriel's *So*. "Peter is very impulsive," Klein reports. "In that way he's kind of similar to Joan [Joni]. I really enjoyed working with him, because in the current fashion of recording where you overdub one part at a time, the control room can feel like a laboratory, have a very somber feeling. But what they did, both he and Daniel [Lanois, co-producer and engineer] would get up and start banging on percussion stuff while I was overdubbing my parts. And it really helped a lot to get a vibe into the track, to get some joy on the track. When they first started doing it I kind of did a double-take, but it really had a neat effect. They don't like the analytical approach in the control room—they really go for feeling and emotions in the parts." Klein was a fan of Lanois' work from Brian Eno's ambient records, so the Gabriel record was a thrill to do. "Peter has always been an inspirational figure to me," he says. "He and Eno and David Byrne have always been the most stimulating people for me. I'm constantly looking forward to what they're going to do next."

The bassist enjoys using several different instruments. He plays those rippling breaks on Mitchell's "Lucky Girl" with a four-string Yamaha fretless with EMG pickups. He still uses a '64 Jazz bass at times, but his favorites now are two five-string Yamahas, one fretted and one fretless, which he used with Ben Orr and Gabriel. "Yamaha had never made a fretless bass with a low B," says Klein. "They said it would rattle with a big string on the bottom. I said to just do it. It might be a good rattle. It's worked out great."

You can hear the low B clearly on "Mercy Streets" blending with the vocal line. "I used a lot of real low stuff on Peter's record. Daniel and Peter both go for very muted, soft-sounding bass, so on a lot of that I had various implements stuffed under my strings, like a piece of foam or a diaper. And I did a lot of things where I used something underneath the string, and also muting the string with the heel of my hand and playing with a pick."

Another highlight of 1986 for Klein was Wayne Shorter's *Atlantis*, a return to jazz and a real challenge for the bassist. "When Wayne called me to do the record I asked him what the music was like. And he said, 'Oh, it's just little fairy tales.' And I got in there and saw these massive pieces that he'd written—a lot of the stuff was very complex. So it was kind of a running joke between me and him. He's a beautiful player. To me, there's him and then there's the rest of the sax players. He plays that instrument like no one else. He's kind of a child-like guy in the way he expresses himself. Once you tune into his wavelength he's very clear and concise. It's just in another language."

Klein, who is now working with the Fairlight Series 3, offered to "sweeten" on Shorter's record, but is now glad he didn't. "I kept suggesting to Wayne that we do some Fairlight stuff or some synth sweetening on it, but when I listen to it now I'm really glad that he didn't do any of that. Because the way he wrote for that record, he utilized the acoustic piano and the other instruments so well that it's got a real individual sound to it."

The band on *Atlantis*—pianist Yaron Gershovsky, drummer Alex Acuna, flutist Jim Walker, Klein and the saxman—recorded basic tracks live, then alterations occurred. "Wayne was real willing to let me and everyone involved take the time to make our parts exactly what they should be," says the bassist, who at the time was running back and forth between Shorter's sessions and Mitchell's *Dog Eat Dog* sessions. "And in my case, I like to really hone something till it's perfect. Otherwise, when I listen back to

it all I can hear are the little details that I had passed on shaping the way I wanted to. So we spent a good amount of time just trying different overdub ideas and melodies on the bass, different lengths of notes here and there. We really worked at getting it to sound exactly as we heard it." ■

Grateful Dead Rerelease a Classic

by David Gans

It's typical of the good ol' Grateful Dead to have let one of their best records go out of print and stay that way for several years. And it's very nice of the smart, new Grateful Dead to reissue *Ace*, Bob Weir's 1972 solo debut. The band is planning to reissue several long-missing titles, chiefly the albums released on their own label in between their Warner Bros. and Arista contracts: *Wake of the Flood*, *Blues for Allah* (*Mars Hotel* has already been reissued on LP, cassette and compact disc by Mobile Fidelity Sound Lab), and a host of solo albums.

By any reckoning, *Ace* is a pivotal album in the GD canon. This was the



Alton Kelley's famous cover for Weir's 1972 *Ace* album

Grateful Dead that hit the road when Ron "Pigpen" McKernan couldn't work any more, so in a sense this album is the debut of the modern-day GD. *Ace* marked Bob Weir's matriculation as a full member of the band, introducing him as both songwriter and co-frontman. Lyricist John Barlow, pianist Keith Godchaux and vocalist Donna Godchaux all debuted as vinylists with the Dead on *Ace*. And from the sound of it this is where Jerry Garcia first made the switch from the fat, rich sound of Gibson Les Paul guitars to the more finely etched, brittle twang of the Fender Stratocaster,

whose sound—if not all its hardware—is still the core of his playing.

Like Garcia's first solo album, recorded and released around the same time (and still out of print), *Ace* is packed with songs that became live Grateful Dead mainstays. Of its eight tracks, only "Walk in the Sunshine" never entered the band's active repertoire. "Black-Throated Wind" was heard frequently from '72 to '74 (Weir says he'd like to rework the lyrics before reviving the song).

We hear an earnest, young and confident Bob Weir, in charge of his material and his players for what is nominally a solo record but is for all practical purposes a Grateful Dead affair. Bill Kreutzmann's drumming is solid, agile and melodic, Phil Lesh pays unusually close attention to the skeletal obligations of the bass, and Keith Godchaux's piano walks the frontier between rhythm and melodic support by peeling off little melodies between the chords—the same way Weir does on the guitar.

"Playing in the Band" could be the peak Grateful Dead studio experience. It's got everything, almost: a classic Hunter lyric, Weir's ruthlessly logical musical construct rendered poetic by the players, and all the chaos and splendor of a Grateful Dead jam. Garcia's guitar is gorgeous throughout,

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Kreutzmann's drumming is light and liquid wherever possible, and Lesh's amiable grumbling bass is in classic form. Keith Godchaux's piano playing was never better than on this record and *Europe 72*.

"One More Saturday Night," too, reaches higher energy levels than we're used to hearing from the Dead in the studio.

It was "Greatest Story Ever Told" that I remembered the best after hearing the Dead for the first time. The song is Weir's sleek, driving distillation of "The Pump Song" (from Mickey Hart's *Rolling Thunder*, recorded around the same time), which he and Hart built from the rhythm of the pump outside Hart's house. Chords slide up the fretboard, punctuated by staccato chord chops ornamented with grace notes on the color tone and interspersed with single- and/or double-note runs. The interlocking of Godchaux, Weir, Kreutzmann and bassist Dave Torbert is—despite the absence of Lesh—pretty hot GD, with Garcia's insect fear wah-wah guitar wailing overhead.

The other thing that stuck in my mind the first time I heard the Dead was Garcia's lazy but sharp guitar figure in "Black-Throated Wind," a pair of notes like tandem snakes up and down the fretboard. The song moves as slowly as the steamy air in the hitchhiker's face on a murderously hot Interstate night.

The mannered aspect of Weir's style is defined on *Ace* ("Walk in the Sunshine," "Looks Like Rain"), and so is his Bauhaus/Rube Goldberg method—building intricate structures from the simplest of elements and making the most unlikely chord progressions *pay off*, and in unlikely ways. There is some stiffness in the songwriting—"Mexicali Blues" was, after all, Barlow's first lyric endeavor ("and I was just stricken when I heard what kind of setting he'd chosen for it," Barlow said recently. "It turned out to be okay after I got over the initial shock.").

"Walk in the Sunshine" ain't such a bad song, really. Okay, it's a little sophomoric, but c'mon—"deep-six your wristwatch" is really *great* hippy-dippy cant!!

"Looks Like Rain" is a straightforward cowboy ballad, with a string section and Garcia on weepin' steel, that portends nothing of the Wagnerian thunderballad the Dead play onstage these days. And if Weir can sing the "street cats makin' love" verse of this song with a straight face, I don't see how he could have a problem with "Walk in the Sunshine!"

The album closes with the sublime "Cassidy," one of those inexplicable miracles of Grateful Dead music: rich

layers of acoustic guitars, rudimentary drums and a lovely vocal ensemble adding up to a chant-line affair of unexpected drama and majesty.

The horns—on "One More Saturday Night" and "Black-Throated Wind" especially, have the all-American feel of The Band and the honkin' funk of the Tower of Power horns.

Ace is available only from Grateful Dead Merchandising, for \$10 postpaid. Make money order or cashier's check payable to MKI and send it to Grateful Dead Merchandising—ACE, P.O. Box 12979, San Rafael, CA 94913. ■

Leader of the Pack

by Roy Trakin

Unassuming David Pack refuses to be frustrated over the lack of recognition accorded his former band, Ambrosia, in comparison to more well-known contemporaries like Toto and the Doobie Brothers. The 34-year-old one-time Grammy nominee (for Ambrosia's "The Biggest Part of Me") is too busy on his own these days, composing songs for pal Quincy Jones to use on Michael Jackson's highly-anticipated follow-up to *Thriller*.

"Quincy wanted a highly emotional ballad, something that would make Michael cry by helping him experience an emotion he might not have had before," explains Pack in his 8-track home studio, located behind his comfortable ranch in the San Gabriel foothills, about a half hour north of Hollywood. "I immediately thought of something along the lines of 'Ode To A Dead Llama.'"

Since Ambrosia called it quits in 1982 after five albums, Pack has been a busy free agent, lending his production hand to Patti Austin for her new album, and collaborating with the likes of buddy Michael McDonald, James Ingram and Jack Wagner. His own solo debut, *Anywhere You Go...*, has spawned a trio of "adult contemporary" hit singles, including "Prove Me Wrong," a song Pack co-wrote with James Newton Howard for the soundtrack of the film *White Nights*. The tune was written and demoed in a single day for a dance sequence starring Mikhail Baryshnikov and Gregory Hines. The version in the motion picture is the same one Pack recorded in his makeshift recording facility.

"It's not really a proper 8-track studio," admits Pack. "It's my drawing board. I do Polaroids here in preparation for the big picture, which is a full 24- or 48-track studio."

The home unit includes a Tascam 30-8 8-track machine and an old

Quantum 8-track board. When it came time to lay down tracks for his solo album, Pack turned to Channel Recorders in Burbank, CA, which he purchased with producer Michael Verdick.

"Every musician knows the condition where the demos always end up sounding better than the real thing, so I decided to do all mine on 24-track," says Pack. "Luckily, every song on the record which started out as a demo turned out to be a master."

Despite his solo success, Pack hasn't forgotten his days in Ambrosia, the group he formed with bassist Joe Puerta when the two musicians were growing up in the South Bay region of Los Angeles. Puerta now plays with Bruce Hornsby, who was briefly in Ambrosia himself at the time of the group's final LP, *Road Island*. Pack points to a photograph on the wall of a group that could be The Lettermen, complete with crewcuts, matching varsity sweaters and vintage acoustic guitars.

"Our mothers had to drive us to that photo session because we didn't have licenses," reminisces Pack. "I've played with Joe since I was 15 years old. For us to rise out of the South Bay was a fantastic accomplishment. It was difficult to split up because we were so close. By the last LP, though, we were



PHOTO: JIM SHEA

David Pack

talking more about attorneys and money than music."

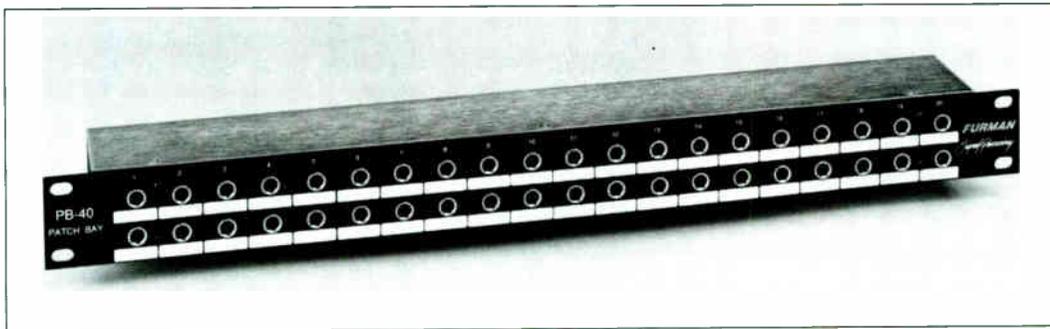
Coming together in the early '70s, Ambrosia was influenced by the musical melting pot that was the Torrance/San Pedro area, as well as the ever-changing pop trends of the time. "We wanted to be the Southern California Beatles," laughs Pack. "We started on the premise that we could write in any style... R&B, rock, progressive, blues, classical... as long as the songs were quality. Unfortunately, that very ideal would later strangle us."

Ambrosia's increasing eclecticism made it hard for critics and fans to get a handle on them. Their very first album, produced by Alan Parsons, included such now-chic elements as an African tribe recorded live ("The Brunt") as well as the use of Balinese instruments. The LP also boasted a hit single, "Holding On To Yesterday," and a tune which included lyrics from a Kurt Vonnegut, Jr., poem ("Nice Nice Very Nice"). From the very start, Ambrosia was caught between their hits and a more experimental side.

"You never knew what to expect from us," says Pack. "We were rock's literate band, California's Moody Blues or a poor man's Pink Floyd. We were about vocals and harmonies, with songwriting that was all over the map."

Ambrosia's first two albums, both

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produced by Parsons, were nominated for engineering Grammys. "We became audiophiles," Pack agrees. "We wanted the best-sounding records. We wanted to make albums that had a beginning and an end, that made a statement, like a book or a movie."

That's how they ended up getting Alan Parsons to produce *Ambrosia*. After admiring his work with Pink Floyd and Wings, the novice group decided to ask Parsons to be their producer.

"We called Abbey Road, and he only answered the phone because his assistant just happened to be in the john at the time," recalls Pack. "Since Alan was coming to Los Angeles for the Grammys, he agreed to come by our house and listen to what we had. He didn't know who we were. All he knew was we had enough spunk to call him in London and ask him to work with us."

Despite a succession of hit singles, such as "You're The Only Woman," "How Much I Feel" and the triple Grammy nominee "The Biggest Part of Me," *Ambrosia* never quite achieved the goal of worldwide success.

"We were finally getting across, but, ironically, it was with easy listening songs," says Pack ruefully. "So, even while grateful for our success, it wasn't the image we wanted. We worked long and hard to establish ourselves as an album-oriented band, and there we were, breaking through Top 40. We wanted popularity on our own terms . . . and that didn't mean just having pop hits."

Ambrosia's image was so tied up in its music that the group never really projected much larger-than-life charisma. "We just didn't have that glitz consciousness," Pack admits. "I knew what we needed. I searched for the right gimmicks. At one time, I designed shoes for myself that would have a famous composer's profile on the tips."

"But it always comes back to one thing: honesty. We were too honest as people and musicians to pull that off. The same holds true for me today. I'm too real to create an alter ego. Songwriters like Paul Simon and Michael McDonald are strong enough in the way they see the world that they don't need to wrap themselves in an alternate identity."

Pack can certainly stand on the strength of his own quite diverse musical talents, thank you. One of his good friends is composer Leonard Bernstein, a big fan of *Ambrosia's* music who asked Pack to audition for the L.A. presentation of his *Mass*.

"I was so scared, I memorized every guitar lick in the piece," recalls Pack. "Just out of fear I wouldn't be able to sight-read well enough. I spent months learning it by rote."

And he got the part, playing guitar, banjo, classical guitar and percussion, as well as leading the onstage band, which included ex-Mother of Invention Ian Underwood and wife, Ruth. The friendship with Bernstein continues to this day. In fact, Pack helped produce the never-released debut album for the composer's daughter, Jamie, who co-wrote "Do Ya," from Pack's own solo effort.

What's interesting about David Pack's work is the fact that he's been completely deaf in his left ear for ten years. It's a handicap he's only recently revealed to the public. He lost his hearing as the result of a viral infection he suffered while recording *Ambrosia's* first LP.

"I can hear relative stereo," he says. "I've learned to use the one ear to my advantage. If the sound pressure becomes too loud, I can just turn my deaf ear to the source and listen with my good ear as the sound bounces off the wall. It acts as a mute. I mixed the title track to *Life Beyond L.A.* with one ear by placing the speakers close together and having the engineer help me with the stereo imaging."

"I'm still keenly aware of sound. For some reason, I'm able to pinpoint frequencies even better now. The only thing that's really bothered me is figuring out how to hear pitch. When you perform live, everything has like a Doppler effect. The pitch fades in and out and changes when you move your head left or right."

Pack is now actively involved in the House Ear Institute, trying to inspire hearing-impaired youngsters that a career in music—or anything they want, for that matter—is still possible.

"If I can be an inspiration to any of these kids, that's what I want," he says. "If I can show them you can actually make it in music even while deaf in one ear, that would give me a great thrill."

Despite missing the closeness of a band situation, Pack has formed an alternative network of collaborators that has taken the place of a group. "Michael McDonald and I have become stronger friends since getting out of our respective band situations," says Pack. "We've become what our groups used to be for us: pals. We both miss that camaraderie, but you have to grow and learn, expose yourself to new situations. It's like pushing yourself into something that scares you. It took me 12 years in a band to achieve what I wanted. Hopefully, I'm laying the groundwork for the future with my current work."

"I want to be associated with quality songwriting and production. I won't settle for anything short of that. I want my songs to stand the test of time."

While admitting "it's possible there'll be another Ambrosia album," Pack is committed to his solo career. As for the massive popularity of peers like McDonald or Paul Simon, David Pack claims that kind of recognition is not important to him.

"I don't think in terms of my ego," he says. "You have to follow what your instincts tell you. And mine tell me I love to sing. And that there are some people out there who seem to like my voice."

"I'm content to express myself as a vocalist and a songwriter, a musician and a producer. Whatever happens from there—whether it be mass acceptance or a professional's professional—I'll accept my destiny. Still, whatever that is, I'm going for it with the best of my ability. While trying to live up to my own expectations about myself. And that's hard enough. You can't tell people what you are... you write your songs, perform them, and leave it to the public to tell you the rest." ■

The Hendrix Legacy:

'Scuse Me While I Slice the Pie

by Bruce C. Pilato

"Hendrix created a school and no one has graduated from it yet," says Alan Douglas. "He set the standard, and if you pick up a guitar and you're interested in rock music you've got to refer to Jimi Hendrix."

"Aside from the fact that his music excites young kids," Douglas continues, "I think it's basically because he's still, in musical terms, an outlaw. The

mainstream just can't absorb him the way they have Presley or The Beatles and many of the classic artists. He's still the musical outlaw, and so, uniquely, he remains the reference point."

During 1969 and 1970 Douglas oversaw the production of nearly all of Hendrix's recordings, including live performances, finished studio masters, and assorted superstar jam sessions. In all, Douglas worked on more than 400 hours of Hendrix recordings before the guitarist's death in September, 1970.

Douglas has dedicated the last 13 years to keeping the Hendrix legacy alive. In cooperation with the Hendrix estate, he has assembled ten posthumous albums—some of which have been quite controversial.

With Hendrix's audio legacy virtually exhausted now, Douglas has formed a video label to release a series of Hendrix videos as well as other music products. Douglas Video is distributed by Sony Home Video, with soundtrack records released by Capitol Records.

The first release in the series is *Johnny B. Goode*, a collection of live concert footage and abstract visual images all set to music by Hendrix. "Are You Experienced?" and "Voodoo Chile" are conceptual clips with digitally remastered studio recordings, while the others are taken from concert footage of Hendrix performances at the Atlanta Pop Festival (July '70), Berkeley Community Theatre (May '70), the Monterey Pop Festival (June 1967) and the Isle of Wight (September '70).

Future releases will include the complete Experience performance from Monterey Pop (with additional footage of Hendrix performing "Sgt. Pepper's Lonely Hearts Club Band" taken from another show) and *Experience*, a 30-minute documentary shot in 1968. Both these films will probably be shown in theaters before being released in home-video form.

All the Hendrix film projects supervised by Douglas feature digitally remastered hi-fi audio tracks, in most cases mixed down from the original

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PHOTO: MARK BOWERS • 1986

Keeping the Hendrix flame alive: Alan Douglas.

multi-track recordings. The 8-track masters were transferred to a 32-track digital machine and then "digitally mixed to two tracks on the same piece of tape," Douglas explains, "so consequently there's no generation loss. We EQ'd differently for everything—for the film, the video and the album soundtrack. We had three separate mixes."

Douglas says that in the '80s, Hendrix's music has found a new audience—"a very young audience who had never seen Hendrix before. These

kids were born after he died or were very young when he died and had never known about his stage presence and so on. We felt we could create a visual library as we had with an audio library. So *Monterey* and *Johnny B. Goode* are the first things in a series of things that, hopefully, will make some sense."

A respected jazz producer who worked with giants like Duke Ellington, Charlie Mingus and Eric Dolphy, Douglas was brought in to work on

Hendrix's recordings three years after the guitarist's death. The first album, *Crash Landing*, came out in 1974. The concept behind it was revolutionary: Douglas stripped everything from the multi-track masters except Jimi's guitar and vocals. He then brought in ace studio musicians, many of whom had never even met Hendrix, and laid down new musical beds for each song. The result was a little eerie, but it gave the public a "finished" and well-produced album that Douglas still feels was true to Hendrix's vision.

Of course, many purists blasted Douglas and the album, but it was a huge success. It sold more than 800,000 copies in the U.S. alone and revitalized the entire Hendrix catalog.

Two subsequent, similarly constructed albums under a three-LP deal, *Midnight Lightning* and *Nine to the Universe*, were not nearly as strong, though, and led to widespread accusations that Douglas was exploiting Hendrix by scraping the bottom of the barrel.

"It didn't bother me that much because I had been hearing that for years," says Douglas nonchalantly. "The criticism comes from people who heard Jimi in a certain way and think of him only in that way. But, you know, I made a mistake. I should have gone directly to the live material. I was holding on to the live material, thinking at that point that the studio albums were probably the best things to market. While everyone was blasting *Midnight Lightning*, the live material was just sitting there."

In 1980, partly at Douglas' urging, Warner Bros. deleted most of the posthumous albums after *Cry of Love*. To satisfy the continued demand for Hendrix music, Douglas next produced a double- and a single-album anthology set entitled *The Essential Jimi Hendrix, Volume I and II*. These were followed by the excellent live double album, *Jimi Hendrix Concerts*, and last year's *Kiss the Sky*, an audiophile-quality release featuring digitally remastered tracks on premium vinyl and high-quality cassettes.

The newest audio release came this past March with the complete soundtrack of Hendrix's Monterey Pop performance. Now, according to Douglas, only one audio release remains: the best of six shows by the original Experience taped at Bill Graham's Winterland in San Francisco in October of 1968.

"It's great stuff," says Douglas. "We have the original 8-track tapes, and they're all in very good shape. We'll do a digital transfer and a CD-only release, just to separate it from the rest of the catalog."

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including a 1970 jam session with John McLaughlin, are not up to Douglas' standards and will remain unreleased. Douglas' concentration now shifts to film and video.

The Hendrix estate and Douglas have been able to acquire most of the existing footage, although a few choice properties have proven to be elusive—including the complete Woodstock performance and an excellent concert by the original Experience filmed at the Royal Albert Hall in February of 1969.

Douglas says he and the estate have also talked extensively with film companies and independent producers about doing a dramatic film biography of Hendrix, although that project is slow in coming to fruition. "Thus far, no one has come up with a script or a story line that makes sense other than a straight biography," he says. "It's got to be more than that, or we'll just do a straight documentary."

Douglas says he often wishes Hendrix were still alive, if for nothing else than just to see how the guitar giant would have reacted to advances in music technology. As great as he was back in the late '60s, Douglas feels had Hendrix lived he would still be a technological front-runner.

"I think he would have wanted to use everything he could possibly have used. Electricity was his game; he knew how to use it better than anyone else. When you hear him blend feedback and harmonic tones, you know he had control. He used it—it didn't use him. He was the ultimate guitarist."

—CONTINUED FROM PAGE 131, HORNSBY
ing no major label would have any interest in this tape, I sent it to Windham Hill. Will Ackerman offered me a deal for it, and I thought, yeah, that was great. I was gonna do that and then, ironically, the tape was leaked out to a couple of major labels and they offered deals on it. I didn't try at all. I was elated about the Windham Hill situation, and then the RCA thing came in out of the blue. I'd been trying all these years to calculate it and then when I finally just said 'screw all that' is when it worked. It shows you how much I knew," he laughs.

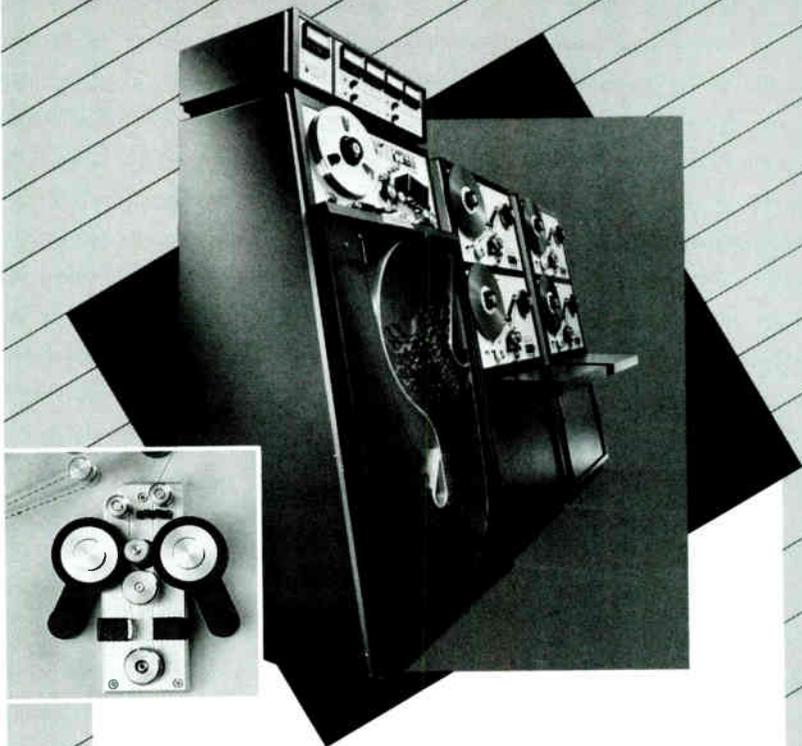
If the Mid-American focus of *The Way It Is* attracts comparisons with the work of John Cougar or Bruce Springsteen, Hornsby doesn't mind. "It's in that mold, for sure," he says. "Hell, I'm proud to be in with those guys; I think they're great. I think the way probably has been opened up by those guys for sure." But the way has also been widened by Hornsby's friendship with America's biggest radio hero, Huey Lewis. Hornsby's songwriting was

again the magnet. Lewis nearly recorded one of his tunes, "Let the Girls Rock," for *Picture This*, and according to Hornsby, "He became kind of a champion of the cause and a fan of the music and we traded things back and forth this year. He produced part of my record ["The Long Race"] and he cut a song of mine ["Jacob's Ladder"] for his record."

That reciprocal relationship paid off for Hornsby with the invitation to join Lewis as an opening act on the latter's European tour. When the touring ends, Hornsby, who's been playing steadily since last May, will get to work on his second record for RCA. He has a few little changes in mind already. "When you do your first record," he says,

"you're working in kind of a vacuum as far as feedback. You throw it out there and see what happens. And the feedback that we've gotten basically is, 'piano, piano, more piano.' So it'll probably be a little more groove-oriented, a little funkier, with more stretching out on piano and more slices of Southern life." He hasn't decided on a producer yet, although he admires the work of Neil Dorfsman and was impressed by Eddie King, who did some engineering and mixing on *The Way It Is*. But he's happy to be in the situation of getting to make those sorts of decisions. "I'm just glad to be in the position to be thinking about a second record," he grins, "in that sense, we've already won!"

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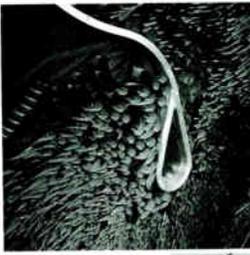


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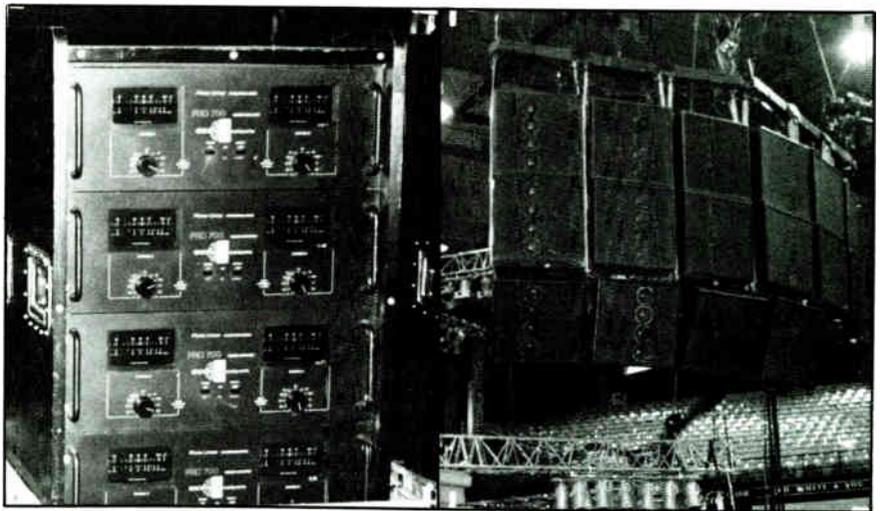
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The circular array of speakers utilizes Audio Analysts' S Series 4 cabinets.

—FROM PAGE 45, BILLY JOEL

through the complete digital processing system," he explains. "The hard part comes in implementing the mathematics and the necessary filters, plus in figuring out the problems inherent with speed, dropouts, and error correction. When complete, however, I'll have a crossover that works completely in the digital domain, and we'll be able to do things like match different loudspeaker components and apply correct time alignment right at the crossover."

Other planned changes in the system before tour's end include the installation of new tweeters, new re-structured cabinets, and multi-cabling.

Audio Analysts has established a reputation for designing components that are custom-tailored to the needs of a particular group or artist when the need arises. Aided by computerized design systems and their years of experience, field testing to "get the bugs out" of their designs has in many cases been virtually eliminated, or been drastically reduced. For The Bridge Tour, the monitor system was designed in theory using computer programs written by Leccese, and tested before their construction with a TEF analyzer. Once built, they were positioned out of sight beneath the stage's floor, where they deliver sound up to the performers through fiberglass grates.

Long-time drummer with Billy Joel, Liberty DeVitto sums up the appearance of the tour's new stage by saying: "Some people look at the stage when they come in, panic, and think that the show is only going to consist of drums and piano." For the uninitiated, that's exactly what the mind conjures up, because at first glance, it

seems as if the roadies have forgotten most of the band's gear. DeVitto's drum kit, a few keyboards, mic stands, and Joel's baby grand piano are the only things clearly visible on stage.

The brain child of Steve Cohen and Brian Ruggles, who have respectively served as Joel's show designer and chief sound engineer since his bar-room days, the stage is highly angular to the point where it almost resembles the beginning folds of a giant origami figure.

Cohen freely admits that he and Ruggles set out to create an image "that when you first walk into the arena, you'd never figure out how the hell any music could come out of that setup." They succeeded in achieving that goal by placing everything that's normally seen on a stage underneath. Cohen then added to the simplicity of the stage's appearance by applying spartan principles to the lighting as well. Utilizing only 219 lamps, 30 of which are multi-celled units with ten different colors to bolster color saturation, Cohen operates the lights manually from a board situated out on the floor next to Ruggles' 40-channel house console, which mixes the signals being pushed by Audio Analysts' 64,000 "real" watts of Phase Linear Pro-700 power.

"The stage as it is now is the perfect landscape for Billy to run around on," Cohen said. "Unlike in the past, now he can't trip over something and kill himself. It is also ideal for the arenas we play in, because it makes every seat in the house a good one. There are no obstructions in the audience's field of vision, unless they're posed by the room itself. The lighting simply mirrors the lines of the stage. It's as bright and effective as thousands of lights, and makes the band as indi-

viduals stand out as well as Billy."

Since there is such a smooth, uncluttered texture to the surface of the stage, it's only natural to find that the world below is a maze of cables, amps, hanging monitors, MIDI gadgetry, effects, and of all things, an air conditioner capable of supplying enough cool air to freeze your average bus station.

To offer relief from the sweat he works up while performing, Joel originally suggested to production manager Bobby Thrasher that having air conditioning on-stage might not be a bad idea. Thrasher took the job quite seriously, located an industrial couch-sized air conditioning unit, hid it carefully under the stage, and then routed duct work that exited next to Joel's baby grand, and downstage, where it cools the rest of the band.

Another important area under the stage is referred to by the band and crew as "MIDI Central." A trove of the latest in everything MIDI, it represents the first time a Billy Joel tour has taken such technology under its wing. Sounds ranging from the ocean on "This is the Time" to the horns on "Tell Her About It" are all controlled by keyboardist/MIDI Central creator Dave Lebolt with the flick of a foot switch which ignites a matrix switcher. The switcher, in turn, activates any of the samplers, effects, and 20-odd synthesizers below.

"I put together a system that would allow for maximum flexibility, so that regardless of what kind of music we were going to do, we could do it from any of the four keyboard positions (which includes the baby grand) on-stage, with anything hooked to anything, and that's pretty much what we got," Lebolt said. "I did all of the patch routing using a MIDI/matrix box that allows you to initiate source and destination program changes, and to have a register of the instruments playing so that you can have multiple splits on the keyboards. You can also limit the velocity of the instruments in such a way to effect the dynamics of the keyboard in relation to the sound."

Prior to the beginning of the tour, Lebolt spent three weeks working up to 14 hours a day programming MIDI Central's effects. "This is one of the first shows that utilizes a master keyboard with everything offstage," he says. "Which is kind of a nervous situation because you have to worry about whether or not everything is going to work or not when you step on the foot switch. This may be Billy's most high-tech tour to date, but the show isn't about technology, it's about Billy's songs. This equipment just gives him more in the palette of sound to choose from."

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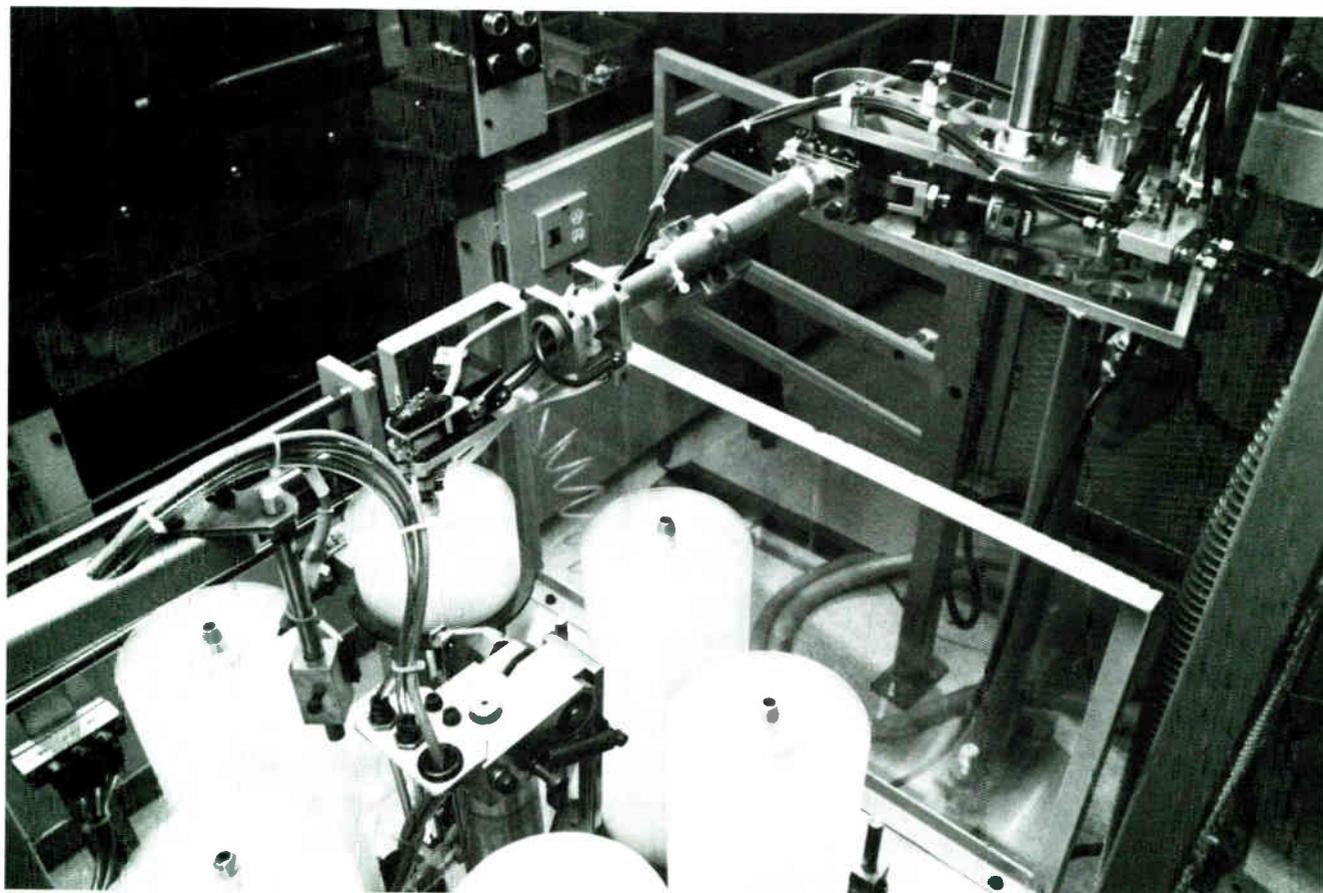
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AFTER · MIX



LASERVIDEO

**TODAY HUNTSVILLE,
TOMORROW THE WORLD**

by Philip De Lancie

In harmony with the joint-venturing spirit that seems to be popular in compact disc related industries, LaserVideo Inc. has reached agreement with the Marubeni Corporation of Japan on a cooperative approach to guiding would-be CD manufacturers through the financial and technical processes

of bringing a plant on line. As outlined in company announcements, Marubeni will concentrate on "equipment and material procurement services, as well as financial assistance." LaserVideo, a subsidiary of Chicago's Quixote Corporation, will provide "design and process know-how, technical data, and start-up and training assistance." Help in product market-

ing will be offered to the new manufacturers by Marubeni and LaserVideo together. To encourage the development of an international network of CD plants that could cooperate in training, technical and marketing fields, the two companies hope to be compensated for their services in part with equity interests in the facilities they help to create.

Above: After injection molding, a robotic arm stacks clear CDs, which will later be coated with reflective and protective layers at the LaserVideo plant.

LaserVideo's agreement with Marubeni coincides with another important development for the company: the official opening of its second CD plant. The new facility, located in Huntsville, Alabama, is 16 times the size of LaserVideo's original plant in Anaheim, California, which has been shipping product since January of 1986. The Huntsville plant is designed for an ultimate capacity of 60 million discs per year. Reached at the new facility on the eve of formal opening ceremonies, LaserVideo chairman James H. DeVries took time out from preparations to talk about the Marubeni agreement and the CD manufacturing market in general:

"Right now, there is really no one who will help somebody get into CD production... that's the kind of service that we are going to offer."

Mix: What services will LaserVideo be offering to clients under the agreement with Marubeni?

James H. DeVries: We started working on optical discs back in 1979. Our Anaheim plant makes video discs, special masters and stampers for the optical memory disc industry, and compact discs. We also have the plant in Huntsville which began production in October. And we have made our own mastering systems. Through this whole course of development, we think we've built up a lot of knowledge and expertise in all the different areas that go into making discs.

Right now, there is really no one who will help somebody get into production. You go and you buy isolated pieces of equipment, and each individual equipment manufacturer will show you how it works, but somebody needs to tie it together into a whole process and set the process specifications to make a whole system that can make large volumes of CDs with high yields at low cost. That's the kind of service that we are going to offer people.

Mix: So you see yourselves as the coordinators of all the various aspects that need to come together to make a plant.

DeVries: Right. And we also would be specifying what kind of equipment to get. We would tell our clients what we thought were the best pieces of equipment, how many to get of each, and things of that sort.

Mix: Will you be providing the actual designs for the layout and construction of the plants?

DeVries: We have a design, a prototypical plant layout. We will specify all the requirements. But we are not engineers. We don't do the detailed engineering work that a contractor would work from, but we would specify what needed to be done. For instance, we

might say where a column goes, but an engineer has to decide how big that column needs to be.

Mix: Would you also be supervising during construction to ensure that building goes according to specifications?

DeVries: Yes.

Mix: At some stages in the CD manufacturing process, more than one technique is available to complete a given

step. The CD's reflective layer, for example, can be applied by vapor deposition, wet silvering or in-line sputtering. What factors will influence your recommendations to clients on this choice?

DeVries: We use both deposition and sputtering. What you would use in a particular situation depends on the volumes you're talking about, where it is in the world and what services are available, and how easy it is to get

—CONTINUED ON PAGE 144



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—FROM PAGE 144, LASERVIDEO

whatever you have serviced. You have to analyze the whole situation, looking at the size and the skills of the people involved.

Mix: In the molding of the discs, both injection and injection-compression techniques are in use. Which system might you be recommending to your clients?

DeVries: The injection-compression discs are made by Polygram. I think if you look at a Polygram disc and you look at one made by somebody else, you can see some differences. Polygram has to cold punch the hole. I think the plain injection molding works the best. Polygram has a lot of know-how with their process, and it might work very well for them, but if you're going to start out cold, I'd say go with straight injection molding.

Mix: Are you planning to have much in the way of sound enhancement capability in the mastering facilities at the plants you will be designing, or do you conceive of the mastering step as strictly a flat transfer?

DeVries: We just transfer what we get. We don't do any enhancement or editing. The tape has music on it in digital form when we get it. We check the tape to make sure there are no defects on it and to see that all the information we've received is accurate. If it's not accurate, we usually just try to send it back. In other words, we don't like to fix them.

As far as EQ and level changes, we don't think we're in the business of creating music. When you start doing enhancement, you're putting some subjective judgement into it. We just like to have it ready to run.

Mix: Do you anticipate that the Teldec DMM CD Mastering System will have any impact on the mastering side of the services you offer?

DeVries: If it were equal quality and cheaper, that might be a good thing, but I don't think we know yet if it can achieve the same quality. With the photo-optical systems we use, we get very low error rates and many of our discs have no interpolation. So you really can't get much better in terms of quality.

Mix: Are the mastering systems that you make and use available for sale to other companies?

DeVries: We don't really have it as a product. If, in connection with one of our deals to help somebody open a plant, it looked like that would be a good way to go, we would do it. But we don't really want to be in the busi-

ness of making and selling them.

Mix: Who do you see as the potential clients to whom LaserVideo and Marubeni will be offering their services?

DeVries: I see our services as helping people in places outside of the big industrialized countries. Places like Korea, Taiwan, Hong Kong, China, Indonesia, India, Singapore, all of Latin America and Africa. Places that want to develop a plant, but really don't have the technology in the country. They just can't reinvent the wheel by themselves. It makes more sense for them to hire someone like us to come in and help them get it going.

Mix: What sort of capital expenditure are clients likely to be looking at in order to get a plant off the ground?

DeVries: The compact disc business is difficult, and you really have to be prepared to do it well. You should be prepared to spend as much money as needed to build a plant as big as your local market would justify. You're talking at least \$20 million on up. Thirty million to \$35 million is really a more optimum range for something with an annual capacity of ten to 15 million discs. Anything smaller than that is not very economical. It's not big enough to give you the kind of technical support staff you need. It's not worth building a plant to put out borderline CDs.

Mix: Do you think that the growing number of people getting into CD manufacturing will create the kind of competition that could lower CD prices?

DeVries: There are more people getting into the field, but remember that by 1990 we are going to need 300 million CDs in the U.S. If you add up what everybody says they are going to make, you probably don't hit 300 million. The other thing is that many of those who say they are going to get into the business never do. If you go back a couple of years and look at the announcements that were made, you'll see that a lot of them have just disappeared.

It's going to get better than it has been, but there is not going to be an oversupply. Remember, on top of the music business you have CD-ROM coming along. And on top of that you have CD-I, which will be a consumer product.

I think that the big plants will be Sony, Philips-Du Pont and ours. All of them could be up to 50 or 60 million each. Then Capitol and Warners are only going to produce about 50 to 60% of their own needs, so they're going to be customers for the other

"I don't think that R-DAT will have any impact on the CD market..."

shi are all coming along, but they're not exactly burning up the tracks at getting into production, and you can't be sure how big they will be. We still have to see all that capacity really being built.

Mix: What is your assessment of the effect of the R-DAT on the CD picture, and how is that reflected in your company's planning?

DeVries: I don't think it will have any impact on the CD market, though it will have an impact on the present analog cassette market. If you put yourself in the position of a salesman in a store trying to tell somebody whether to buy a CD or an R-DAT player, it's a little bit tough to sell digital audio tape. It has all the problems of tape: it wears, tears, jams, you start to lose signal from wear after a while, and you can't immediately access the next song or some other song if you want it. The player is really like a VCR in terms of complexity, so it's hard for it to be a very low cost item. The players are going to be more expensive [than CD], and the prerecorded cassettes are probably going to be more expensive.

The CD lasts forever. It lends itself to things like the Sony 10 disc cartridge for the car, where you've got six hours of music at your fingertips. It has all those conveniences, plus the cost factor. So digital audio tape, I think, is not as good and will cost more. When you buy a CD player in the store for \$88, that, to me, is a real value.

In "After-Mix" for last October, I described TMD, the high speed video cassette duplication process under development by Du Pont. A TMD system is apparently now ready for commercial use, and Du Pont has announced its forthcoming installation at BHCP in Northbrook, Illinois. BHCP is a tape duplication operation owned by Bell & Howell, Columbia Pictures and Paramount Studios. Bell & Howell collaborated with Du Pont on some of the mirror mastering technology for TMD. The system, which BHCP intends to have up and running early this year,

will copy a two-hour movie in just 52 seconds.

EMI Music Worldwide has announced the commissioning of Capitol/EMI's first CD plant in the U.S. Located at a Capitol Records facility in Jacksonville, Illinois, the new operation will have an annual capacity of seven million discs. A separate 97,000 square foot distribution center is also located at the site. In bringing CD capability to Jacksonville, EMI increases its number of CD plants worldwide to three. The original, opened in 1982 by Japan's Toshiba-EMI, is currently increasing annual capacity to 15 million. EMI Music's European plant in the UK opened last spring with a five million disc capacity, and early expansion is planned.

BASF Professional Products Division has revised its audio cassette duplication line, claiming "major improvements" in both ferric and chrome formulations. The upgraded LHD ferric stock features a newly developed particle that is finer and more consistent in size, allowing a high frequency MOL (Maximum Output Level) increase of 1.5 to 2 dB. Meanwhile, "Chrome Extra" has been introduced as a replacement for BASF's previous chromium dioxide stock. The company reports an improvement of 2 dB in dynamic range for the new product.

In an effort to realize the full playback potential of today's state-of-the-art A/V home entertainment systems, HVM Video Duplication of Long Island, NY, has turned to Sony for digital audio processing and broadcast video equipment. HVM has combined a bank of Sony Broadcast BVH-2180 1-inch VTRs, a Sony PCM 1630 digital audio processor and an AVP-500 synchronizer to ensure high quality audio in its home video duplication business. At full capacity, HVM produces 12,000 two-hour movies per day, and the company plans an "aggressive" expansion in the near future.

American Comedy Network of Bridgeport, CT, has purchased a customized Electro Sound 5000 for high speed (32-1) duplication of reel-to-reel tapes. The new system, said to be the only one of its kind on the East Coast, will allow ACN to provide its 151 affiliate stations with more timely material. The company plans to purchase three additional slaves for the system before the end of 1987.

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BITS AND PIECES

by Elizabeth Rollins

Facilities:

Miami plays host to another world-class facility with next month's opening of *Limelite Video*. The 100,000 square foot building houses five soundstages, set design and scenic art departments, digital audio production/sweetening, a mobile truck division, and a full-blown computer graphics studio.

According to operations manager Michael Garrett, emphasis will be placed on special effects—and certainly the hardware list backs up the claim: Quantel Harry/Encore and Paint Box, Mirage, Sony D-1 format DVR-1000 digital video tape recorders, Abekas A-62 digital disk-based recorders, and a SteadiFilm/Rank Cintel telecine configuration. Garrett is especially enthusiastic about *Limelite's* interactive motion control camera, which is completely computer controlled. (The plan is to fit the IMC with a film camera soon, also.)

The editing suites can accommodate one-inch, ¾-inch, and Betacam. In the audio editing suites, the 32-track digital Mitsubishi X-850 and the Otari analog 24-track are available with a 36-track digital Neve console.

The Post Group, Los Angeles Announces Computer Graphics Division

Tony Redhead has exited Quantel to become art director at the Post Group's new computer graphics division. Of course, SFX are nothing new to this Hollywood facility, but VP Linda Rheinstein says the entire art department has been consolidated in a separate cottage to enhance the creative atmosphere.

According to Rheinstein, the big news is their new Graphic Paint Box—a high resolution video imaging

device that can modify still frames in the same way that a Quantel Paint Box can—but it can then translate that still frame into printed material.

Other recent acquisitions include: a second Paint Box with 403 software, an Aurora 220, a stat camera, an Encore to go with the Quantel Harry, and an interactive motion control camera. The list of other effects gear is seemingly endless, but some essentials include: a Wavefront computer graphics room, Mirage and Bosch FGS-4000 suites.

But beyond the heavy hardware attributes, both Rheinstein and Redhead are quick to emphasize art above mere technique. "We have a conventional art department with people who started as artists—you know, with pencils and paper," says Rheinstein. "That's important to us. We're trying to create a creative atmosphere with people who know the equipment well enough not to be distracted by it," she explains.

Certainly if anyone knows the Paint Box and the Harry, it's Tony Redhead, who just left the company that manufactures these high-end graphic art *wunderkinder*. Harry freaks, take note. Redhead's organizing a Harry user group, open to all artists who are using these devices. He says, "We welcome everybody because we feel that if we can all learn as much as possible about Harry, then we can keep the standards high—both on the user and the manufacturing side."

St. Louis Gets New Corporate Video Facility

Corporate Video Services (CVS) is the name of a computer and laserdisc oriented production facility that recently opened in St. Louis. CVS is the only company that currently offers two systems mainly useful to corporate customers: the McDonnell Douglas Laserfilm system, and the Digital Techniques Touchcom interactive computer system.

Laserfilm is an interactive videodisc system which stores source materials from video tape, film and other media onto a 12-inch disc made of X-ray film. As with traditional laserdiscs, any address can be randomly accessed instantly.

CVS claims each Laserfilm disc can hold up to 32,000 pictures or frames of photographic film; but it only takes about 17 minutes to master one, at a price of about \$20 (copies, \$10 each).

The Touchcom system is based on the interactive touchscreen, such as the one you probably use to do your banking at an automated teller machine. It's designed to handle volatile, sophisticated databases with multiple remote terminal access locations.

CVS supplies programming services for both Touchcom and Laserfilm systems. Founder Ken Bronson says his company will also serve as "dealer for more traditional audio/visual equipment, including JVC, Hitachi, Sharp, and Bell and Howell. However, our primary emphasis is on the newer interactive developments."

Image Transform of North Hollywood Introduces New Noise Reduction For Film-to-Tape

Image Transform, a compact video company, is up and running with their new proprietary noise reduction system designed specifically for the film-to-tape process. It offers 10-bit digital signal processing, instead of the standard lower resolution 8-bit processing. The Image Transform design team says the unit reduces the amount of film granularity visible in the output picture—in addition to eliminating the electronic noise generated in the transfer process. It works on 16mm and 35mm positive and negative film; also, because of its RGB mode option, the noise reduction system can also be used when source material is being transferred to Betacam or other component formats.

Ampex Manufacturing Betacam Products

Ampex has begun manufacturing a full line of Betacam format equipment in Colorado Springs and Hong Kong. Two of those products will be available in this quarter of '87: the CVC-5 high resolution, three-chip camera for ENG/EPF use, and the CVC-40 studio recorder/editor. There are eight other basic products in 40 versions/configurations with more than 100 lenses and accessories.

The CCD camera eliminates lag and burn problems because the chips substitute for traditional tubes, which are sensitive to concentrated light. Chips also make the camera substantially lighter in weight. Three tube cameras will be available as part of the Betacam line of products to configure with the camcorder. ■

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—FROM PAGE 124, STRANGERS

primitive at best as far as the technology available. One of them was located back behind a record store and the window between the booth and the studio was literally a windshield from a Volkswagen van. You can adjust to almost anything, though. You have to."

In Hong Kong, Stronach was surprised to find that so many of the major studios are situated in high-rise buildings, no doubt because space is at such a premium in that crowded metropolis. "The studios were pretty well equipped for the most part," he says, "with bare bones Studer and MCI gear, but at one studio that was supposedly one of the best, I really didn't think they had their acoustics together. We had to rent an awful lot of stuff, too. But it was really great fun. I've always enjoyed working outside the U.S."

Stronach advises, "When you book a studio overseas, as a protection, if you can possibly manage it, you should see the place where you're going to be working before you confirm anything. You don't want to be unprepared or unpleasantly surprised when you get there. If I can't actually go to the studio in advance, I at least want to know everything that's in it. If you see Solid State Logic and Studer in their brochure, for example, you can pretty much assume that it's a world-class room. That's the first thing I look for. I go to my SSL book, find out where the SSL-Studer rooms are, and try to use those studios."

Of course SSL rooms aren't exactly a dime a dozen worldwide, and for lower budget projects, engineers frequently find themselves in studios that seem antiquated by top U.S. standards. When Jeff Jones, an engineer who's a co-partner at New York's Intergalactic Music, arrived at one studio in Barcelona, Spain, he found "a classic, old-style European studio; real high ceilings and heavy duty gobos on wheels. It reminded me of pictures you'd see of The Beatles recording, where they'd be in this gigantic room but they'd be close together with gobos in between them. It was a monstrous room, but real nice to work in."

"They had a vintage Neve with VCA groupings, which was great, but the monitoring system was weird. The way it was set up, they had one speaker in one corner of the room and the other in another corner, literally 20 feet away. The solo was in mono out of one speaker. Also, the crossover was a passive crossover, so what that means is the louder it gets, the frequency response changes. The more you turn it up, the more high end you get. So I decided on a moderate listening level, and then I'd solo on one speaker to

make sure everything was OK."

Americans working abroad invariably find that equipment rental possibilities aren't quite what they are in large cities Stateside. "The couple of studios I worked in overseas didn't have much in the way of outboard equipment and it was hard to find," Jones says. "The owners complained about the availability of parts, too. Since I went over there, I've worked with people who came over from France and they're just as amazed at how easy it is to find equipment, and even more, how cheap it is. They could buy three SPX90s here for what they pay for one in France."

Jim Scott, an L.A.-based independent who has worked on Sting's solo albums at AIR Montserrat and Eddy Grant's Barbados studio (and who's currently engineering Robbie Robertson's long-awaited solo debut), found that "Sometimes I'd be working [in Barbados] and I'd think to myself, 'Oh, if I only had this kind of gear!' When you're in Hollywood, you call up Studio Instrument Rentals day or night and in a little while you've got it. Or, in the big studios, you walk down the hall to the equipment room and pick up what you need. Down [in the Caribbean], if you don't have what you need, it'll be a couple of days before you can get it. At AIR Montserrat it was a little different because it's supported by AIR London and that affiliation makes them a stronger studio."

"If you isolate yourself, rental is going to be a real problem," agrees Harry Maslin, who found himself with limited equipment resources working on a project in Sweden. "Even if the equipment available to you is good and well maintained, which is not usually the case—at least in my experience—you're going to be stuck sometimes if you can't rent what you want." Or you figure out a way to work around it. When Jeff Jones found that one European studio didn't have a 2-inch splicing block, "I ended up using a block of wood and thumbtacks."

Of course, working away from home can take a psychic toll on an engineer, too. "There are different kinds of isolation," comments Jim Scott. "In Montserrat there's no town. There isn't much tourism. You can't really go to find nightlife or a movie house. The studio [AIR] tries to compensate for that by making everything as enjoyable as possible. And they do a great job. From my standpoint, as an engineer, the normal work day is 12 or 14 hours, so it's pretty much just a case of where to sleep after the session. But I would imagine you could get pretty lonely down there and pretty tired of seeing the same faces all the time."

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And even in sophisticated metropolitan areas, engineers on the road still have to deal with being away from family and friends, sometimes for weeks at a time. This means there are fewer distractions at work, but a frequent side effect is a sort of studio tunnel vision that can become numbing after a while.

Jeff Jones also encountered a fairly severe language barrier when he was working with local audio people in France and Spain. "I'd try to explain that I needed this, this, and this and they'd say, 'Hmmm. I don't know.' Part of that was language and part was that they didn't know some of the technical things I was trying to do. I'd do gated reverb tracks and they'd look completely baffled—"Why are you doing this?"

"But basically it was really nice being over there, and I'm looking forward to going back," he continues. "They gave me mucho respect. I'm 6'7" and they called me 'the big American producer.' Their notion was, 'We'll get everything set up and then we'll come to the hotel and pick you up.' I appreciated that, but I like to be down there myself to make sure things are right. I'd hate to have them go to all that work and then I come in and say, 'No, no—put the 451 on the snare.'"

“When you book a studio overseas, as a protection, if you can possibly manage it, you should see the place where you’re going to be working before you confirm anything.”

Complaints about equipment and maintenance aside, the engineers we spoke with seemed to basically feel positively about their foreign experiences and the feeling of camaraderie they developed around the globe. In Tinseltown or Timbuktu, engineers constantly strive for excellence.

And the technology gap? That seems to be shrinking, too. It wasn't long ago that John Stronach was set to go to the People's Republic of China with a partner to help the Chinese figure out some 24-track recorders the government had bought. "They were a little confused," he says with a chuckle. "They were putting one song on each track." (Stronach's trip never happened and presumably everything is up and running in Peking now.) And the increased availability of inexpensive and efficient outboard gear is helping bring many studios around the world firmly into the '80s.

"It still comes down to getting a good performance and using your ears," Harry Maslin says of working abroad. "I think you can record a great album in any studio if the engineer and producer know what they're doing. You can overcome any technical shortcomings." Just ask the engineers who've been earning their gray hairs trying to do just that. ■

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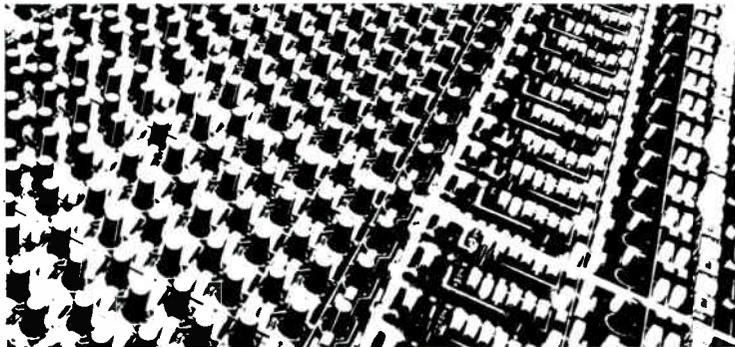
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INDEPENDENT



ENGINEERS & PRODUCERS

RANDY ADAMS

Engineer & Producer
3725 Cibolo, Ft. Worth, TX 76133
(817) 294-2581, 921-3881

Credits: Jeanne Rogers (Maranatha Records), Tom Autry (StarSong Records), Gingerbrook Faire (Word Films), John Hall, James Robison Television Special, Dave Roeber Ministries, Alexandria Sanctuary Choir and Chorale, and many others.

Services Offered: Production, arranging, and engineering services. Large orchestral recordings, choirs, audio for video, live recordings.

RICHARD ADLER

Engineer & Producer
RICHARD ADLER RECORDING SERVICES
P.O. Box 21272, Nashville, TN 37221
(615) 646-4900

Credits: John Prine, Jerry Jeff Walker, Ricky Scaggs, John Hartford, Dolly Parton, Neil Young, New Grass Revival, Shel Silverstein, Natalie Cole, "Doc" Watson, Country Gazette, Johnny Cash, The Carter Family, Townes Van Zandt, The DRMLS.

Services Offered: Studio, remote, digital, analog recording & mixing; production and/or co-production available for albums & CDs. Private 8-track (demo) studio available for pre-production sessions. Extensive inventory of mics, tube EQ, JVC & Sony digital 2-track systems on hand!

A. GREGG ALEXANDER

Engineer
WEDGCO SOUND
328 Karrow Avenue, Whitefish, MT 59937
(406) 862-5161

Credits: Over the past ten years I have toured with such acts as: Commander Cody, Asleep at the Wheel, Alvin Lee, Edgar Winter, Pat Travers, Tommy TuTone, Greg Kihn, Whiskey River, and Leon. I am also a graduate of the Recording Workshop.

Services Offered: I am available upon notice for club and concert sound engineering, and will also send resume and equipment list on request.

STUART J. ALLYN

Engineer & Producer
ADR PRODUCTIONS, INC.
325 West End Ave., New York, NY 10023
(212) 486-0856

Credits: Mel Lewis Orchestra (20 years at the Vanguard), Hall & Oates, Aerosmith, Billy Joel, James Galway, Placido Domingo, Lionel Hampton, The DukesMen, Taylor Wines, Time magazine, Lee Jeans, COKE, AT&T Communications, Radio 1990 (USA TV), National Geographic specials, *Bud-denbrooks* (PBS), *Tony Awards* shows (ABC), Olympics (ABC), *Camelot* (HBO), Major League Baseball (NBC), etc.

Services Offered: We can oversee your entire project from start to finish or work on one aspect. Our 12 years of experience has covered: albums, videos, concerts, TV, film, theater, radio and advertising. We have associations with large and small studios, musicians, etc. and can supply the following services for any production at the right price: pre-production consultation (budgeting, studio bookings, schedul-

ing, instrument pre-programming, etc.); recording and engineering services (analog and digital); production services (composition, arranging, scoring, contracting, etc.); location recording (audio, video, film); equipment and microphone rental (including our extensive collection of vintage tube and ribbon microphones); location sound reinforcement mixing; mastering; post-production (video, film); jacket design and layout; plating, manufacturing and more.

Following is a list of independent producers and engineers who responded to our recent survey. The information was supplied by those listed, and thus *Mix* is not responsible for its accuracy. We urge other independent producers and engineers to get in touch with us in order to be included on our next update.

GREGORY ALPER

Engineer & Producer
ALTAVISTA MUSIC/ALPERTRACK STUDIOS
ALTA VISTA MUSIC PRODUCTION
77 Warren St., New York, NY 10007
(212) 349-8095

Credits: Produced, composed, arranged, performed records: Greg Alper Band, *Adelphi* (Billboard Pic); Johnny Copeland, *Rounder*; J. Beck, *Global*; Atlantix, *Wave*; Lovelace, *Lovelace*; Chesno Straiter, *New Leaf*; Healing Gems, *Gem*; Jingles and A/V: Amco, WPIX, AT&T, Chams, New Jersey, MTV, several independent films.

Services Offered: Sizzling sax solos (a la Jr. Walker, Mike Brecker), composing, producing, arranging in all styles: dance, rock, pop, jazz; commercial and film scoring, drum and keyboard programming. Studios: state-of-the-art 16-track, Soundcraft 24 channel board, Emulator II, digital mixdown, digital reverb, digital delay, digital drums, cuca-racha.

JIM ANDERSON

Engineer & Producer
86 Dexter Ave., Watertown (Boston), MA 02172
(617) 926-6914

Credits: Livingston Taylor, *Girls' Night Out*, *Life on Earth*, *Uncertain Terms*, *Curious Figures*, *The Roys*, *Men and Volts*, *Young Rationals*, *Pleasure Pointe*, David Cook, Larry Gould, *Prima Music*, *The Stable*, Michael Baker, *Capital Gain*, *Mir-*

ror Mirror, Maggie Galloway, Steve Berman.

Services Offered: In addition to engineering services and record production, I can assist with pre-production, including rehearsals, instrumental and vocal arranging, talent coordinating and session planning.

PAUL ANTONELL

Engineer & Producer
25 Rhinecliff Road, Rhinebeck, NY 12572
(914) 876-4382

Credits: Gospel At Colonus, Paris, LA, Atlanta, Philadelphia; The Warner Ant at Alice Tully Hall, NYC; Little Village, Five Blind Boys, Soul Stirrs, Terrance Boylan, Roger Powell, Big Noise, Chris Winham; Placido Domingo, AV Presentations: RCS Audio Visual, Comart Aniforms, IBM, Cambel's, Stuart Pham, Kraft, etc.

Services Offered: Pre-production, consultation, audio/visual presentations, soundtracks for industrial theater, complete 16-track production studio with MIDI, keyboards, drum machines and sequencers. Call for more information.

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DYNAMICS**

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AND PRODUCTION STUDIOS**

THOMAS E. APPELL
Santa Ana, CA

THOMAS E. APPELL

Director
VOCAL DYNAMICS
1420 E. Edinger Ste. 212, Santa Ana, CA 92705
(714) 835-3344

Credits: Allied Artists Record Co.

Services Offered: At Vocal Dynamics we specialize in private vocal instruction and top-flight vocal production. We train vocalists at all levels to sing expertly and work with them on their songs, line by line, giving specific direction, detailing how to improve every aspect of the vocal line. We then teach the singer how to execute the produced version of the song, and can assist with or completely produce the vocalizing on the recording date. We have studios located in West Covina, Santa Ana, Rancho Cucamonga, and San Clemente, California.

FRANK L. ARN**Producer**
BANTAM SOUND SERVICES4724 Kester, Sherman Oaks, CA 91403
(818) 907-5181, 997-0128

Credits: Staging and production on tours with: Rare Earth, Bob Seger, Parliament/Funkadelic (Mothership tour), Tommy Bolin, Keith Carradine (I'm Easy tour), George Benson (Breezin' & In Flight tours) and more. RIAA Gold Records "In Flight" with George Benson, platinum "Night Moves" with Bob Seger, and more. Prior education includes A.A. in Electrical Engineering. Certificate in Recording Engineering from University of Sound Arts.

Services Offered: Available for live showcases, consultations, independent recording engineering, live sound engineering for major tours, custom built racks, and home studio installations. Also a full service production company for new bands, including buying or renting complete pro P.A. systems, stage production, discounts on instruments, bookings, and demo recording dates in various major L.A. and San Francisco studios. For these services, sending band promos and tapes are a must. 1986 has been a great year. Recent projects include recording dates with Kenny James, Neil Henderson, Tuesday Night, Paul Warren, Mike Ejziz, Paul Sabu, Only Child, and the Smithsonian Institute for U.S. Government. Also concert dates and showcases with: Calif. Music Presentations, Paul Warren with Explorer, Tuesday Night, Little Bruce & the Billionaires, Rick Roberts Talent, Calvin James, Bill Lorden, Paul Sabu and Only Child, Neil Henderson, and more. Watch for more in '87. Thank you Mix Magazine and Jesus Christ.

RICK ASTER**Engineer & Producer**
BREAKFAST COMMUNICATIONSP.O. Box 42139, Philadelphia, PA 19101
(215) 639-4977

Credits: *Fast Food*, "Christmas Spirit," *Days Like This, As If* by Paul Nordquist; *High Dosage of Rock and Roll* by Fiver; *Paradise Road* by Hey; *Robots*; *Martial Law Has Been Declared All Over* by Rick Aster; *The Left*; *Thesaurus*; *Bah* and *the Humbugs*; *Dismembered Puppies*; *The Tough*.

Services Offered: We produce master tapes, demos, and jingles on any budget, specializing in British-sounding rock and pop. We have an extensive team of creative people on call who can handle absolutely any production or pre-production task, especially songwriting and re-writing, arranging, sequencing, playing and singing, vocal coaching, spiritual guidance, conflict resolution, and "problem" mixes. We also offer remote recording, PR, consulting, graphic design, and T-shirts.

DAVID AVIDOR**Engineer & Producer**
HOME PRODUCTIONS96 Sterling Place, #2B, Brooklyn, NY 11217
(718) 636-1245

Services Offered: Studio engineering for music and film; 2-track and 8-track remote recording; in-house 8-track/MIDI demo/pre-production facility; personal studio design, consultation, and installation; music arrangement and full-charge production.

CLIFF AYERS**Producer**
CLIFF AYERS PRODUCTIONS830 Glastonbury Rd., Ste. 614, Nashville, TN 37217
(615) 327-4538, 361-7902

Credits: Started producing records for his own label Emerald Records in New York in 1951. Through the years he has had productions released on Decca, Columbia, MGM, Discover, MCA and many other labels. Presently owns American Sound Records and produces some 20 artists.

Services Offered: Recording and video productions under American Sound Records and Emerald Records owned by Ayers. Music Town Distributors & Promotions Co. distributes independent labels and The Music City Entertainer Newspaper in its 13th year of publication. It promotes artists and has its own records charts called "HotPops." Cliff Ayers Productions also leases masters for its Emerald Record label.

JB**Engineer**
P.O. Box 120803, Nashville, TN 37212

(615) 385-9827

Credits: Dion, Elim Hall, Michael W. Smith, Chris Eaton, Amy Grant, The Imperials, Gary Chapman, Rich Mullins, Dallas Holm, Kenny Marks, Debbie Boone.

Services Offered: Aggressive recording and mixing.

SUZAN BADER**Engineer & Producer**
D.S.M. PRODUCERS161 West 54th St., New York, NY 10019
(212) 245-0006

Credits: Current: American Steel, *Shake Your Body Line*,

Lulu Records; Fonda Rae, *Last Train to Clarksville*, Urban Rock Records, 12-inch and 7-inch UR-922.

Services Offered: Pre-production, record production, film scoring, original composition, arranging, mixing (club and radio), commercial, documentary, industrials, post-production, tape copies: 15ips to 15ips, 1/4-inch, 1/2-inch, cassette duplication, Fairlight CMI 2x, and list of outboard available for rent upon request, including 24-track studios. Call for special requests.

DEAN BAILEY**Engineer & Producer**
3422 Beech St., Rowlett, TX 75088
(214) 475-9796

Credits: Ray Owens, Bergman & Roberts, Rich Gilliland-demos; 6 1/2 years of TM Country; *Golden Moments*, an Olympic Retrospective; simu-lite training programs; in-flight music services; commercial production for numerous advertisers.

Services Offered: Audio engineering including all facets from studio installation, maintenance, tracking, mixing, and producing. Specializing in mellow rock, country, jazz, radio specials, commercial production, and audio visual programs.

ARTHUR BAKER**Producer**
SHAKEDOWN SOUND
222 W. 37th St., New York, NY 10018
(212) 947-9170

Credits: Produced and mixed for various artists such as Daryl Hall, Cyndi Lauper, Carly Simon, Bruce Springsteen, Paul McCartney, The Pet Shop Boys, Jeffrey Osborne, etc.

Services Offered: Re-mixes, production.

MICHAEL BARBIERO**Engineer & Producer**
c/o Advanced Alternative Media
277 Church St., New York, NY 10013
(212) 334-9556

Credits: Aretha Franklin, Anphaville, Cutting Crew, Tesla, Whitney Houston, Irene Cara, Psychedelic Furs, Rolling Stones, Phantom Rucker & Slick, Icehouse, Pat Benatar, Tears for Fears, John Lennon, Julian Lennon, Belovis Some, Journey.

Services Offered: Re-mix specialist, producer, engineer.

ANDREW BARRETT (SCHWARTZ)**Producer**
LIONELLA PRODUCTIONS
7 W. 14th St., Suite 8G So., New York, NY 10011
(212) 620-3122

Credits: Melis'a Morgan, Candi Staton, Carol Douglas, Carboy.

Services Offered: Creative, Top 40 oriented production services with an ear for highlighting strengths of artist. Arranging, songwriting, and keyboard playing are available. Full pre-production and production staffs on call.

JIM BARTZ**Engineer & Producer**
Royal Recorders, Americana Resort, Hwy. 50
Lake Geneva, WI 53147
(414) 248-9100

Credits: Tools of Romance, The Ultraviolet, (eng/prod) Tom Holland, Aast Bon Jovi, Cheap Trick, Survivor, Chuck Mangione, John Hunter, Daryl Steurmer.

GEOFF R. BENSON**Engineer & Producer**
FRONTSTREET MUSIC
P.O. Box 15611, St. Louis, MO 63163
(314) 773-9297

Credits: Ozark Airlines, Southwestern Bell Freedom Phone, KangaROOS shoes, Fashion Gal stores, Sandoz Chemical, Venture stores, "On This Rock" A Look Inside the Vatican.

Services Offered: Synclavier composer/producer. Original compositions in music and sound effects. Specializing in post-scores for commercials and film. Record production. Synclavier digital music system, with 32 polyphonic sample voices, SMPTE, MIDI, 16 FM voices, 12 Meg RAM, Linn 9000, Yamaha DX7 and TX-816, Prophet 600.

GLENN E. BERKOVITZ**Engineer**
SPINNING REEL SOUND SERVICES
11929 Windward Ave., Los Angeles, CA 90066
(213) 313-2776

Credits: Television/film credits include *Godzilla '85*, *To Live & Die in L.A.* (MGM/MTV), *Max Maven* (Universal), and too many commercial and music video projects. Music credits include ongoing independent album projects, and numerous jingles and demos.

Services Offered: Specializing in audio—production and post-production—for film and television. I bring to my work a thorough knowledge of all systems in use today. From incorporating digital and time code technologies in my production recording equipment and techniques, to helping create full MIDI/SMPTE recording and scoring studios, I seek to implement and incorporate all of what is currently going on into my work to produce a more cohesive and satisfying result. Large or small, it has to be good, and, hopefully, fun.

BILL BERRY**Engineer & Producer**
MUSICON
1820 Moreno St., Oceanside, CA 92054
(619) 721-2029

Credits: Worked with John Ford Coley, Jimmy Stewart, Celedonio Romero, countless others on projects ranging from pop, classical, R&B, and soundtracks, to gospel, sound FX, and over 1000 international radio broadcasts.

Services Offered: Arranging, producing, engineering, and programming. Personal studio featuring Yamaha, Kurzweil, Ensoniq, Oberheim, E-mu SP-12, much more.

MIKE BILLINGSLEY**Engineer & Producer**
STRAIGHT ARROW RECORDINGS
3 1/2 Kent St., Montpelier, VT 05602
(802) 223-2551

Credits: Wood's Tea Co., Chattaqua Symphony Orchestra, Vermont Opera Theatre, Plainfield Village Gamelan, Grupo Aymara, Real Steel, Seleshe Demassae, Africa djole, Pat Metheny, Michael Hedges/Daniel Hecht, Gloucester Sea Life Festival, Vermont Choral Festival, Treacha O'Driscoll, Michel Cuisson/Ike Ueno, Vermont Brass Quintet, Michael Arnowitz, Night Gelerlach Klezmer band, Vermont Philharmonic Orchestra, Flor de Cana.

Services Offered: Location performance recordings—live to digital, live to 1/2-track or 4-track; location sound effects and ambience; audio for video/on-location sync digital; multi-track mixdown; album production from performance recordings. Small post-production and demo studio (BACK-TRACKS). Particularly interested in acoustic voice and instrument ensembles including ethnic, classical and folk, and solo voice/instrument performance in good halls; and experimental works, including electronic.

CRAIG R. BISHOP**Engineer & Producer**
INDEPENDENT RECORDING SERVICES
27 W. 75th St., #4B, New York, NY 10023
(212) 581-6470 (service), (212) 580-0974 (office)

Credits: The System, Tommy James, Spyro Gyra, John Hall Band, Change, Ornella Vanoni (featuring George Benson, Herbie Hancock, Brecker Brothers), Airrace, Kool & The Gang, Lenny Kaye Connection, Go Ahami (Nippon Columbia), television. Producers: Reggie Lucas, Deodato, Jimmy Ienner, Terry Lewis & Jimmy Jam, Alan Lanier, Liggett & Barbosa, Carlos Alomar.

Services Offered: Extremely experienced and diversified freelance engineering from a strong production background (former senior engineer with a highly successful and innovative NYC music production house). Grammy nominee with international credits. Closely affiliated with George Benson's state-of-the-art Broadway productions. Other services range from Synclavier programming to coordinating complete world class production packages. Sensitive to artistic needs and respectful of budgetary realities.

MICHAEL BITTERMAN**Engineer & Producer**
MIDNIGHT MODULATION
2211 Pine Lane, Saugerties, NY 12477
(914) 246-4761

Credits: Produced and engineered *Woodstock—Moods & Moments* (Prism Records); *Five After Eight* (OC Records); *Company Wife*, Denise Finley; engineered Jean Redpath (Rounder); Priscilla Herdman (Flying Fish); John Hall, Dan Brubeck, The Band; John Sebastian; Orleans.

Services Offered: I own and operate Midnight Modulation, a fully loaded 16-track studio w/full MIDI setup. Located in Woodstock, NY, I have access to many of the fine musicians here. I have produced artists ranging from folk music to pop to cabaret to rock. I can give you a state-of-the-art sound for a fraction of the price. I am extremely eclectic and will serve every project on its own high merits—from production through engineering, and finally, mastering.

JOHN P. BLACKWELL**Engineer & Producer**
BEDLAM RECORDS
388 Marietta St. N.W., Atlanta, GA 30313
(404) 525-9193

—LISTING CONTINUED ON NEXT PAGE

—LISTING CONTINUED FROM PAGE 151

Credits: Tomb Stones, Anti Heros, Up Beats.
Services Offered: Cigarette lighting, record production, video production, psychoacoustic imagery specialist; from classical to hard core.

DAVID BLADE

Engineer & Producer
SOUND SOLUTION RECORDING
1211 Fourth St., Santa Monica, CA 90401
(213) 393-5332

Credits: Animal Dance, Atila, Babylon Warriors, Raymond Berney, Clark Sisters, Jimmy Cliff, George Clinton, Doll Congress, Doris Day, Richard Greene, Bruce Johnston, Susan Lynch, Barry Manilow, Terry Melcher, MGM—*Seven Brides for Seven Brothers*, Dudley Moore, Fred Myrow, Penny Royal, Jim Photogloss, Mary Ann Price.
Services Offered: 24-track studio, complete production, project management, concert sound mixing, albums, demos, TV and film scoring, etc. My commitment is to provide the highest service possible to my clients, making every step as effortless as possible.

BO BLAZE

Engineer & Producer
BLAZE PRODUCTIONS
46 W Passaic St., Maywood, NJ 07607
(201) 845-9175

Credits: Various local and national acts! Please call for more information.
Services Offered: An East Coast connection! Top quality masters, demos, singles done by top industry professionals. Will fit the right producer, engineer, arranger, writer, musician, etc. to your budget. We work with all major studios in NY and NJ. Our engineers and producers have worked with the best of all styles: Bill Cosby, Stevie Nicks, James Brown, Grover Washington Jr., Pete Townsend, Alan Vega, Joan Jett, Wendy O'Williams, etc. as well as hundreds of independent and local acts.

PHIL BONANNO

Engineer & Producer
Royal Recorders, Americana Resort, Hwy 50
Lake Geneva, WI 53147
(414) 248-9100

Credits: Survivor, Pretty Boy, Amusement Park Band, Cuff Johnson, John Hunter, Slyx, Bachman Turner Overdrive, Ruby Star, Gary Lyons, The Outlaws, Tommy Shaw, Daryl Stuermer, Bon Jovi.

ROBERT BOTH

Engineer & Producer
TWAIN PRODUCTIONS
18 Hiawatha Pass, West Milford, NJ 07480
(201) 697-7540

Credits: James Brown, The JB's, Lyn Collins, Robert Kraft & the Ivory Coast, Hank Ballard, Mutha Records, I.R. Records, The Watch, Tom Storms, Tito Rodriguez Jr., and others. Three gold records for work with James Brown.
Services Offered: Engineering and/or production services in own 24-track studio or studio of your choice—will travel. Musical directions: rock, pop and jazz; solo performers or groups.

JIM H. BOYER

Engineer & Producer
JAMES BOYER COMPANY
P.O. Box 303, South Salem, NY 10590
(914) 763-5086

Credits: Producer: Three-Speed, Rupert Holmes, Peter Cetera, CBS/multi-artists, Sophie Sara Dakis. Engineer: Billy Joel, Steve Winwood, Paul McCartney, Patti Austin, George Benson, Chicago, Kenny Loggins, Linda Ronstadt, Paul Simon, and Manhattan Transfer. Feature films: *Places In The Heart*, *Arthur*, *Silkwood*, *Yentl*, *Easy Money*. Have also recorded and engineered music for multiple television and video shows.

GARY VAN BOYLAN

Engineer & Producer
GARRISON SOUND
256 Woodbury Rd., Hicksville, NY 11801
(516) 822-5562

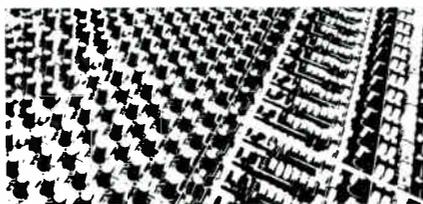
Services Offered: 2- to 24-track recording and mixing. Complete audio and video production; studio or remote videotape editing; teleprompter rental and operation.

JOHN BOYLAN

Producer
GREAT EASTERN MUSIC
6420 Wilshire Blvd., 19th Fl., Los Angeles, CA 90048
(213) 851-2944

Credits: Boston, Little River Band, Charlie Daniels Band, Quarterflash, Linda Ronstadt, KBC Band, Carly Simon,

INDEPENDENTS



various soundtracks: *Urban Cowboy*, *Footloose*.
Services Offered: Production, publishing (contact: Teri Weigel).

ERIC T. BRANDT

Engineer & Producer
ALPINE RECORDS INC.
P.O. Box 6007, Malibu, CA 90264
(213) 456-0096

Credits: Music video of "Flyin' High"—MTV Basement Tapes winner; *Beyond the Edge*—Warren Miller ski feature; sports/documentary film soundtracks; comedy/novelty rock album—*Ski Patrol*; "Galaxy High" TV series.
Services Offered: Serious demo production/engineering, TV music production, consultation in the following: synth programming, sampling (Emulator, SP-12), MIDI/ SMPTE configurations and applications, audio/video sync and sweetening, sequencing with the Macintosh. Also: video/film production and direction. Call me if you have questions!

BRYAN BREWER

Producer
EARTH VIEW INC.
6514 18th Ave. N.E., Seattle, WA 98115
(206) 527-3168

Credits: Interactive AudioMation CD demonstration system.
Services Offered: We specialize in creating interactive audio for computer/CD applications in all CD formats: CD audio, CD-ROM, and CD-I. Services include audio user interface design, storyboarding, scripting, recording, post-production, and pre-mastering for CD replication. Application areas include education, entertainment, reference, music, and professional recording. Software development is also available.

JAMIE BRIDGES

Engineer & Producer
1474 Hauck Dr., San Jose, CA 95118
(408) 723-3125

Credits: I've engineered and produced in the San Francisco Bay Area and L.A. for eight years recording every style and sound imaginable—some famous, some not.
Services Offered: I can engineer and produce your project without getting in the way of your music, or work with your producer. I can also help you find a studio or studios that best suit your music and budget.

HARRY BROTMAN

Engineer & Producer
BROTMAN MUSICAL SERVICES
19010 Avers Ave., Flossmoor, IL 60422
(312) 799-7711

Credits: Recent national airplay: Robin Angel (CBS) final mixes; Sandy Torano (Atlantic) lead vocals/mixes; Calvin Bridges, "Renew My Spirit" (IAM/Lexicon) final mix. Albums—Sole Recorder: Eddy Clearwater, *Flimdoozie* (Rooster/Flying Fish); Johnny B. Moore, *Hard Times* (Blues/R&B); Byther Smith, *Gritty Soul* (Gnts/Mina); Music Tracks—Chi-Lites England tour.
Services Offered: Engineering, co-production, production, analog and FM digital synthesis; 11th year working Chicago/land and beyond. Requestable at main line 24-track facilities, including ARS Studio, Seagrave, Startrax, P.S. Recording, Prism, Sonic Art, and Jor-Dan. Full-service packages are also available in Houston and Jamaica. European near-field monitors/amplifier system goes everywhere. Also, European condenser and ribbon microphones plus various outboards (16 channels of the good stuff!). Custom pre-/post-production assistance on all projects is included.

BRETT BROWN

Engineer & Producer
RENEW SOUND PRODUCTION
2516 El Camino Real, Redwood City, CA 94061
(415) 366-4212

Credits: Cornelius Bumpus (Doobie Bros.), Mingo Lewis

(The Tubes), Sterling Crew (Santana), Mark Adams (John Entwistle), Henry Small (Prism/John Entwistle), Rock Hendricks (session sax player for Motown).
Services Offered: Professional 16-track recording, engineering and production services.

GLENN BROWN

Engineer & Producer
AUDIOGRAPH PRODUCTIONS INC.
2810 Bennett, Okemos, MI 48864
(517) 332-3272

Credits: Commercial/Industrial: Dow, Amway, Upjohn, General Motors, Oldsmobile. Albums: Fastracks, Jellyroll, Cave Gods, Dave Barrett, Invisible Ink. Tribal Dance Method, over 30 album credits.
Services Offered: In-house 24-track studio w/Studer ABOMKIII, NEOTEK 32 input series II, Emulator II w/extreme library. Perfectionistic approach.

SCOTT BROWN

Engineer & Producer
QUEST MUSIC
3078 Florida Blvd., Lake Park, FL 33410
(305) 626-7808

Credits: Client list not available for publication. A demonstration cassette is available for \$50 refundable towards contract terms.
Services Offered: Will produce high quality demo tapes, or "masters" of bands or individuals. A musician pool and private studio are available for the exclusive use of clients. Will provide engineering services at any location in south Florida. Quest Music focuses on contemporary rock music and reserves the right to reject potential clients.

STACY BROWNRIGG

Engineer
1129 Settlers Way, Lewisville, TX 75067
(214) 393-2606, 436-0905

Credits: Brown Mark, Kim Sharp, Rod Autoon, Boyfriend, Richard Thuisen, Benita, The Mason Dixon Band, Jerry Jeff Walker, numerous motion picture soundtracks, and local artists. Resume upon request.
Services Offered: Multi-track recording and mixing. Equipment available: Nagra 4.2, Mac Plus, Apple IIe, DX7, TX-816, Memory Moog plus, Linn 9000, Linn LM-2 with MIDI, various delays, reverbs, effects and mics. Eight years experience. Audio and video production available.

CHRIS BUBACZ

Engineer
87-86 116th St., Apt. D-5, Richmond Hill, NY 11418
(718) 411-5271, (914) 362-1620
Services Offered: Engineering, co-production.

EDWIN BUKONT

Engineer
EB AUDIO
7513-201 Republic Ct., Alexandria, VA 22306
(703) 765-8397 (Washington, DC area)

Credits: New Music Festival IV & V—National Public Radio; Proof of Utah; Midwest Summer Show Choir Camps; Voice of America—field operations; studio construction in Barbados, Costa Rica, Houston, TX. Member AES.
Services Offered: Consulting engineer for design, maintenance or operation of audio recording and sound reinforcement systems. Repair and alignment of audio equipment including consoles, processing devices, recorders, distribution systems. Trained in repair of Nagra IV series, MCI JH-110, Studer A810, Otari MX5050. Available as local technician for touring companies and contract maintenance of audio facilities.

LELAND BURNS

Engineer & Producer
LELAND BURNS AUDIO SERVICES
4940 Madella, Ft. Worth, TX 76117
(817) 834-8281, 429-0764

Credits: Sumet-Bernet Sound Studios, Stone Mountain Band, NTSU One O'clock Lab Band, Mary Kay Cosmetics, Healing Faith, MJM Productions "The Unexplained," Jerry Max Lane, Al Hirt, Danmark Recording, Dizzy Gillespie, Larry "T-Byrd" Gordan, Incredible Productions Inc., Chili's "Baby Back Ribs," Bnan and Fouts Music.
Services Offered: Recording/mixing engineer for studio recordings, live concerts, TV broadcast; editing and special event programming; producer for numerous radio features and short dramas and recording sessions; film/video producing and audio for film/video; photography/cinematography skills for sporting events and concerts; writing credits for Pro Sound News; current manager of Studio Services Inc./Studio Supply Co. of Texas.

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TASCAM

ATR-80/24

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AMR 24

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There's new awareness of noise, crosstalk and distortion. The immediate future of recording makes nonsense of many analog specifications. As clarity and transparency of sound becomes the goal, consoles must offer greater sonic integrity as well as more advanced operating features.

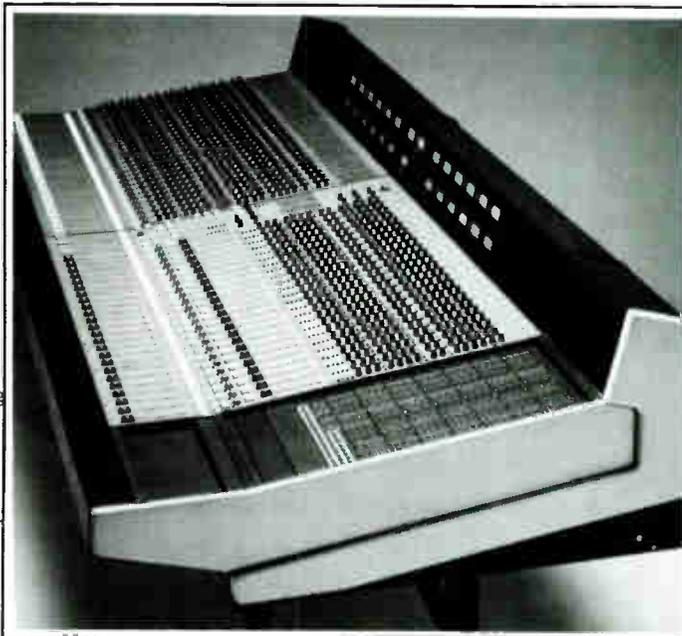
Major console design has certainly moved forward in terms of facilities, yet overall performance rarely strives to improve on what the analog magnetic medium can achieve. Indeed, the signal path often suffers from ever increasing circuit complexity.

The DDA AMR 24 is significantly different. While offering all the facilities expected from a major console, painstaking attention has been applied to optimize every stage in the audio chain.

Most significantly, the AMR 24 offers a design philosophy that has not been abandoned in the context of mass production.

Every circuit and operational detail has been realized to offer major console performance that will not be outdated by fashion.

On closer inspection it is apparent that the features accommodate not only contemporary recording techniques, but also offer scope to develop new ways to mix synchronized tracks.



DDA AMR 24

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DEAN BURT*Engineer*
dB PROD.7248 Shoshore Ave., Van Nuys, CA 91406
(818) 881-7241Credits: Whitney Houston, George Benson, Jeffrey Osborne, Peabo Bryson, Teddy Pendergrass, Crystal Gayle, Stacy Lattisaw, Bryan Scott, Living Color.
Services Offered: Pre-production and production consultation, producing, engineering and programming.**TONY CAMPBELL***Producer*RFO INTERNATIONAL
4651 Lochshin, Houston, TX 77084
(713) 550-5470

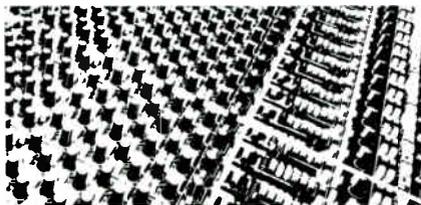
Credits: Al Campbell, Don White, Little John, RFO Posse, Toney Campbell, Reggae Fever Band, The Obidike Rappers, Obidike Kamau (Dub Poet).

Services Offered: Arranging, mixing, producing, promoting to pressing. Label and jacket design also available upon request.

CARL CANEDY*Producer & Engineer*ROCK CANDY PRODUCTIONS
156 Fifth Ave. Rm. #623, New York, NY 10003
(212) 477-5787; Contact: Bob Schwaid

Credits: Spreading the Disease, Anthrax; Feel the Fire, Overkill; Heavier than Thou, The Rods; Rolling Thunder, Atilla; Possessed, Beyond the Gates; Hollywood, CFBC; The Beast is Back, Blue Cheer; Gone with the Wind, Rhett Forrester; Thrasher, Thrasher; Out of the Darkness, Jack Starr; Violence & Force, Exciter; E.X.E., Slayer.

Services Offered: World class production; sensitive to artists goals. Arranging, publishing, computer assisted pre-production, MIDI sequencing/drum programming. If needed we will write with or for the artist, as well as help them find the right songs. Referrals. Looking for the strong new artists. Resume on request.

KEVIN H. CARLSON*Engineer & Producer*CARLSON PRODUCTIONS, INC.
1014 Shadowood Pkwy., Atlanta, GA 30339
(404) 952-8459**INDEPENDENTS**

Credits: Available upon request.

Services Offered: At Carlson Productions, Inc. we can handle your entire project or just part of it. We have experience in albums, re-mix, live recording, advertising, and radio. We also provide pre-production consultations, engineering, budgeting, programming, mastering, manufacturing, and many other services designed to meet your needs. Call us to discuss your next project.

PETER M. CARLSON*Engineer & Producer*HAVE EARS WILL TRAVEL
P.O. Box 1454, Aptos, CA 95003
(408) 688-9295

Credits: Bob Brozman, Lucy J. Dalton, Manfred Mann's Earth Band, Chris Thompson, and Patrick Simmons.

Services Offered: Audio engineering for any purpose, production techniques, audio consulting.

RON CARLSON*Engineer & Producer*427 Carroll #1, Boone, IA 50036
(515) 432-6425

Credits: Engineered and produced for Allen/Carlson, Messengers of Love, Kent Hofmeister. Assisted for Benson, The Soul Searchers, Hank Loake Band.

Services Offered: Have had four years experience with NEOTEK/MCI setup at local studio. Versatility and an open ear are offered with the understanding that music is a

creative form of your self-expression. Can offer an intelligent third opinion. Getting it right to tape better than fixing it in the mix. Also have had limited experience with doing live sound reinforcement.

RODGER EDWARD CARPENTER/RON GRESHAM*Engineer & Producer*

INNOVATIVELY STYLED PRODUCTIONS

c/o Chicago Trax, Inc.
3347 N. Halstead, Chicago, IL 60657
(312) 525-6565, 525-8491

Credits: Among our credits for records, labels, live mixing and tours are: Superbowl Shuffle, Midnite Star, Bang Orchestra, Union Station, Jesse Saunders, Victor Romeo, Marshall Jefferson, Gavin Christopher, ZZ Top, Kiss, Ted Nugent, Aerosmith, Hall & Oates, No Sovereign, Warner Bros., Gelfin, CBS, MCA, Polygram, Bright Star records. Also numerous independent labels, feature and independent films, commercials and industrials.

Services Offered: The development of new Sonic directions and the art of innovative production. Studio engineering, programming on an extensive variety of synths, drum machines, computers, samplers and many different types of specialized effects; also, sequencers and other MIDI based systems. We can take your project from concept to completion very cost effectively.

STEVE CARR*Engineer & Producer*

HIT AND RUN STUDIOS

18704 Muncaster Rd., Rockville, MD 20855
(301) 948-6715

Credits: Bruce Springstone "Live at Bedrock," Meet the Flintstones (Billboard Pick Single, Nov. '82), Tommy Keene Places That Are Gone, 1984 Village Voice Number One E.P. of the Year. Oho "Change in the Wind" Musician magazine Best Unsigned Band in America—first place winner, Tommy Keene (Griffin Records) "Listen to Me" (single B side).

Services Offered: Helping musicians reach their goals.

JOE CHICCARELLI*Engineer & Producer*1835 Sunset Plaza Dr., Hollywood, CA 90069
(213) 654-2064

Credits: Pat Benatar, Robert Tepper, Frank Zappa, Poco, Lone Justice, Oingo Boingo, Stan Ridgeway, Romeo Void, Bongles, Bob Geldof, Alison Moyet, George Thorogood, Red Rider, Glen Frey.

PAUL CHITEN*Producer*c/o Naked Prey Music
1226 Harper Ave., Suite 4, Los Angeles, CA 90046
(213) 656-3775

Credits: Worked with Michael Jackson, Tina Turner, Commodores, Five Star, Natalie Cole, Pointer Sisters, Jose Feliciano, The Breakfast Club, Suzette Charles. Music for films: Witness, Gung Ho, Transylvania 6-5000. Music for television: The Hollywood Beat, Solid Gold. Records for RCA, Arista, CBS, Warner Brothers, Motown, MCA, Polygram, Capitol. Wrote Five Star's hit record: "Can't Wait Another Minute."

Services Offered: Producing, writing, arranging, and mondo monster keyboards.

PAUL CHRISTENSEN*Engineer & Producer*OMEGA AUDIO
8036 Aviation Pl., Dallas, TX 75235
(214) 350-9066

Credits: Johnny Cash, Ben Vereen, Anne Murray, Willie Nelson, Quarterflash, Commodores, Oak Ridge Boys, Ray Charles, Merle Haggard, Helen Reddy, Pat Benatar, Sammy Hagar, Hall & Oates, Art Garfunkel, Al Jarreau, Boomtown Rats, and over 200 major artists in past 13 years.

Services Offered: Engineering and producing services with emphasis on audio for video and film. Specialty is consultation for live video shoots from concept to completion. Extensive experience in digital audio/video interlock, stereo television, video disc and video cassette release both Beta and VHS hi-fi.

ALEX CIMA*Engineer & Producer*1501 E. Chapman Ave. Ste. 100, Fullerton, CA 92631
(714) 680-4959

Credits: Alex Cima and On-Line's "Solid State" video and LP; previous releases on Deutsche Grammophon/Polydor International-Germany, GNP-Crescendo, and Chromosome labels. All TV networks, Select TV, films, trailers, audio-visual, radio/TV commercials, and special projects for major entertainment companies. Detailed resume on request.

Services Offered: Audio recording/production, analog

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KIRK W. CIRILLO

Engineer & Producer
NEW MUSIC STUDIOS
2A Mansion Woods Dr., Agawam, MA 01001
(413) 789-2264

Credits: Rockville Records, The Cartells, Bill Zucker (BZB Band), Platinum Forge, Hot Shot, "Star Search," "MTV," Sheri Christian, Group Therapy (Picture This), Tom Cote, Tom Whalen, Delicate Instrument, Roger Parenteau, Dave Colucci, Rich Devin, Billy Hollerman, Music Media Productions, Flyer, P.S. Pat & Steve.
Services Offered: State-of-the-art engineering with honest advice and direction.

MICHAEL COLLINS

Engineer & Producer
THE COMMERCIAL REFINERY, INC.
2105 Maryland Ave., Baltimore, MD 21218
(301) 685-8500

Credits: Mission's *When Thunder Comes* LP; Mission's *The Last Detail* LP; *8 Essential Attitudes* compilation LP; *Relative Theory's Hard Times* LP; *Majestic's Mystical Teaser* EP. Major market radio commercials for Ford, Dodge, Toyota, Nissan, Colt 45, O'Keefe, National Premium, Klondike ice cream, Merry-Go-Round, Equitable Bank, and Commercial Credit.

Services Offered: Chief engineer at The Commercial Refinery, and staff producer for Frantic Records. Freelance engineering and producing, live sound reinforcement, and sound consultation. Radio and off-camera TV commercial production, slide/video/film audio production, LP/EP/single production.

TOMMY COOPER

Engineer
THOMAS L. COOPER, JR.
550 Cranberry Place, Roswell, GA 30076
(404) 998-9621

Credits: Melissa Manchester, Paul Davis, Commodores, Nigel Olsson, Dony McGuire & Reba Rambo, Peabo Bryson.
Services Offered: Engineering, production, arrangement. Strong background in many styles of music.

JUAN COVAS "PERICLES"

Engineer & Producer
ALFA RECORDING STUDIOS
Cacique 2058 Ocean Park
Santurce, Puerto Rico 00911
(809) 727-1732, 790-9872

Credits: Eng. & Prod.: Beyond, Elliott Matter, Cotui, Electric Cloud. Others: Bobby Caldwell, Chuck Armstrong, Betty Wright, Miami Disco Band, Danny Rivera, Chirino, Lucecita Benitez, Ismael Miranda. Jingles for radio and TV, ID's, Glenn Monroig, some records co. TH, CBS, Mamoku, Lobo, Codiscos, Fania, Salsoul.

Services Offered: Multi-track recording/mixing, live sound mixing and reinforcement, Q.Lock in audio and video sync, digital mixes. Hardworking engineer with creative ideas and good ears to make you sound the way you like. "We have got the sound you want!"

TIM COX

Engineer & Producer
TC PRODUCTIONS
50-12 Donna Ct., Staten Island, NY 10314
(718) 983-1913

Credits: Ashford and Simpson's "Solid" and "Real Love" LPs; Pat LaBelle's "A Winner In You"; Victor Willis (formerly of The Village People); Bruce Roberts and Andy Goldmark; Jennifer Holiday; ABC's daytime drama *Loving, Life-styles of the Rich and Famous*; Barry Finnerty; McGarrigle Sisters; Gina Gina (of Kid Creole and the Coconuts).

Services Offered: Engineering and producing all styles of music. Contracting of musicians and studios to fit any budget. IBM based sequencing and patch librarian utilizing Octave Plateau's Sequencer Plus. Getting more than your money's worth is our business!

R.T. "TABBY" CRABB

Producer
TCR PRODUCTIONS
Rte. 2, Box 4, P.O. Box 589, Charlotte Hall, MD 20622
(301) 884-3709

Credits: Six Top 100 Country Cash Box in 1986 for Mercedes, TC Roberts, and The Brickers. Produces Top 40 folk rocker, Sam Neely. Has helped five acts break the charts since 1984. Formerly with The Urban Cowboy Band. Producer of The Tidewater Report on the public radio satellite. Owner db Records.

Services Offered: Independent production and consultation. Low budgets a specialty. Cost effective. Records 24-track in Nashville and New York. 8- and 16-track in-house

with up-to-date rack. Assistance with single distribution and promotion. Produces with emphasis on "feel and character." Likes to get to know the artist and tailor facilities and personnel around the artist's talent and personality.

AL CRAIG

Engineer
REMOTE AUDIO PRODUCTION SERVICE
4410 Park Ave., Nashville, TN 37209
(615) 297-0513

Credits: CBS, ABC, PBS, ESPN, CBN, VH-1, TNN, USA.
Services Offered: Remote audio production: live album engineer, TV concerts, TV specials, sports productions, mixdown engineer, P.A. mixer, commercials, industrials. Synclavier programmer (E-mu II, Linn 9000, DX7 also). Arranger, saxes. Specializing in unusual and difficult audio set-ups. I have been involved with remote television and recording for the past ten years. Whether live, live to VTR, or multi-tracked, from one mic to 50, one camera or 20, R.A.P.S. has done it before and can do it again, for you.

WARREN (RUSTY) CRAWFORD

Producer
CRAWFORD PRODUCTIONS
P.O. Box 1192, New Smyrna Beach, FL 32070
(904) 427-6626

Credits: Fairlight CMI programming with John Philip on Atlantic Records and AWOL Album; original music for *Bike Week '86* video. Staff member Harold Blanchard is the composer of an album, *New Earth Sonata* featuring Hubert Laws, Chick Corea and Quincy Jones still in the top ten on CBS Masterwork after a year.

Services Offered: Music for television and motion pictures. With the recent installation of the Fairlight CMI, Crawford Productions of New Smyrna Beach, Florida is now specializing in the field of custom and audio sound effects and music productions for television and motion pictures. The Fairlight CMI is mobile and Crawford Productions is available for contract on a project or per diem basis.

T.R. CULBERTSON

Producer
POSITIVE AUDIO
A division of Positive Video, San Carlos, CA
1250 San Carlos Ave., San Carlos, CA 94070

(415) 595-4041

Credits: Commercials: First National Bank of Monterey, Winner Chevrolet, Hyatt Regency of Monterey, St. Joseph's Hospital. Video Sound Scores: Apple Computers, Syntex Corp. Ad Exchange.

Services Offered: Original composition and arranging. Lync composition, video and film special effects and scoring, vocal training, owner of two 24-track recording (studios) facilities, B.A. degree Voice; M.A. degree Composition and arranging. Groups: The Young Presidents—Paris; The Med Flvs. Solo Artist—Pat DuVal.

J.R. CUMMINS

Producer
SOUNDSTAGE I PRODUCTIONS
13270 6½ Mile Rd., Battle Creek, MI 49017
(616) 979-1532

Credits: Jingles and/or original music/soundtracks for such clients as: Whirlpool, North American Van Lines, Dolly Madison, Bil-Mar Foods, Upjohn, State of Michigan, Archway, Scores of Regional Music Works, Lansing General Hospital, Felpausch, Madel Hill, Liela, Gilmores, Savannah Light & Power, U.S. Government, many more.

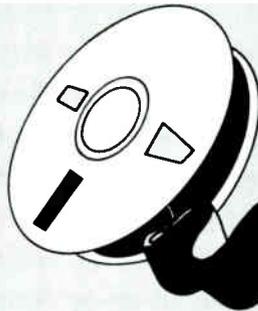
Services Offered: Original music scores for corporate advertising clients. Including audio for video, motivational, training, industrial, and commercial music. We pride ourselves on consistently producing superior product, through our experienced staff, and up-to-date technology.

JOHN CUNIBERTI

Engineer & Producer
LAUGHING BOY PROD.
245 Hyde St., San Francisco, CA 94102
(415) 474-0377

Credits: 1986 LPs and singles for Dead Kennedys, Whispering Lion, Until December, Big Bang Beat, Ronnie Montrose, Victims Family, Rhythm Pigs, Caribbean Allstars, Jah Big, Razor Maid, Don Pender, Joe Satrioni, Blue Movie, Lambs Bread, The Stickers.

Services Offered: Recording engineer (eight years' experience) 12-inch dance remix producer, state-of-the-art record production of all aspects start to finish, Laughing Boy Productions is always looking for new and interesting music for production deals and record contracts, write for more info, or send tapes to address listed.



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TOM CUNNINGHAM

Producer
CUMMINGHAM WEST STUDIO
 Kommandanten Strasse 90
 1000 Berlin 45, West Germany
 030-833-1524

Credits: Queen Yahna, CITY (DDR), Romy Haag, Robert Bauer, Rik De Lisle, RIAS 2 and Eurosound jingles, film scores.

Services Offered: Complete musical production services in the studio and pre-production. American with years of experience as record producer in Europe. Background: writer, artist, instrumentalist, arranger (three solo LPs). Specialties: empathy for singers, musicians, groups ("I've been there"); international musical outlook; originality; technical know-how; absolute correctness in business details. Fluent in German. Final and/or pre-production possible in own facility, Cunningham West Studio. Can also supply original songs and lyrics.

DAVID DACHINGER

Engineer & Producer
RECORDING AND SOUND SERVICE
 222 Willow Ave., Hoboken, NJ 07030
 (201) 659-3473

Credits: Isley-Jasper-Isley, Third World, Mtume, Arnold Schwarzenegger, Jane Fonda, Arthur Baker, Was (Not Was), Full Force, Tyrone Brunson, Burger King, Miller Beer, Pioneer Stereo.

Services Offered: Production, engineering, original compositions, synth and drum machine programming.

JON "MR. BIG" D'AMELIO

Engineer & Producer
 P.O. Box 120884, Nashville, TN 37212
 (615) 883-8086 or 883-9600

Credits: Alabama, Marshall Tucker Band, Jerry Dale McFadden, Susan Marshall, Government Cheese, Bigamy Brothers, The Dusters, Scott Tjut Music, Tom Dowd, Opryland USA, Alex Zanetti, Cynthia Clawson, Earl Thomas Conley, Charlie Daniels, Merle Kilgore, Mack Vickery, Bobby Harden, Jean Sheppard Band, Brice Henderson, Webb Pierce, Craig Southern, Union Station, Reptile Records

Services Offered: Record production and engineering, live recording and mixing, studio design, song plugging, artist management, photography, album packaging, video concepts. Multi-track/digital studios used: Chelsea, 1030 Studios, Sound Emporium, Studio 1111, Sound Connection, LSI, Treasure Island, Sound Shop, Jack O'Diamonds (studio manager).

ROBIN DANAR

Engineer & Producer
SQUID PRODUCTIONS
 1689 1st Ave., #1, NY, NY 10128
 (212) 289-5868

Credits: Suzanne Vega, Garland Jeffries, Randy Newman, Linda Ronstadt, Ry Cooder, Buster Poindexter, Kids in the Kitchen, Uptown Horns, Urban Blight, Pedantiks, Joy Askevew, Crossfirechoir, Michael 7, Doc Roc, Longhouse, Velveen, Sylvain Sylvain, Joey Balin, Richard Lloyd and Lonesome Val.

Services Offered: Squid Productions provides both recording, engineering and production services and live engineering and production services. Studio specialties have been high quality-low budget demos and independent records, with several subsequent major label releases. Live specialties have been coordination of shows and live mix in all the major New York venues (Ritz, Limelight, Palladium, World, CBGB, Bottom Line, etc.) as well as major and support tours. Live mixes for television shoots have also been coordinated for Showtime and MTV, as well as local cable networks.

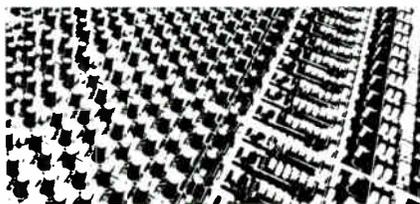
MAL DAVIS

Engineer & Producer
HEARING EAR
 730 S. Harvey, Oak Park, IL 60304
 (312) 386-7355, 653-1919

Credits: *The Master & Musician*, Phil Keaggy; *Mourning To Dancing*, James Ward; Jessy Dixon; Ken Medema; Northern Illinois University Jazz Band; *Chicago Jazz*, Roger Pemberton; Hope Publishing; *Brass Impact #2*, Warren Kime; Wheaton College Men's Glee; Resurrection Band; Chns Christensen, Russ Daughtry.

Services Offered: Eighteen years of professional recording experience. Complete music production and multi-track engineering services. Excellent pool of professional musicians and arrangers available. Homebased at Jordan Studios, Wheaton, IL. Augspurger/Edwards design incorporating 20 ft. studio ceiling along with Neve-Studer-AMS control room. Accommodations, complete kitchen facilities, musicians lounge, and health club available to help make your project a creative and comfortable process. I believe in the strength of good working relationships and the pursuit of excellence in all areas.

INDEPENDENTS

**SAMMY DEL BROCCO, BOB SPRAGUE**

Producer
PRO CREATIONS
 P.O. Box 998, Bowie, Maryland, 20715
 (301) 262-0705

Credits: MCI, IBM, The United Way of America, Gray and Company Public Communications, the American Red Cross, United States Information Agency.

Services Offered: Original music for film and video, written, arranged, produced and recorded in our own studio facilities, using a combination of computer/MIDI-controlled synthesizers and live instruments; the writing, direction, editing and producing of video; and the creation and production of live musical shows, both for entertainment and industrial purposes.

RICH DENHART

Engineer & Producer
 Royal Recorders, Americana Resort, Hwy. 50
 Lake Geneva, WI 53147
 (414) 248-9100

Credits: Adrian Belew, Champaign, Elvis Brothers, Pauli Carmen, Combo Audio, The Bears.

EUMIR DEODATO

Producer
KENYA MUSIC, INC.
 60 East End Ave., New York, NY 10028
 (212) 472-2933, 334-8444

Credits: Kool and the Gang, Deodato's 2001, Roberta Flack, Gwen Guthrie, Breakfast Club, One Way, Chuck Mangione, Kleener, Juicy, etc.

Services Offered: Private studio facilities, nine platinum record certificates, two Grammy Awards, countless prizes. State of the art MIDI setup with different sequencers including Linn 9000, Macintosh, etc. Samplers, digital keyboards, lots of samples and effects.

BARRY DIAMENT

Engineer
 2728 Henry Hudson Pkwy, Riverdale, NY 10463
 (212) 543-2079

Credits: Recordings: The Mary Antonelli Band, Frieda Ehrens—Recital. CD mastering for: Genesis, Phil Collins, Mike and the Mechanics, Yes, Frankie Goes To Hollywood, Robert Palmer, Kevin Eubanks, Stevie Nicks, Linda Ronstadt, Pete Townshend, AC/DC, Robert Plant, Ahmad Jamal, Crosby, Stills and Nash, Julian Lennon, Howard Jones, Second Hearing Records.

Services Offered: True Stereo Recording with a purist orientation, specializing in jazz and "classical" ensembles; mastering for compact disc.

MARC J. DICCIANI

Producer
MJD PRODUCTIONS, INC.
 5500 Central Ave, Sea Isle City, NJ 08243
 (609) 263-1777

Credits: Record production: Ben Vereen (Manhattan); Mary Welch (Atlantic); Bobby Rydell (Applause). Video/music production/direction: national promotional and educational spots for thoroughbred racing industry; "Total Body Workout" (exercise video).

Services Offered: Full audio/video production; phono records; jingles; demos; promotions; commercial and industrial music and video.

OLIVER DiCICCO

Engineer & Producer
MOBIUS MUSIC RECORDING
 1583 Sanchez, San Francisco, CA 94131
 (415) 285-7888

Credits: 1985 Grammy nomination: Best Engineered Album (Michael Hedges *Aerial Boundaries*). Zasu Pitts, Windham Hill Records, Darol Anger, Mike Marshall, Kaleidoscope Records, KQED, KRON, Apple Computer, Ron Thompson, Andy Narell, 700 Club, Eno, Henry Kaiser, Fred Firth, Z-Axis, Alex DiGrassi, Steve Miller, Barbara Higbie

Services Offered: With over ten years experience working out of our own 24-track studio, we offer a full range of services, including location recording, musician contracting (we have access to the best studio musicians in the area), production, arranging and engineering. We strive to bring out the best in your music.

FERENC DOBRONYI

Engineer & Producer
 125 Clayton St., San Rafael, CA 94901
 (415) 453-3103

Credits: The Wankers, The Twisters, The Leapers
Services Offered: Full service productions that are guaranteed not to lose the "band sound"; cutting edge-college radio-cheap.

HANK DONIG

Engineer & Producer
WIZARD MUSIC GROUP
 8033 Sunset Blvd., Suite 358
 West Hollywood, CA 90046
 (818) 905-1703

Credits: Kenny Rogers, Lionel Ritchie, Devo, Air Supply, Crusaders, Egyptian Lover, George Winston, Russ Parr, Kingston Trio, Kin Vassey, Linda Carter, P.P.I., Star Search, G.L.O.W. (Musical Director for the national TV Show).

Services Offered: Total production package includes 48-track studio, song writing or publisher "A" drawer songs, arrangements, double-scale musicians and BG vocals; all engineering and total package includes shopping a record deal or pressing records for an independent distribution network. We produce master quality radio-ready tapes.

JIM DOTSON

Engineer
SOUTH COAST RECORDING
 1818 1/2 N. Main Street, Santa Ana, CA 92706
 (714) 541-2397

Credits: Black Label Records, Gothic Records International, Hi Point Productions, Dionysus Records, Tommy Woods (The Woods Empire), Lisa Love (The L.A. Dream Team), Sincerely Yours, The Untold Fables, The Final Tourguides, Offspring, Swan, Onyx, Love & Terror, Kita, Side-show, Picture This, Still Life, Those Guys, Set Free, Higher Ground, Stormbringer and more!

Services Offered: In-house 8-track recording studio (please refer to the Southern California Studio Listing in the September issue of *Mix* magazine). Experienced with all styles of music for complete record production, high quality comprehensive demos, and radio jingles.

THOMAS R. DUSENBERRY

Producer
DUSENBERRY ADV & PROMO.
 87 Lafayette St., Marblehead, MA 01945
 (617) 631-3022

Credits: Award-winning video production writer, producer and director. Specialize in consumer product sales and marketing.

Services Offered: Video production, multi-media shows, script writing, brochures, consultant, trade incentives, consumer promotions.

HUGO DWYER

Engineer & Producer
 70 Carmine St., New York, NY 10014
 (212) 929-4197

Credits: Pointer Sisters, Belle Stars, New Edition, Gloria Loring, Boys Don't Cry, Evelyn King, Al DiMeola, Jenny Burton, House of Mommies, Jocelyn Brown. Jingles for Chrysler, Volkswagen, Nabisco, more.

Services Offered: Recording and mixing for all types of music, especially dance oriented; rock, jingles and industrial as well.

STEVE DYER

Producer
ROCKY MOUNTAIN HEARTLAND PRODUCTIONS
 P.O. Box 6904, Denver, CO 80206
 (303) 690-6904

Services Offered: Rocky Mountain Heartland Productions is a full service production company and advertising agency. Executive producer and studio producer is Steve Dyer. Studio production: Access to some of the finest studios in the Rocky Mountain empire, Midwest, Nashville, and L.A. Music. Arranged and originally scored for studio orchestra, big band, synthesizer, or other combinations. LP albums and cassettes: master tracks are produced, mastered and pressed. Complete jacket art and photography creatively produced in fresh and stimulating ways. Advertising: scripts, lyrics, and compositions for radio, TV and print media. Film and slide presentation: production for business promotion projects and presentations for seminars, sales meetings, etc. Financing: artist sponsorship, promotion, and project financing is possible upon approval of qualified



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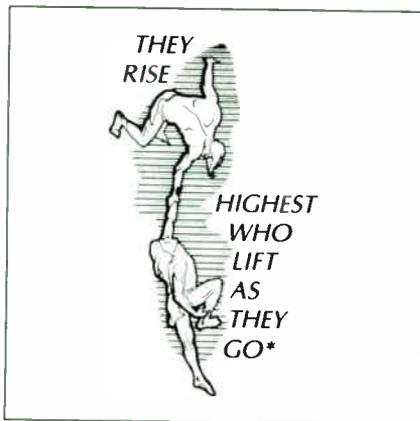
Name/Title

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STEPHEN G. JARVIS
Danville, CA

STEPHEN G. JARVIS
Engineer & Producer
AKASHIC RECORDS GROUP
c/o P.O. Box 395, Danville, CA 94526
(415) 837-7959 (home phone)

Credits: Montrose, Hager, Journey, John Sebastian, Cat Stevens, Tommy Tutone, Maguire, Judy Fields, Commander Cody, Sopwith Camel, Holly Penfield.
Services Offered: In-house 24-track recording mobile modular system. Tube mics, Messenberg preamps, MCI console, 3MM79, 24-track, over 45 various microphones, tube limiters, noise gates, AMS RX16. The Akashic Records Group is a marketing services organization formed to provide business guidance and production services. The company develops recorded products for major label contract solicitations and/or independent release. Recorded products which are released independently are done so under a joint venture label, designed to be a vehicle for the further growth and exposure of the artist. The primary goal of the company is the placement of the artist with a major label or the acquisition of a manufacturing/distribution arrangement for the recorded product. An artist or group who desires to submit song demos or recorded products for A&R consideration should send the materials to: Akashic Records Group A&R, P.O. Box 395, Danville, CA 94526. Please include a stamped, self-addressed envelope, a contact name and phone number, and allow four to six weeks for a response.

ROBIN JENNEY
Engineer & Producer
RJ PRODUCTIONS
3535 Shaw Ave., Apt. #4, Cincinnati, OH 45208
(513) 321-3923

Credits: Midnight Star—"Headlines," "Planetary Invasion," George Clinton—"Some of My Best Jokes Are Friends," Zapp—"Zapp II," Roger—"The Sage Continues," The Ohio Players—"Graduation," The Deele—"Streetbeat," Boogie Bob—"I'm Almost Famous," Spittin Image, The Movies—"Jukebox," "Visions."
Services Offered: Audio engineering and production for demos to major label album projects. Direction includes R&B, rock and roll, jingles, industrial soundtracks, etc. Also available as instructor for audio courses.

DAVID JOHN
Engineer & Producer
ART'S A PASSION RECORDS
325 Captains Walk, Suite 307, New London, CT
(203) 447-3438

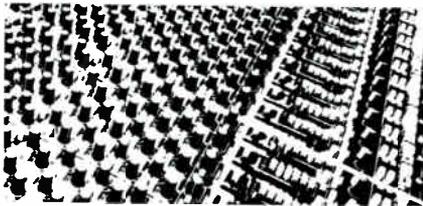
Credits: Many independent record projects around the world including Amos Lawson, Belgium, Gary Karp, Paris, Shaboo Allstars, Newjohnny 5, Paisley Jungle, USA.
Services Offered: Total record production services—beginning to end.

JOHN JOHNS
Engineer & Producer
800 Kinwest Parkway, Suite 197
Irving (Dallas), TX 75063
(214) 556-2275

Credits: *Blood Savage*, (feature) sound mixer; *True Stories*, (feature) video effects; *Benji The Hunted*, (feature) assistant sound and video effects; *End of the Line* (feature) video effects; "Wild, Wild Life," Talking Heads (music video) video effects. Other credits include commercials, industrials and live performance.

Services Offered: Location sound mixer, video engineering, video/audio recordist, post-production for video, audio and film video and audio effects.

INDEPENDENTS



DANNY JOHNSON
Engineer & Producer
MAD DOG PRODUCTIONS
P.O. Box 3078, Ft. Worth, TX 76113
(817) 237-9673 or 244-3254

Credits: Degreed engineer/producer has recorded audio and video projects for Impulse, Ladies Knight, Adams Rib; location video shoots in Arizona, Colorado, Utah and Texas.
Services Offered: Multi-track recording engineer/producer; music videos; video editing, sweetening, layback; audio/video system installation and consultation; system troubleshooting; live sound recording/engineering; synthesizer programming.

STEVE V. JOHNSON
Engineer & Producer
ELEGANCE PRODUCTIONS
18 Meridian Terrace, Paxton, IL 60957
(217) 379-3164

Credits: Demo available on request.
Services Offered: Remix, mix, ground-up production, engineering. Ready and willing to travel.

DANNY JONES
Engineer & Producer
STAR STAGE, INC.
37 East Carolina Ave., Memphis, TN 38103
(901) 526-STAR/(800) 643-0016 (outside Tennessee)
Credits: Beach Boys, Bobby "Blue" Bland, Jim Corcoran, Creed Jim Dandy, DeGarmo & Key, Farrell & Farrell, Ette James, Jean Knight, Patti LaBelle, Labor of Love, Mylon LeFevre, Ramsey Lewis, Neville Brothers, Billy Joe Royal, Staple Singers, Diane Tell, Allen Toussaint, Irma Thomas, Rufus Thomas.
Services Offered: Producing, engineering, music publishing, artist management, artist booking, record label, video, promotion, consulting.

E. KEVIN JONES
Engineer
SOUND & SOUND ALIKE
PRODUCTION MANAGEMENT
620 W. 149th St., Suite 6c, NY, NY 10031
(212) 926-8294

Credits: Ashford & Simpson, Eugene Wilde, Kashif, Lillo Thomas, Atlantic Starr, Harry Belafonte, D'Irean, SOS Band.
Services Offered: Live sound and monitor engineering and production management. Set production design, personal security as well as full tour staffing.



JEFF JONES
New York, NY

JEFF JONES
Producer/Engineer
CINA-TONE INC.

218 E. 82nd St. Suite 4FW, New York, NY 10028
(212) 570-2765
Credits: Recorded for: Del Jam, Virgin, Tommy Boy, Streetwise, CBS, Warner Bros., Capitol, Elektra, Atlantic, Cheeta, Sony, NBC-TV, CH 13. Recorded with: Planet Patrol, Larry Coryell, Talking Heads, Gang of Four, Plasmatics, Neil Sedaka, Miroslav Vitous, Vikie Sue Robinson, Angela Clemmons, Fonda Ray, Parliament, Brecker Bros., Dave Sanborn, John Hammond Sr., Teo Macero, Don Elliot, Arthur Baker, Ted Currier, Terua Nakamura, Mike D. Fred Schneider, recorded for Russell Simmons, Spider D, Marley Marl, Roxanne Shante, Boggie Boys, Teshan.
Services Offered: Complete 24-track and 32-track digital recording, production services, album, single, EP and CD masters produced. A specialist in location recording, studio recording, mixing, and editing, live PA mixing, mastering, broadcast and video sound. Artist development, video and film production.

KAREN KANE
Engineer & Producer
329 Highland Ave., Somerville, MA 02144
(617) 628-6469

Credits: To date I have produced and/or engineered over 50 albums. Many of them on the Rounder Records label, Flying Fish, Folkways, and many independent labels. Have had many rock and roll 45s and demo "hits" on the radio. Have been in the recording business since 1970.
Services Offered: I was one of the first successful freelance recording engineers in New England. I offer unbiased advice about recording in Boston and a no-charge pre-production meeting. Recording drums is a specialty of mine as is acoustic music. I am extremely efficient, dedicated and easy to work with. I really listen to my clients and give them what they want to hear.

DAVID KARR
Engineer & Producer
P.O. Box 282, Center Valley, PA 18034
(215) 965-4197
Services Offered: Video/audio sync. specialist with extensive SMPTE and MIDI experience.

DAVID KASPERSIN
Engineer & Producer
DYNAMIC RECORDING
2846 Dewey Ave., Rochester, NY 14616
(716) 621-6270

Credits: Have secured 33 major publishing contracts for artists in the last four years. Engineer for 22 years, producer for ten years.
Services Offered: Produce excellent demo tapes/records. Write for free cassette or record to 2846 Dewey Ave., Rochester, NY 14616 or call (716) 621-6270. Specify type of music production you are interested in.

RICHARD KAYE
Engineer & Producer
111 Wadsworth Ave., Apt. 31B, New York, NY 10033
(212) 928-1739
Credits: Laurie Anderson, Ashford & Simpson, Roy Ayers, BT Express, Felix Cavaliere, Dennis Collins, Freddie Jackson, Howard King, Audrey Landers, Lenny Kaye, Chuck Loeb, Steve Lunt, Bette Midler, Sheryl Lee Ralph, Julese Sheer.
Services Offered: Creative, quality engineering. Familiarity with many synthesizers and drum machines. Octave Plateau Sequencer Plus and Patchmaster Programming.

HELEN KEANE
Producer
HELEN KEANE—
ARTISTS MGT. RECORD PRODUCTION
49 E. 96th St., New York, NY 10128
(212) 722-2921

Credits: Producer for LPs by Bill Evans, Kenny Burrell, Tony Bennett, Paquito D'Rivera, Morgana King, Joao Gilberto, Mark Murphy, Steve Kuhn, Adam Makowicz, Joanne Brackeen, Keith Macdonald, Art Farmer, Benny Golson, Chris Connor. Companies produced for: Warner Bros., CBS Records, Fantasy, Muse Polygram, Landmark, CTI, Blue Note, Polydor, MGM, Verne, etc.
Services Offered: Full producer/director. Services including choosing musicians, material to be recorded, studio facilities and engineer, cover art, liner notes, etc.

MARCUS S. KEARNS
Engineer & Producer
PERFECT FITZ RECORDING & PRODUCTION CO.
Rt. 8 Box 433-A, Statesville, NC 28677
(704) 872-2360

Credits: Producer, engineer, composer, musician and owner of Perfect Pitch Recording; have produced albums of pop, dance, and fusion music, as well as music for commercials and television themes. Currently involved in pro-

duction of New Age music album; owner of Melomque Publishing Co. and independent record label.
Services Offered: Complete production services. Album production, film music, commercials, composition and arranging. Fairlight computer, drum computer and synthesizer programming. Bachelor's degree in composition with background in classical piano, orchestration, electronic music, and jazz and rock music of all kinds. Automated 24-track studio featuring all Studer machines, top-of-line outboard gear (Lexicon 224XL), Fairlight CMI, drum computers, and full array of synthesizers located on 40 acres of seclusion in beautiful North Carolina.

PETER R. KELSEY
Engineer & Producer
 2038 S. Holt Ave., #10, Los Angeles, CA 90034
 (213) 837-7939

Credits: Fourteen years experience, including six years at Trident Studios, London, with producers: Ken Scott, Roy Thomas Baker, Rupert Hine, Peter Asher, Robert "Mutt" Lange; and artists: Elton John, Jean-Luc Ponty, Graham Parker, The Fixx, Camel, Cafe Jacques, "Weird" Al Yankovic, Linda Ronstadt, Zawinul, Weather Report, Bill Ward of "Black Sabbath."

Services Offered: Engineering and mixing for any project, co-production with artist and/or producer, full production with or without engineering. I will do everything I can do to make your music the best it can be. Resume on request.

NORMAN KERNER
Producer
 BRILLIANT PRODUCTIONS, INC.
 617 So. 13th St., Richmond, CA 94804
 (415) 236-2281

Credits: Freaky Executives, Terry Haggerty & House on Fire, Monkey Rhythm, The Chills, Yanks, McGee Street Bunch, Surfin' Fools, many more.

Services Offered: Brilliant Productions is a full service record production team. Brilliant Productions is based at Starlight Studio, one of the Bay Area's finest 24-track facilities. Please direct all cassettes/info to P.O. Box 7139, Berkeley, CA 94707.

CHRISTI KING
Producer
 PUMPKIN PRODUCTIONS
 821 Tamarack Ln., Sunnyvale, CA 94086
 (408) 985-9961

Credits: Ability to work well with a variety of bands, ranging in musical styles, a degree in recording engineering and music production, and experience in a number of different studios.

Services Offered: Complete production and assistance from rehearsals to mastering. This includes refining and developing songs for the studio, preparing and rehearsing for the actual recording session, and assisting during mix-down and tape duplication if requested. Management and promotion services available on request.

PITT KINSOLVING
Engineer & Producer
 686 South Arroyo Parkway, Suite 260
 Pasadena, CA 91105
 (818) 763-8606

Credits: Numerous records on: Angel, Windham Hill, Motown/Latino, Green Linnet, Folkways, Kicking Mule, Flying Fish, etc. Silver Screen Award for slide show. Artists I have worked with include: Shadowfax, Larry Coryell, John McHogan, James Stewart, Chris Proctor and Seamus Eunis.

Services Offered: I can travel anywhere in the world to record you in the studio of your choice or on location. I am particularly skilled with acoustic music (classical, jazz, folk, etc.) and can utilize both multi-track and classical techniques to bring out the best in your performance.

JIM KLEIN
Engineer & Producer
 MISTER GUY MUSIC
 360 8th Street, Brooklyn, NY 11215
 (718) 768-6725

Credits: Producer/songwriter for Downes and Price-Atlantic Records; Slettsasonic M.C.'s-Tommy Boy; The Raunch Hands-Relativity Records; Electric High-Warner Brothers; numerous local artists; finalist American Song Festival. Engineering: Island Records, Warner Brothers, Atlantic, Hannibal, Quality, NBC, PBS, Velvet Underground, Marilyn Martin, Showtime, Jerry Garcia, etc.

Services Offered: Production, arranging, engineering and songwriting. Employed as chief engineer of Platinum, Island Recording, a dual 24-track facility with SSL and Artek consoles and Studer recorders. I have my own keyboard/computer/8-track studio for pre-production and songwriting. Close affiliations with record labels, publishers and studios in Northeast. Professional and experienced; call or write for my current reel and credits.

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LUKE KOYLE/BRUCE FOWLER

Engineer & Producer
MODULAR MUSIC INC.
 26 Soho Street, Suite 370, Toronto, Ontario M5T-1Z7
 (416) 593-7676

Credits: Jingles: Budweiser, American Express, Royal Trust, Discount Car & Trucks, Boots Drug Stores, Metro Ford Dealers, Chevy Dealers. Programming-record albums: The Parachute Club *Small Victories*; New Regime *Terminal City*; Images 12-inch EP w/Michael Beinhard, Klo So Baby; Brian Plummer *Without A Mark*. Theatre: "Yuppies" *The Musical!*; Gospel Hour with Brian Plummer. **Services Offered:** Modular Music offers post-film composition with a full MIDI studio featuring the Macintosh Plus with 20 Meg hard disk and various sequencing driving an Emulator II, Oberheim Expander, ESQ 1, DX7 with E System update, Jupiter 6, Roland DDR 30 digital drums, and Simmons drums. Their 16-track recorder is locked to picture via the Fostex 4035 synchronizer and the Macintosh is able to sync to tape via the Fostex 4050 autolocator. Therefore, most of their compositions are written to a fine cut picture (post audio). With *The Universe of Sounds* compact disc, another full digital PCM sound effects library, there are very few sounds they cannot produce!

MICHAEL KULIGOWSKI

Engineer & Producer
MACH 5 PRODUCTIONS
 29 Eileen Way, Edison, NJ 08837
 (201) 549-4334

Services Offered: Very interested in working with reggae, calypso, salsa bands or any band with West Indian influences. Will also consider any band with a truly original sound. I am available throughout the Northeast area. Please call or send demo.

DAN KUNTZ

Engineer & Producer
HARK MUSIC PRODUCTIONS
 366 Adelaide Street East, Suite 542
 Toronto, Ontario, Canada M5A-3X9
 (416) 865-9611

Credits: Retail and corporate commercials for Honda, Texaco, Toronto Transit Commission, Dodge Trucks, Ontario Hydro, and Swiss Chalet. Radio engineering and production for Canada's Wonderland, Concert Productions International, Cineplex/Odeon, Molson's and Capital Records. **Services Offered:** Engineer/producer with jingle company, will pre- or post-score music to TV, radio, film, or industrials. We will also search stock music, voice-overs, sound effects, and book studios for American producers coming north or producing over a "phone tie." Get your entire production coordinated by us. Let us do the running around in Toronto instead of you.



L-J PRODUCTIONS
 Atlanta, GA

L-J PRODUCTIONS

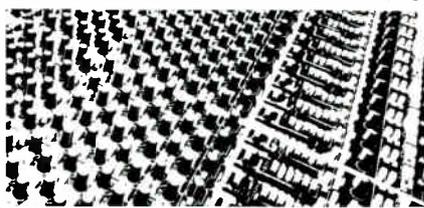
Producer
AUDIO WORKS PRODUCTION SERVICES INC.
 2310-D Marietta Blvd., Atlanta, GA 30318
 (404) 355-0909

Services Offered: 2-inch 16-track facility, Soundcraft 760 16-track; complete MIDI production room; Trident Series 65 24 x 16 console, 1/2-inch mastering/Soundcraft T Series 20; Gauss 3588 Coaxial main monitors; outfitted for up-to-date mixdowns.

RON S. LAGERLOF

Engineer
DBA RECORDING SYSTEMS LTD.
 5301 Victor St., Dallas, TX 75214

INDEPENDENTS



(214) 827-6502

Credits: Presently head of technical operations at Dallas Sound Lab. Studio installations include: DSL (3 studios), TM Communications (2 studios), Studio Centre, Omega Audio, Eagle Mtn., Sierra Audio. Many major label artists recorded and mixed, as well as national and regional television and radio spots. **Services Offered:** Sony PCM-10 digital processor rental, recording and editing (EIAJ format). Custom interlaces for audio/video transport remote and synchronizer control. SSL interlaces. Affiliations: NARAS, AES, SPARS. Direction: Dedicated to the achievement of excellence in audio reproduction and aural perception.

JOSEPH LALIX

Engineer & Producer
JLX Productions Inc.
 Box 10835, Beverly Hills, CA 90213
 (213) 655-3136

Credits: Producer/co-producer/engineer. Credits for top mainstream European and U.S. acts in the last seven years. **Services Offered:** Full production, with or without engineering; co-production with artist and/or producer; engineering and mixing for any project; excellent audio and video "demo" productions.

JACK LANCASTER

Producer
 315 N. Avon St., Burbank, CA 91505
 (818) 845-6678

Credits: Produced various artists in top London studios including: Rod Argent, Stephane Grappelli, Gary Moore, Brian Eno, Clive Bunker, Phil Collins, Ella Jordan, Manfred Mann, Cosy Powell, Zeitgeist, Krisma, The Permutations, several film and TV scores, etc. Have had hit singles in Europe and USA. **Services Offered:** Production, arrangements, compositions, play all saxes, flutes, clarinet, Lyricons. Can supply engineer for productions. Have produced many styles of music including rock, new wave, pop, fusion, etc.

MICHAEL R. LANE

Engineer & Producer
LANE AUDIO & RECORDS
 Box 29171, Los Angeles, CA 90029
 (213) 469-8007

Services Offered: Specialists in noise reduction and sonic restoration/rebalancing, using highly specialized equipment such as the Packburn Noise Suppressor, Orban parametric equalizer, etc. in a unique audio restoration system. Our work is oriented toward reestablishing the naturalness and clarity of the original performance, with special attention given to maintaining phase coherence. Our many years of experience and developmental work in the art and science of sonic restoration apply equally well to 78s, transcriptions, LPs and tapes, both mono and stereo. A reprint of our article, "Sonic Restoration of Historical Recordings," will be sent free upon request.

PAUL D. LEHRMAN

Engineer & Producer
LEHRWARE/PEA-EL PRODUCTIONS
 31 Maple Avenue, Suite 1, Cambridge, MA 02139
 (617) 497-7522

Credits: *The Celtic Macintosh*, world's first album produced entirely with a personal computer; WGBH-FM themes; George Crumb, *Apparitions* (Bridge Records), winner *High Fidelity* award; *The Design Show* (Century III Teleproductions); *New Music for Guitar Vol. 3* (Bridge Records); Ursa Major dealer demos; numerous films, industrials, multi-media soundtracks; live and studio productions; acoustic, electric and electronic. **Services Offered:** Complete music and sound production and consultation services for all media; composition, arranging, sweetening, effects, synth and sequencer programming, contracting, recording, and mastering. Specializing in new age, folk, avant-garde, and the unusual. Also scripting and producing product demos and sales presentations, especially for the music and pro-audio industry. Fully-equipped computerized MIDI studio with film/video lock-up for ultra-fast turnaround. As a musician,

engineer and software designer, I can find the best and most efficient way of doing any project, whether it's a quickie demo or a symphonic extravaganza. As a major proponent of do-it-yourself music, I can also help you design your own facility and get it running.

DAVID LeVAN

Engineer & Producer
ALPHA PROF. AUDIO INC.
 26 Boulder Rd., Norwalk, CT 06854
 (203) 852-9220

Credits: Radio production recording studio, sound reinforcement, maintenance. **Services Offered:** Audio engineering, production in above categories in NY/CT area.

GEOFF LEVIN/CHRIS MANY

Producer
LEVIN-MANY COMPOSING
 719 Main St., Burbank, CA 91506
 (818) 841-6607

Credits: Television and radio commercials for: Toyota, Mazda, Subaru, Milk Advisory Board, Buick, etc. Industrials: Sprint, Porsche, Alpine-Luxman, Apple Computers, Princess Cruises. TV Shows: "The Sports Column," "Kids-world."

Services Offered: Music production house. Full composing and orchestrating from synth tracks to full orchestra. Library tracks. Audio sweetening for video. Sound design. Synth's include: Kurzweil 250, Prophet 2000, Digi-Design soft synth for Macintosh, TX8 rack, (2) DX7s, Oberheim Xpander, Mini-Moog, Juno 60. 24-track studio.

LOLLY LEWIS

Engineer & Producer
TRANSPARENT RECORDINGS
 P.O. Box 880933, San Francisco, CA 94188
 (415) 563-6164

Credits: Many years experience recording and editing classical music. Clients include San Francisco Symphony, S.F. Conservatory of Music, Telluride Chamber Players, Solisti New York, composers John Adams and David Cope. **Services Offered:** On-location live music recording direct to 2-track master (using Nagra 30-ips recorder and Studer mixing console), high-detail tape editing, and post production services including album production and graphics.

ERIC LILJESTRAND

Engineer
 577 Henry St., Brooklyn, NY 11231
 (718) 624-7712

Credits: Peter Gordon: *Innocent* (CBS); David Van Tieghem: *These Things Happen* (Warner Bros.), "Safety in Numbers" (private music-all digital); "In-A-GADDA-DA-VIDA" (single-Twin Tone); film work: Laurie Anderson's music for *Something Wild*, Jonathan Demme, dir.; second engineer on *Key Exchange* and *Working Girls*, numerous dance and theatre scores.

Services Offered: Studio engineering; programming on a wide variety of synthesizers and drum machines including the Fairlight CMI; location house and monitor mixing for any kind of ensemble. I believe in a musical approach to engineering. I read music and can mix or edit from a score. Also wiring and maintenance. Call now for your free set of Ginsu knives.

BORGE LINDQUIST

Engineer & Producer
LiPHONE RECORDS
 Box 51, S-451 15 Uddevalla, Sweden
 INT +46 52262081

Credits: Nearly 200 records produced during the past ten years with artists from the Scandinavian countries Sweden, Denmark, Finland and Norway. We produce all kinds of music, mostly pop, rock, C&W, jazz and folk music. **Services Offered:** Record production (LiPHONE records), 24-track analog and 2-track digital studio (LiREC Studios) and publishing company (LiTUNE Music).

FRANK LIZARRAGA/ADAM D. LIZARRAGA

Engineer & Producer
ISRAFEL PRODUCTIONS
 3121 29th Avenue, Sacramento, CA 95820
 (916) 455-5278

Credits: Israfil has produced one LP, six 45s and three EP albums in Spanish and English. Israfil is currently producing two 45s in Spanish and one EP in English to be released in early 1987.

Services Offered: Israfil is the first studio and production company in the Sacramento area to specialize in Spanish music and has a bilingual staff. Israfil also houses a publishing company, Pancho's Music Co., which is affiliated with BMI.

STEVE LOEB

Producer
FIRESIGN LTD.
 c/o Greene Street Recording, Inc.
 112 Greene St., New York, NY 10012
 (212) 226-4278

Credits: Riot, Lovebug Starski, Carol Lynn Townes, Mr. Rhymes.

FOLKLOEHR

SCOTT JACOB LOEHR
 FolkLoehr Productions P.O. Box 166045
 Irving, Texas 75016 214/255-7546

FOLKLOEHR PRODUCTIONS
 Irving, Texas

SCOTT JACOB LOEHR

Engineer & Producer
FOLKLOEHR PRODUCTIONS
 P.O. Box 166045, Irving, TX 75016
 (214) 255-7546

Credits: Industrial film scores for LTV Aerospace & Defense Company and General Telephone Company; radio jingles and commercials for TM Communications, Inc. (KPWR-FM, Los Angeles; KFRC-AM, San Francisco; KAMZ-AM, El Paso; WZFX-FM, Whiteville, NC); North Dallas Chamber of Commerce; Studio Southwest; UK Sound, Inc.; Dr. Demento; etc.

Services Offered: Composer, arranger, performer, producer and engineer for all types of audio projects, including album production, industrial and theatrical film scores, television soundtracks, radio jingles and commercials. Classically trained pianist, vocalist and percussionist. Synthesizer and drum machine programmer. Musical styles include symphonies and concertos, ballads and love songs, Top 40 and dance rock, new age and techno-pop, and comedy/parody. From Yamaha DX7s to Synclaviers, from 4-track analog to 32-track digital, from cassettes to compact discs, FolkLoehr Productions combines the highest quality with competitive prices. Send for a free demo tape.

LONNIE LONDIN

Producer
RAMA DAMA RECORDS
 219 State Rd., Eliot, ME 03903
 (207) 439-5541

Credits: Twenty-five years experience as recording artist/producer. Labels: Glendale Records, Home of the Blues, Keno Records, Motown Records. Three years as session player (bass) and background vocalist in Nashville. Currently producing for own company, Rama Dama Records. Masters, demos, custom recording, jingles, radio and television advertising production, narration for industrial and promotional films, studio rental, publishing.

NIGEL LUBY

Producer
N.L. PRODUCTIONS
 49A Kensington Mansions, Trebovir Road
 London, England SW5 9TE
 01 373-7897

Credits: LPs: Yes, *Yesshows*, Yes, *Tormato*, Critical Mass, *It's What's Inside That Counts*, Mike Oldfield/Simon Phillips, *Crises*, The Alarm, *Strength*. Singles: Chris Squire/Alan White, "Run With The Fox," Mike Oldfield, "Moonlight Shadow," The Alarm, "Spirit of '76." Soundtrack: Mike Oldfield, *The Killing Fields*. Video Sound: Mike Oldfield, "Crises Live." Broadcast Sound: The Alarm, BBC, ITV, UCLA.

Services Offered: Experienced studio albums, broadcast, live, and digital applications. Also knowledge of digital audio and lock to 24 fps, 25 fps film free running of camera. Yes live engineer from 1976-1984. Studios: London: Townhouse, Roundhouse, Marcus, Battery, The Manor, Sarm East. BBC Maida Vale, Capital Radio, BBC Manchester, TV South, Tyne Tees, EZEZ Studios, The Workhouse, Pavilion, Sarm East. US: Record Plant, LA; Unique, NY; Kajem, PH; Bayshore Recorders, Hollywood; Hollywood Sound, LA; Yamaha, Burbank.

WILLIAM "BILL" LUCAS

Producer
DELEV MUSIC/SIGN OF THE RAM MUSIC
 7231 Mansfield Ave., Philadelphia, PA 19138
 (215) 276-8861

Credits: Executive co-producer of rock group Valhalla's debut album containing: "Weakened Heart," "Fallin'," "Power," "Unsure Of The Night," "Line of Fire," and "Far Too Long." Project recorded Aug./Sept. '86 at Sigma Sound Studio, Philadelphia, Pennsylvania. Past projects include Dave James & Trilogy's single, "Shadow People" on Surprise Records.

Services Offered: Consultation on recording projects, producing, publishing and co-publishing. Affiliated with ASCAP (Sign of The Ram Music), and BMI (Delev Music Company). Also Vice President of Surprise Records, Inc., 421 West Ellet Street, Philadelphia, PA 19119, or for faster response, send correspondence to: P.O. Box 42707, Philadelphia, PA 19104-2707.

DAVID LUKE

Engineer & Producer
 3800 Patterson Ave., Oakland, CA 94619
 (415) 531-3228 or (415) 486-2038

Credits: Rosie Gaines, Timex Social Club, Bruce Hornsby, Jeffrey Osborne, Maze, David Bromberg, New Riders of the Purple Sage, Starship, Eddie and the Tide, Y&T, and Night Ranger.

Services Offered: Recording, mixing and production using the latest digital formats. I'm interested in doing co-productions with artist/producers.

MICHAEL B. LYNCH

Producer
C&M PRODUCTIONS
 601 NW 80th, Seattle, WA 98117
 (206) 789-6755

Credits: Album productions for OCP Publications. Rock videos for Nordstrom's stores. Boeing video SFX. Produced "Yes We Can" for "Help America" project. Promotional audio for local towns and communities.

Services Offered: Album and single production. Video and film soundtracks. Arranging for strings and horns. Synthesis and SFX for high tech productions. Committed to quality, service and affordability. Capable of providing services at quick notice.

NIKOS LYRAS

Engineer & Producer
COTTON ROW RECORDING
 1503 Madison Avenue, Memphis, TN 38104
 (901) 276-8518

Credits: Has worked with Rufus and Carla Thomas, Tony Joe White, BarKays, David Porter, Xavion, Farrell and Farrell, In Pursuit, The Skwares, Canadian artists Diane Tell and Jim Corcoran. Has produced several Pyramid Award winning jingles; nominated "Engineer of the Year" in 1983 in Canada.

Services Offered: Full in-house record and jingle production (producing, engineering, arranging, programming, guitar work), in-house rhythm section, publishing, demo/production room.

DON MACK

Engineer & Producer
 6951 Ranchito Ave., Van Nuys, CA 91405
 (818) 988-3271

Credits: Y&T, Brian Eno, David Byrne, Huey Lewis and the News, Windham Hill Records, Jane Fonda, Dino Fekaris, Odin, Hellion, Jaded Lady, Letchen Grey, Foxx, Quest, Allegiance, Dezire, Kronos Quartet. Films: *Apocalypse Now*, *Plague Dogs*, Walt Disney Productions.

Services Offered: Production and engineering with an ear towards the leading edge of tomorrow's music. I work with the artist from pre-production rehearsals to the final mastered product, analog or digital. Music should be fun and a fulfilling, rewarding experience. My goal is to stimulate the artists to push themselves to ever greater creative heights, and to realize their dreams by making them sonically and visually as exciting as possible. I'm interested in all new music and am always looking to stretch the boundaries of today's sound. Artists are encouraged to submit material. I will listen to everything. Please call or write.

RICHARD MACK

Producer
OFF THE RECORD
 139 Willard Avenue, Bloomfield, NJ 07003
 (201) 429-9640

Credits: Have worked with numerous artists including Odette, Olatunji, and Kamuka.

Services Offered: In-house arranging specializing in African percussion, Ska, and Latin sounds. Also possess expertise in adapting music to visual media, including business video scoring and audio sweetening for video.

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JOSEPH MAGEE
Engineer & Producer
JOSEPH MAGEE AUDIO ENGINEERING
4900 Overland Avenue, Suite 102
Culver City, CA 90230
(213) 558-4208

Credits: Audio produced/engineered following ensembles/artists: Orchestras: L.A. Philharmonic, Amsterdam Concert Gebown, L.A. Chamber, "Y" Chamber, Fort Worth; Opera Co.: Royal Opera of Covent Garden, L.A. Music Center Opera; Festivals: New Music America, Olympic Arts, Seattle Chamber; Artists: Andre Previn, Pierre Boulez, Michael Tilson Thomas, Lincoln Mayorga, Mami Nixon.
Services Offered: World class audio recording/production for broadcast and record. Specializing in classical, new music and jazz recording. Acoustical or acoustical/electronic ensembles. Expertise in both minimal mic'ing techniques or close mic'ing for any size ensemble. Location or studio recording. Consulting services also available.

DOMINICK MAITA
Engineer
29 E. 51st St., Bayonne, NJ 07002
(201) 437-8443

Credits: Bryan Ferry, Bronski Beat, 'till tuesday, Nona Hendryx, Herbie Hancock, David Byrne, Lon Chacko, The Sharks, Laurie Anderson.

JOHN J. MANFREDI
Engineer & Producer
MEGA SOUND PRODUCTIONS
P.O. Box 3101, Elmira, NY 14905
(607) 732-0913

Credits: Written over 300 compositions (all musical styles); 40 commercial jingles being aired (on radio and TV) in upstate NY and Phil. metro area; for political campaigns, retail businesses, car dealerships, restaurants and national charitable organizations. Produced and engineered: rock group projects, jazz, R&B, gospel and bluegrass, contemporary C&W groups and 15th century opera and instrumental music. I am comfortable working with musical projects large and small, and musicians who play loud or soft. Music instructor at local private college.

Services Offered: Owner, engineer, producer, musician, composer, Mega Sound Productions/1-inch 16-track facility. Studio/engineering/production packages available/cassette duplication. Professional musician for over 20 years on lead guitar/keyboards/synthesizers and bass. Fully equipped facility w/guitars, amps and over 20 of the latest keyboards and drum computers.

JOE MANZELLA
Engineer & Producer
IN SYNC PRODUCTIONS
211 W. 79th St., New York, NY 10024
(212) 496-2636 or (718) 998-4648

Credits: Engineering and production: Airforce 1-Streetwise Records, Alan Simon Trio-Cadence Records, Paquito D'Rivera, William Robinson-Coast to Coast Records, Thor, Sula-Chauncy Records, Ednah Holt, The Shades, Israel-Bacan Records, Palma-D'Exile Records, Jimmy Faith, Jingles, radio and TV commercials: Good o Cola, Girl Scouts of America, Quality Dental Care, La Gioconda Clothing.
Services Offered: In Sync Productions is a multi-dimensional production company specializing in all facets of audio and visual presentations. We create original music for films, plays, and commercial jingles as well as individual recordings and production for groups and solo artists.

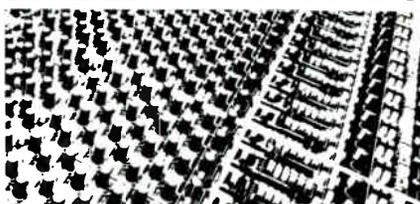
We offer a full production staff for the recording of master tapes and demos as well as the services of session musicians, arrangers, and copyists. We also provide complete video productions for industrials, TV commercials, rock videos.

COOKIE MARENCO
Engineer & Producer
MARENCO SOUND DESIGN
P.O. Box 874, Belmont, CA 94002
(415) 595-8475

Credits: Pop, R&B dance, instrumental albums. Sound design for advertising, commercial and theatrical projects. Clients include: Nissan, AT&T, Windham Hill, Magic Theatre, Duck's Breath Mystery Theatre, Mark Isham, Flying Karamazov Bros., Neil Young, Rojas.
Services Offered: Complete 24-track facility (please see listing for OTR Studios in the N. California issue). Audio for video synchronization and complete MIDI computer/synthesizer room. Composing/arranging/sound design for film and video. All the latest outboard gear for highest quality album production.

GEORGE (JORGE) MARTIN
Producer
STREET LEVEL PRODUCTIONS
5741 Carlton Way #305, Hollywood, CA 90028
(213) 466-8916

INDEPENDENTS



Credits: Sheila E., Richie Morales (Spyro Gyra), Jim Fielder (Blood, Sweat & Tears), Fred Allen (Buddy Miles), Clay-toven Richardson (George Benson), Pheerdan Ak Laff (Gramavision), Henry Davis (LTD), Blue Standard Music, Aphex Systems, BASF Corps., American Dance Guild, RPC Records, George S. Clinton (Cannon Films), Raymond T. Santos (Brewster's Million).

Services Offered: Multi-percussion-rhythmist, songwriter and producer combines aural sophistication and pre-meval ingenuity to translate emotional content. Add realism and dimensionality with an array of indigenous percussives. Coordination of the creative process conducive to achieving the optimum product. Enhance your project to a level never before available. If superior sonic quality, flexibility, reliability, versatility and expanded capabilities are important to you, Street Level Productions is the company you've been looking for. Street Level Productions' unique "back-to-basics" approach assures you efficient performance at all stages of musical creation. Street Level Productions—"Hear the heartbeat of the streets."

PETER MARTINSEN
Engineer & Producer
PETER MARTINSEN PRODUCTIONS
11160 Anderson Lakes Parkway
Eden Prairie, MN 55344
(612) 944-2491

Credits: Jesse Johnson's Revue, Centerfold, Janet Jackson, Evelyn King, The Girls, Andre Gymone.

KELLEY MASCHER
Engineer
RAMONA STUDIO
P.O. 1087, 647 Locust, Lawrence, KS 66044
(913) 842-9955

Credits: Eight years' experience in film and video. Over 150 commercial, industrial and educational film and video credits with many national clients.
Services Offered: Location recording for film and video, studio recording, and live sound reinforcement.

HARRY MASLIN
Engineer & Producer
1020 N. Sycamore Ave., Los Angeles, CA 90038
(213) 850-1030
Credits: Air Supply, David Bowie, Melissa Manchester, Ada Allister, Eric Carmen.

MATCHEZ/NICODEMUS
Engineer & Producer
R.A.T. Brothers/Zedkiah Records
14925 Novara, Detroit, MI 48205
(313) 527-6693

Credits: Nicodemus and Matchez, NMG, Adrian Rock and Roll, Tablet 2, Blue Oinkers, Kuda, Dean Rivers and the Drive, Aurther Runart Zip Gun Band, Spellbound Eclipse. Watch for the new Nicodemus and Matchez album, titled *Better Art Music*.
Services Offered: Recording, engineering, producing. Both of us are multi-instrumentalists, art design for albums, pressing, etc. We are artists who help bring out the artist in whoever we work with—after all, the "rat" in R.A.T. Brothers stands for "Recording Artist Techniques."

STEVEN MAYNARD
Engineer & Producer
DOUBLE DOMINO PRODUCTIONS
P.O. Box 142, Crows Nest
Sydney, NSW Australia 2065
02-6998472/02-9224504

Credits: Editor of Australian sound and broadcast magazine. Engineered and produced mini album Sons & Lovers. Singles by Joint Razors, The Deadly Flammers. Mini theatrical sound series. Live sound engineer various local bands in UK and Australia. Produced live demo recordings and video singles in London and Australia.
Services Offered: Overseas contact and liaison with international artists wanting to visit/tour and record in Australia. I will negotiate and coordinate suitable production

requirements sought by overseas artists. Live performance, audio recording, filming, tour management and good vibes.

SUSAN McARTHUR and PETER B. LEWIS
Engineer & Producer
AUDISEE

124 NW 56th St., Seattle, WA 98107
(206) 784-4624 or (206) 775-2416
Credits: Well over 200 awards during the past eight years, including gold Clios, Addy's, ANDY's, Cannes Film Festival, One Show and IBA "World's Best Radio Commercial." Clients: Nike, Boeing, TRW, IBM, NBC, CBS, HBO, Cole & Weber, Chiat-Day, Apple Computers, and others. Hours of programming and thousands of spots, regional and national.
Services Offered: Complete sound design from story board to finished productions. For radio, TV, corporate communications, etc. Casting, music scoring (stock and original), effects development (deepest sound effects library in the Northwest), production recording and editing. We work with the latest equipment including Synclavier, AudioFILE, Studer, Sony and NEVE. With extensive PRE-production, we can take your project to completion more efficiently with higher production values and a lower hassle factor. We bring more experience to every job than all our Seattle competitors combined. We interface with all forms of video and film. We deliver.

STEVEN McCLINTOCK
Producer
HEADWAY PRODUCTIONS
5760 Garden Grove Blvd., Westminster, CA 92683
(714) 891-0868

Credits: Currently producing Dexter, OH-10 (formerly Perfect Stranger) and Brian Wilha: co-produced Exude and Private I: produced and arranged for many commercial jingles; looking for recording pop acts with label deal.
Services Offered: Own 24-track studio with Trident console and Otari tape machine plus 16-track room with Tascam console; publishing company; photography studio, vocal instruction and two small independent labels; very active—good talented staff.

RANDY B. MCCOY
Engineer & Producer
LONGHORN SOUND PRODUCTIONS
P.O. Box 630, Clyde, TX 79510
(915) 893-2616

Credits: Engineered and produced all varieties of music and jingles for over seven years: classical, contemporary Christian, rock, country, etc. Eager to apply experience gained to your project.

Services Offered: Production emphasis on contemporary Christian projects. BMI affiliated writer. Will travel to work on outside-of-area projects. Sincere, hard-working and straightforward in methods and builds client relationships on a one-to-one basis. Call for production/engineering rates, please.

STEVEN McVICKER
Engineer & Producer
MIC-VIC PRODUCTIONS
77 N. Third St., 3rd Floor, Meriden, CT 06450
(203) 238-7263

Credits: Robert Crossland, Scott Chaloupka, Rob Darrel and Transit, Anne King and Dirty Works, The Majik, Ed Markewicz, Steven McVicker, Mr. Mehta, Jim Murtaugh, Press, Winters Run, Ron Rockett and The Tuners.
Services Offered: Live and studio engineer/producer. A 4-track demo studio with MIDI and analog keyboards, MIDI drums etc. is available at reasonable rates, to help artists work out their ideas before spending their entire budget "getting the bugs out" in a larger studio. Specializing in production for new artists and song writers. Demo and promotional packages, live show production and general help in sorting out the confusing music industry. BMI publisher.

DAVID MERRILL
Engineer & Producer
CASTLE CORPS. INC.
47 Renwick St., New York, NY 10013
(212) 219-8693

Credits: Wrote, produced, performed and engineered music for Atlantic Records and other independent labels. Arranged, wrote, and produced music for documentaries, industrials and theater companies in New York and Florida. Former engineer at Master Sound Astoria.
Services Offered: Production, engineering, writing and arranging. Have well facilitated 8-track studio but will work at studio of your choice.

MICHAEL MIKULKA
Engineer & Producer
GOPHER BAROQUE PRODUCTIONS

7560 Garden Grove Blvd., Westminster, CA 92683
(714) 893-3457

Credits: Berlin, Exude, Juice Newton, Dexter, Carl Verheyen/Chad Wackerman Band, OH-10, Otha Young, Dorothy Hamill's "Fantasy on Ice," Charmaine, Jeff Pearson, George Merrill/Shannon Rubicon.

Services Offered: Office at Headway Productions (inc. two studios) as well as independent work. Connections with various studios (all price ranges). Access to outside financing/investors (if warranted). Looking for self-contained bands w/ writers (but willing to do outside material). Pop, "New Music," Rock, Country. Writers who can write MELODIES!

TONA MILOSZ, aka TECHNICAL TONY

Producer

PEAKDESIGN

6114 La Salle Ave., Suite 314, Oakland, CA 94611
(415) 531-5331, Telex: USA 755056 PEAKDESIGN
UD WU Easylink: 62483200

Services Offered: MIDI mastering, production, technical and composition assistance in the creation of finished product from sequencer data. Also general production services for demos, CDs, albums and soundtracks. See the PEAKDESIGN 24-track+ Northwest and annual studio listing.

JOE MIRAGLILO

Engineer & Producer

FISHBOWL PRODUCTIONS

89 Clinton St., Suite #3, Everett, MA 02149
(617) 389-5816

Credits: Finished and current projects include jingles for American Vision Center and WMRQ in Boston.

Services Offered: Preproduction for any project on 512/10mb Macintosh with most major software for sequencing, voice librarian and sampling. Keyboards available with many sounds. 4-track or 2-track production. Rock modules available for guitarists.

ROBERT L. MISSBACH

Engineer & Producer

REAL LIVE MUSIC

P.O. Box 864, Mill Valley, CA 94942
(415) 383-8919

Credits: Huey Lewis & the News, Journey, Santana, Van Morrison, Jimmy Barnes, Con Funk Shun, Tom Brown; Windham Hill Records, Megatone Records, Rising Sun Records.

Services Offered: Independent audio production and engineering; live mixes to multi-track recording; audio for film/video; demos, records, commercials, soundtracks.

PETER MOORE

Engineer & Producer

MDI PRODUCTIONS

116 Beaconsfield, Toronto, Ontario, Canada
(416) 588-5054

Credits: Cowboy Junkies, Suffer Machine, Sheep Look Up, Garbage.

Services Offered: Live-to-2-track digital original recordings employing Caltec Soundfield MK IV; supervision and engineering of all phases of LP production; remote recordings of classical, jazz, plus alternative music a specialty.

ERIC MORGESON

Engineer & Producer

EMP PRODUCTIONS

5619 N. Beech Daly, Dearborn Hts., MI 48127
(313) 561-7489

Credits: George Clinton, Ready For The World, Michael Henderson, Adrenalin, Mario, Earl Klugh.

Services Offered: Complete production and engineering services.

STEVEN MORSE

Engineer & Producer

MUSIC GALLERY PRODUCTIONS

23 Carver Street, Brandon, VT 05733
(802) 247-6634

Credits: Morse Code, Brandonwise, Love, Inc., Jessica Myers, Vanessa Mills, various demos for local artists.

Services Offered: 8-track recording studio, rehearsal facilities, Tascam 388, Yamaha SPX90, Yamaha keyboards (DX21, 100, 27, 7, 9, PF 70), duplication facilities. Mics: (2) Shure 55s; (2) Sennheiser 421; (2) E-V PL80, (2) PL20; Shure PE80. Writing and arranging services offered at competitive rates. Original material available.



TAAVI MOTE
Sherman Oaks, CA

TAAVI MOTE

Engineer & Producer

RUF-MIX PRODUCTIONS

4931 Coldwater Canyon #9, Sherman Oaks, CA 91423
(818) 760-0269

Credits: Production: Jeff Lorber, Keith L'Neire. Engineering: Pati LaBelle album, and Beverly Hills Cop soundtrack; Ready for the World; New Edition; Klymaxx; The Jets; Miami Vice soundtrack; Running Scared soundtrack; Gladys Knight; Midnight Star; The Whispers Shalimar; Giorgio; L.A. Dröem Team; André Cymone; Jimmy Jam III & Terry Lewis SCS Band and Cherelle Rock & Jazz.

Services Offered: Giving you the best in pre- and post-production in R&B, recording basic tracks; overdubs; mixing and remixing (12-inch versions, LP versions and single versions). Using only the best recording studios in Los Angeles, you can be assured of the most dynamic sound in analog or digital recording and mixing. Excellent variety of outboard equipment is available. Please call for further information.

TOBY MOUNTAIN

Engineer & Producer

NORTHEASTERN DIGITAL RECORDING, INC.

102 Sadlar Ave., Shrewsbury, MA 01545
(617) 753-1192

Credits: Frank Zappa, Arlo Guthrie, Rubber Rodeo, soundtrack to Diva (CD), Polygram, RCA, Rykodisc, A&M, Rounder, Second Hearing, Titanix, Musical Heritage Society. Extensive music background (MA, PhD) and training in audio and digital signal processing (Stanford CCRMA, MIT).

Services Offered: Digital recording in studio or remote. Digital editing, mastering for LP, CD, and cassette with Sony PCM-1610/30 system. Complete compact disc services.

WILLIAM P. MUELLER

Engineer & Producer

13816 Sunny Brook Rd., Phoenix, MD 21131

(301) 628-7260 or (301) 666-0196

Credits: 1985 Grammy nomination—Best Engineered Album, Michael Hedges, *Aerial Boundaries*. 1986 Grammy nominated album, Douglas Miller, *Unspeakable Joy*. Six Top Ten gospel albums. Remote recordings: Journey, Mr. Mister, Barry Manilow, Elia Fitzgerald, Oscar Peterson, National Symphony, Charlie Pride, Chuck Brown, DIR Broadcasting. Audio for video: Michael Hedges, Will Ackerman, Shadowfax, Exile, MPT.

Services Offered: 48-track digital, 48-track analog studio: SSL 4000/Sony or Studer. Remote: Trident/Sony or Otari, Sony 3202 DASH, BTX Shadow, AMS 1580a, RMX 16, EMT Plate, Lexicon 224 XL, LEX 200, (3) SPX 90, BBE 202, SONTEC EQ, assorted gates, DDLs, compressors, etc.

RICHARD A. MUSK

Producer

MUSK MUSIC INC.

455 Hope St., Stamford, CT 06906
(203) 323-7022

Credits: HBO, Cinemax, IBM, Armstrong Tire, Hueblin, Capitol Records, Universal Studios, Wyeth Laboratories. Services Offered: Original composition and arrangement for film, video, industrial, documentary, jingles, logos, songs. Fairlight CMI rental and programming.



MUSK MUSIC INC.
Stamford, CT

ROBERT NATHAN/JOANNE GEORGIO-NATHAN

Producer

UNIQUE RECORDING

701 Seventh Avenue, New York, NY 10036
(212) 921-1711

Credits: Founder and co-owner of Unique Recording and Mayor of Midi-City. Keyboard magazine columnist. Services Offered: Full production, programming, sequencing, recording.



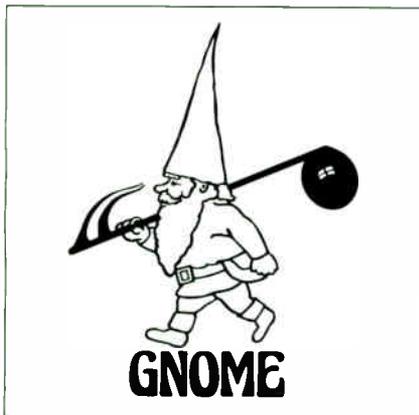
**NATIONAL VIDEO CENTER/
RECORDING STUDIOS, INC.**
New York, NY

**NATIONAL VIDEO CENTER/
RECORDING STUDIOS, INC.**

460 W. 42nd Street, New York, NY 10036
(212) 279-2000

Credits: Broadway's "Sweet Charity," The Count Basie Orchestra, the Phillip Morris "Superband," Christopher Cross "That Girl," Kurtis Blow's "America," Billy Chinook's "Somewhere In The Night"; Outfield's "Your Love". Also: The Pretenders, Mick Jagger, Cyndi Lauper, Adam Ant, Billy Idol, Annie Lennox, Frank Zappa, John Cougar Mellencamp, commercials, industrials and network programming.

Services Offered: National's new music studio, "The Edison," (50 x 40) with SSL 6000 56-channel console, 48-track recording, video/audio interlock, all outboard equipment, microphones, etc. The Edison's enormous recording space and Tom Hidley designed control room make this studio ideal for acoustic recording of major acts, orchestras, commercial jingles, etc. Also: two interlock video sweetening rooms, five voice studios, time compression, reel-to-reel and cassette duplication, transfers, music and FX libraries, scoring and soundtrack design. Video: three shooting stages (60 x 80, 40 x 50 and 20 x 30), seven on-line computer editing suites, two off-line/interformat suites, negative color correction, remote production, video-disc mastering, computer graphics, animation stands, duplication—all formats.



BRUCE C. NAZARIAN
New York, NY

BRUCE C. NAZARIAN
Engineer & Producer
GNOME PRODUCTIONS
251 W. 30th St., New York, NY 10008
(in Planet Studios Building)
(212) 594-7554

Credits: LP projects for MCA, ATCO, Island/4th & Broadway Records. Six *Billboard* Top 20 dance records since 1984 as producer/engineer. Experienced studio musician (ten+ years) as guitarist, bassist, keyboardist and drum programmer. Five years' experience with MIDI and sequence programming—experienced Synclavier programmer.

Services Offered: Unique, musical approach to contemporary recording. As an experienced musician, programmer, engineer and producer, my overview of the recording process is both technically competent and musically sensitive. I specialize in relaxed recording environments designed to promote the artist's best performance. In addition—highly experienced with MIDI/SMPTE sequenced productions and Synclavier programming. My studio facility includes an in-house Synclavier with lots of memory, voices and storage!

JOHN NEFF
Engineer & Producer
MAUI RECORDERS
380 Dairy Road, Kahului, Maui, Hawaii 96732
(808) 871-1141

Credits: Twenty-one years' studio experience on both sides of the console. Former session musician Detroit, Phoenix, Los Angeles, Hawaii. Producer on many 45s, LPs, jingles and commercials. Own 16-track MIDI-based studio on Maui. Have custom local label.

Services Offered: Can bring in your project, be it record, demo, jingle or audio-for-video, on time and in budget, in Hawaii or on the mainland. Complete computer-based MIDI studio, with on-island recording facilities from 8-track to PCM-3324 digital/SSL. Can arrange for complete Maui recording package, from air travel to accommodations, transportation, rehearsal space, pre-production, video documentation, block recording time, instrument rentals, public appearances, recreation.

LAURENCE "LARZ" NEFZGER
Engineer & Producer
TRIAD STUDIOS
4572 150th Avenue NE, Redmond, WA 98052
(206) 881-9322

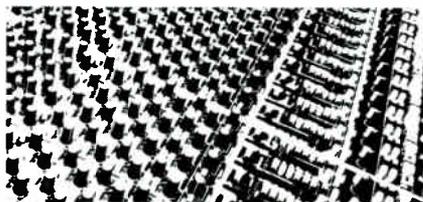
Credits: Over 12 years of engineering and production experience including many award winning albums and productions. Many top national and regional Northwest recording artists including: Deniece Williams, Danny O'Keefe, Ceder Walton Trio, Danny Deardorff, Randy Meisner, Steve Miller, Uncle Bonsai, Eric Tingstad, Spencer Brewer and Michael Tomlinson.

Services Offered: Believe that record or commercial productions demand 100% collaborative effort. Total communication in an atmosphere of support and technical excellence equals a superior end product. Have vast experience in all facets of recording, album production, commercials or audio for video post production.

GREGORY L. NEU
Producer
CHELONIAN MUSIC
51 West 81st Street, New York, NY 10024
(212) 362-3386

Services Offered: Production of demo recordings.

INDEPENDENTS



JOHN NEVIN
Engineer & Producer
NEVIN CONSULTING AND RECORDING
P.O. Box 46016, Chicago, IL 60646
(312) 763-8738

Credits: Graham Nash, Billy Coghlan, Wild Blue, John Hunter, Cryin' Shames (mixed to broadcast); Vince Lawrence, Jesse Saunders, Liz Torres, Kenny Jason, Masters C&J, Free Force, Five Point Star, Stan Nevin, Leslie Simons, Bob Allison, Craig Conley.

Services Offered: Studio recording and production, video demo production, location recording with Metro Mobile Recording and GHL audio engineering.

GASTON NICHOLS
Engineer
PROFESSIONAL AUDIO SERVICES
5337 5th Ter. South, Birmingham, AL 35212
(205) 595-3116

Credits: Over 100 live albums and numerous live television shows.

Services Offered: Live recordings and television audio, equipment rentals and service.

BOB NICHOLSON
Engineer & Producer
BOB NICHOLSON PRODUCTIONS
20 Hyde Road, Stockholm, NJ 07460
(201) 697-4580

Services Offered: Engineer/producer with good ears and attitude available for your next record.

MICHAEL NISS
Engineer & Producer
NISS PRODUCTIONS LTD.
1803 South 55th Court, Chicago, IL 60650
(312) 780-1754

Credits: Engineered for small studios in and around Chicago and Dallas, Texas. Have worked with Nigel Gray (Police), Larry O'Conner and Chuck Archer (Laughing Sam's Dice), No Excuse, Ruf'N'Ready, Willie Beeter, Chuck O'Malley, Dallas Dostal, and Bob Slaheadka.

Services Offered: Multi-track recording/mixing, producer services. Staff rhythm section, video soundtracks, independent film scores, jingles, specializing in achieving the world's best hot guitar sounds for vinyl and live concert sound. Interested in hearing new music—send tapes for review. Background includes professional musician working with Styx in Europe and Japan for Paradise Theater tour, being a hired independent guitarist for several Chicago area bands doing work with major label interest.

DAVE NODIFF
Engineer & Producer
DAVE NODIFF RECORDING
706 Waverly St., Framingham, MA 01701
(617) 872-6843

RICK NOWELS
Producer
RICK NOWELS PRODUCTIONS
7469 Melrose, Ste. 33, Los Angeles, CA 90046
(213) 655-7990

Credits: Songwriter/producer of the Stevie Nicks LP *Rock-a-Little*.

JEANNINE O'NEAL
Engineer & Producer
TIKI RECORDING STUDIOS
195 S. 26th St., San Jose, CA 95116
(408) 286-9840

Credits: Suzanne Lorente "Walk In The Spirit" (contemporary Christian); Fabrizio Onia (pop/international); Sharon Faye (country); Ed Brown (country); Horsefeathers (comedy Christmas album, combination pop/country/jazz); Johnny Guitar (Spanish); Jimmie Garewal, Jr. (soul/pop); Carlos (Spanish).

Services Offered: Complete arrangements for pop, coun-

try, gospel, international and soul; from rhythm section to full orchestra. Package prices available including studio time, musicians, tape and engineer. Established record company Rowena Records. Let us work out a budget suitable for your needs.

LARRY OPPENHEIMER
Engineer & Producer
TOYS IN THE ATTIC
P.O. Box 590145, San Francisco, CA 94159
(415) 346-7666

Services Offered: Live and studio engineering, consultation in audio and music technologies. Effects and drum machine programming.

BUCK ORMSBY
Producer
ETIQUETTE PRODUCTIONS
2442 NW Market St., #273, Seattle, WA 98107
(206) 789-3658, 783-3552

Credits: Produced: Sonics, Waiters, Jr. Cadillac, Jerry Roslie, Kent Morrill, Neil Rush Band, The Heats, The Cowboys.

Services Offered: Producer, consulting, various music-related services.

JERRY J. PACHER
Engineer & Producer
PAC-MAN PRODUCTIONS
P.O. Box 3562, Lenoxx, CA 90304
(213) 672-5484

Credits: Engineered and produced numerous LPs, 45s, EPs, commercials and jingles in both Europe and the United States. Specializing in FM rock, pop and "smooth, big and clean." Twelve years track record as keyboardist/arranger/songwriter in the studio as well as live and on international tour. Polygram, Capitol, Motown...

Services Offered: Full record production: planning, budget, studio, musicians, organization and capturing the magic on tape. Engineering: specialize in microphone technique, special pressing and making the most out of whatever is available. All pre-production, arranging, keyboards and computer interfacing, advertisement composition and anything else to "make it work" on time, on budget and sounding great. Call for reasonable rates. No job too big or too small. I want to help you get it right.

MICHAEL PANEPENTO
Engineer & Producer
PANDEM RECORDS INC.
225 Oxmoor Circle, Ste. 812, Birmingham, AL 35209
(205) 942-3222, 985-9336

Credits: Tellunde, KD Ryzar, Pandem Sampler, Daughter Judy, Jan Hunter, Disney on Ice, various local and regional jingles. Has performed as a percussionist with such people as: Temptations, Four Tops, Commodores, various Broadway shows, symphonies, and rock and roll acts.

Services Offered: Both live and studio production/engineering. Can produce and is familiar with all types of music from baroque to techno-pop. If there's a groove to be found in your music, he'll find it. If not, he'll put one there!

DENA M. PAPONIS
Engineer
3730 McClintock Ave., #145, Los Angeles, CA 90087
(213) 746-4681

Credits: Sound design/per operation including Kveitch (Odessey Theatre, L.A.), The Pearl Fishers (Dorothy Chandler Pavilion, L.A.), The Real Thing (Willamette Theatre, Portland), Henry VII and Cromwell (The Globe Playhouse, L.A.), November Wives (The Galaxy Stage, Hollywood), Little Shop of Horrors, Baby (West Coast premieres), A Life, Home and a Nightingale Sang... Isn't It Romantic (San Francisco Bay Area).

Services Offered: Theatre sound reinforcement/effects design and operation throughout Los Angeles and San Francisco Bay Area.

TONY PARISSI
Engineer & Producer
310 Edward Street, Mingo Junction, OH 43938

Credits: Co-production platinum single/album.
Services Offered: Specializing in live performance audio. Reality can be had. Sound reinforcement systems can be invisible.

JOE PEDI
Engineer & Producer
JOE'S STUDIO
150 Warren Ave., Boston, MA 02116
(617) 262-7263

Services Offered: Demonstration tapes for artists, songwriters, vocalists, musicians, etc. Professional quality and low cost. Call for sample and more information.

JULIE PEREZ

Engineer
30 Rockefeller Plaza, Rm. 670C, New York, NY 10112
(718) 263-6067
Credits: Phil Donahue with guest performances by Wynton Marsalis, Kenny Kirkland, The Judds, Amy Grant, Andrea Crouch, Joe Williams, Billy Eckstine, Carmen McCrae and others.
Services Offered: Audio for video including post-production. Specializing in audio for live television.

JOHN PERGAMO

Engineer & Producer
J.P. PRODUCTIONS/ACE RECORDINGS
414 Vanderbilt Ave., Brooklyn, NY 11238
(718) 622-7524

JODY EVERETT PETERSON

Engineer & Producer
BRANDY CAMP MUSIC, INC.
P.O. Box 7418, Incline Village, NV 89450
(702) 832-7711
Credits: Merle Haggard, Willie Nelson, Henson Cargile, Lou Rawls, Paul Revere and the Raiders, Mark Lindsay, Lee Greenwood, Hoyt Axton, Doug Clifford, Freddie Powers, Busch Beer, Aunt Jemima (Quaker Corp.), Harrahs.

CLIFF PIA

Engineer & Producer
PIA PRODUCTIONS
1253 Norman Street, Bridgeport, CT 06604
(203) 336-1614, (203) 853-2270
Credits: Produced videos for IBM, Emery Worldwide, City Trust Bank, Norden Systems; produced/engineered original music scores for AAA, United Way, United Technologies, Alpha Romeo, Marketing Corp. of America; engineered music for Academy Award nominee film *Dr. DeSoto*, 162 films for the New York Times EEM Company.
Services Offered: Video production, audio/video sweetening, original music composition/production/engineering, remote sound recording services, talent casting and direction.

JOHN POPPO/GREG RILES

Engineer & Producer
PROTOCOL PRODUCTIONS, INC.
35 W. Pine St., Islip, NY 11751
(516) 581-3375
Services Offered: Record and demo production, record promotion and marketing, consultation, mixing and remixing, engineering, editing, synthesizer, drum machine and sequencer (computer) programming, song writing and arranging, publishing, artist management.

CHUCK PRESTON JR.

Engineer
POSSIBLE PRODUCTIONS
1821 Eustis St., St. Paul, MN 55113
(612) 644-7497
Credits: Music: Anne Murray, Rosanne Cash, Kenny Rogers, Oak Ridge Boys, Ron Carter, Dizzy Gillespie, Time, Iggy Pop, Vopos. Television: PBS specials: *One Last Song*, *Route 66*, *Newton's Apple*, ESPN Sports, local commercial and industrial audio for video.
Services Offered: Engineering for music projects. Audio mixing for video production and post-production, sound recording for film.

BOB PRUITT

Engineer
UNITED RECORDING STUDIO
4024 State Line, Kansas City, KS 66103
(913) 262-3555
Credits: Album engineering for Bel Airs, Bob Dyer, Festival, Signals, East Ash. Soundmixing for Bel Airs, Willie Dixon, Gatemouth Brown, Cris Williamson, Sam & Dave, John Lee Hooker.
Services Offered: Studio and live sound mixing and engineering. Recording studio equipment maintenance shop serving greater Kansas City area.

DIANA RAE

Engineer & Producer
PHOENIX RECORDING
135 Redrock Way, #L302, San Francisco, CA 94131
(415) 695-9385
Services Offered: Demo production; "Music-Minus-One" services for musician demos; soundtracks for video productions.

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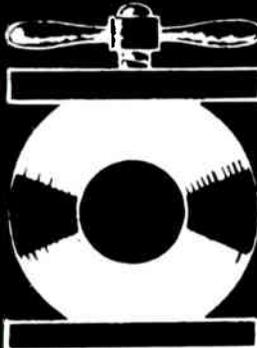
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ROBERT RAINES*Producer***LITTLE RED PRODUCTIONS**

261 West 19th Street c/o Little Red Hen Studio
New York, NY 10011
(212) 989-3954

Credits: I specialize in Rock/Pop/R&B; The Chicklets, RBI Records; Judy Congress, Country Eastern Music; Reve Time (album in progress at INS/Unique Studios NY); Moogy Klingman Rock Videos; Orchestra Chameleon, electronic music; many master and demo projects over last several years.

Services Offered: Have own pre-production studio equipped with computer, tape sync, multi-track, synthesizers, sequencing and all MIDI. Extensive arranging and performance experience (Berklee/Julliard grad.). Work regularly in several major NY studios. Can direct project for cost effective use of 24-track studios, and produce excellent low cost demos in my own studio. Have access to and knowledge of many state-of-the-art synthesizers: Emulator II, DX7, Fairlight. Play several instruments, write, sing and work well with other musicians. Looking for projects large and small that I can sink my teeth into, where all will profit from hard work.

MICKEY RAT*Engineer & Producer*

CHEEZBOX 1332, Silver Springs, MD 20902
(301) 942-9007

Credits: Send for text.

Services Offered: Non-fast-food oriented music recording. Owner of 72-track automated production facility (Power Plant Recording Studios 72). Send me any tapes and photos of your best and worst work to the address above. I promise (an honest rat!) to check everything out but please try not to phone. I receive tons of tape daily (wanna buy some tape?). Thanx... The Rat.

JEFF RAY*Producer*

838 Meadowsweet Dr., Corte Madera, CA 94925
(415) 924-6559

Credits: Seventeen years songwriting experience with many bands and solo projects. Seventeen years song arrangement experience on solo and band projects. Twelve years producer experience with various writers from pop-jazz to rock. Eight years producer experience in radio and television advertising for local, regional and national accounts.

Services Offered: I am a producer/composer. Being a songwriter enhances the approach to producing a writer's song. Retaining the writer's concept and then expanding on that idea, to achieve the most creative and fulfilled composition of a song is my primary concern. I have produced musical styles ranging from pop-jazz to hard rock. My services also include being a multi-keyboardist and a lead/back-up vocalist and are available at your request.

JIM REEVES*Engineer***REEVES AUDIO RECORDING**

Yonkers, NY
(914) 793-6496

Credits: Albums: ZZ Top, Lou Reed, Gregg Allman, Mott The Hoople, Johnny Winter, Edgar Winter, Bobby Vinton, Chambers Bros., Al Kooper, Don McLean, Count Basie, Leslie Gore, Johnny Ray, John Davidson, Martin Mull, Tom Rush, Frankie Valli, King Crimson, Queen. Concert Tours: Dave Mason, Manhattan Transfer, Patty Smythe & Scandal, Angela Bofill, Booker T. & the M.G.'s. Singles: Wang, Match Game-Hollywood Squares, Consumer Reports, WPXI-"11's Alive," USFL ABC Football, Coleco-Vision, Technics, Bayer Aspirin, Alpo.

Services Offered: Studio engineering, mobile recording, live PA mixing, audio consulting, studio design, maintenance, vocals, piano, synthesizers, bass, drums. Own and operate a 16-track fully-equipped recording studio and jingle production house.

GARY REMAL*Producer***MUSIC DESIGN**

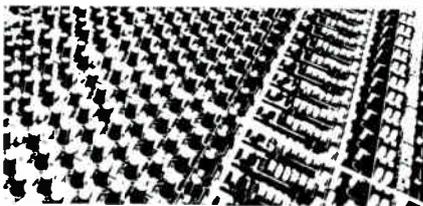
2949 Jackson St., Suite A, San Francisco, CA 94115
(415) 885-4651

539 South Niagra Blvd., Burbank, CA 91505
(213) 826-3181

Credits: Features such as *Breakin'*, *Maria's Lovers*, *Dark Circle*, *Twilight Zone*; Norma Kamali fashion videos; some commercial clients include: Bank of America, Soloflex, Safeway, Chevron, Avon, Hunt Wesson, two NBC specials and HBO specials. Two time Emmy award-winner.

Services Offered: Original music designed, composed, arranged and produced for feature film, television, radio I.D. packages, commercials, fashion videos, and multi-media/industrial projects. Extensive private library available for lower budgets. Music Design specializes in turning imagination into sound. Offices in Los Angeles and San Francisco.

INDEPENDENTS

**STEVEN REMOTE***Engineer & Producer***REMOTE MEN VISUAL MUSIC ENT.**

P.O. Box 791, Flushing, NY 11352-0791
(718) 886-6500, Telex: 271382 ASL UR

Credits: TV/audio: Lloyd Cole and the Commotions, Tommy Keene, Black Uhuru, Frank Zappa, James Brown, Lena Lovich, Bad Brains, NY Siring Orchestra, Yello, Simple Minds, MTV, BBC, PBS. FM Live broadcasts: Howard Jones, Reflex, Ramones, Blasters, The Police, XTC, Sadao Watanabe, Ron Carter, Jerry Lee Lewis, Joan Armatrading. Records: Elvin Jones, Stevie Wonder, Simple Minds, David Sanborn, Marcus Miller, Boy George, Cro Mags, plus various gospel artists for Atlanta International and Prelude/Savoy Records.

Services Offered: 24-track mobile audio/video for pre- and post-production, audio mixing, engineering and producing, digital recording. Also 24-track in-house studio and live sound reinforcement via Aurasonic Ltd.

RAY E. RETTIG*Engineer & Producer***COTTON HILL RECORDING, INC.**

RD #1 Cotton Hill Rd., W. Berne, NY 12023
(518) 872-2505

Credits: Engineer on numerous albums, demos and jingles; producer of many local Albany, NY artists; producer for Cotton Hill Records; session player (keyboards) on all styles of recordings. Produced my own record.

Services Offered: 16-, 8-, and 4-track recording. All phases of production including arrangements, musicians, copyists, composers, singers, etc. We do our own songwriting for singles and demos for singers. We have a fully equipped MIDI set up in the studio including synthesizers, drum machines and sequencers. All Otari tape decks featuring the new MX-70. AMEK console. dbx 180A noise reduction for all tracks.

MARK "THE KNIFE" RICHMAN*Engineer & Producer***KNIFE PRODUCTIONS**

2405 N.E. 10 St., Hallandale, FL 33009
(305) 454-8431

Credits: Miami Sound Machine, Nicole, Betty Wright, Ike Turner, IBM, Spels Music, Noel Williams, Awesome MCs, Clintie, Hot Ice, Italoheat GmbH (Germany).

Services Offered: Complete musical engineering and production of all dance-rock-funk oriented material. Specializing in progressive multi-edited club versions mixed to digital with "live edit" dubbing.

TIMOTHY ROCHON*Producer***WALL STREET PRODUCTIONS**

1189 East 14 Mile Road, Birmingham, MI 48009
(313) 646-2054

Credits: Music scores and jingles for Corvette, IBM, Chevy Trucks, General Dynamics, Ford, Beck with Evans, General Motors/Fanuck Robotics, various aerobic programs.

Services Offered: Specializing in contemporary music composition and production for video and film commercials and instructional programs; as well as contemporary album and demo projects.

MIKE ROSENMAN*Producer*

3334 89th Street, Jackson Heights, NY 11372-1665
(718) 779-2312

Credits: Records: Ronnie Dyson, Blue Magic, Karen Young. Commercials: Apple Computer, Shearson/Lehman Bros., Consumer's Reports, Pennsylvania Lottery.

Services Offered: Commercial music production, 48- to 4-track for pop music, commercial and industrial scoring. Pre-production, arranging, scoring, MIDI/synthesizer/sequencer programming, drum machines, sampling. Musicianship combined with technology, custom-tailored to your project.

DAVID ROSENTHAL*Producer***MASTERPIECE PRODUCTIONS**

378 Carlton Ave., Piscataway, NJ 08854
(201) 968-7361

Credits: Rainbow *Straight Between the Eyes* (Polygram), Rainbow *Bent Out of Shape* (Polygram), Rainbow *Finyl Vinyl* (Polygram), Roger Glover *Mask "21"* Records, keyboardist for Cyndi Lauper, Little Steven, Rainbow. Produced Hammerhead *Heart Made of Steel* (EMI). Graduate of Berklee College of Music.

Services Offered: All aspects of production, arranging, and orchestration; songwriting and jingle writing; synthesizer and drum machine programming; all styles of piano and synthesizer performance.

STUART A. ROSENTHAL*Engineer & Producer***FIDELITY LOCATIONS**

3145 Geary Blvd., Ste. 344, San Francisco, CA 94118
(415) 665-1035

Credits: National Public Radio (NPR), American Public Radio (APR), Public Broadcasting System (PBS), Santa Fe Chamber Music Festival, San Francisco Symphony Orchestra.

Services Offered: "Live" remote recording specialist. Broadcast/recording audio engineering and production music, voice, sound design, reinforcement, consultant. Pristine collection of Neumann tube microphones.

JOHN "ROCK" ROTHROCK*Engineer & Producer***ROTHROCK PRODUCTION ENTERPRISES**

P.O. Box 1624, Boulder, CO 80306
(303) 499-5475

Credits: Expertise: nightclub sound, live recording. Degrees: BA 1979 Communication Arts, BA 1979 Theatre. Acts: Two Bucks n' Change, Winchester, Cahoots, Cutter, Heartbreak Radio. Albums: Eccentrics *Lost in the Tone Zone*, John Rock Band *Launched from Earth*.

Services Offered: Production management, live sound mix, sound system placement and interface, studio engineering, producing, sound design for theater and dance, sound effects tapes, live recordings.

BARRY RUDOLPH*Engineer & Producer***5627 Irvine Avenue, North Hollywood, CA 91601**

(818) 985-1855

Credits: Engineered for: Hall and Oates, Lynyrd Skynyrd, Rod Stewart, Waylon Jennings, Al Wilson, Johnny Mathis, Shalamar, Lakeside, O'Bryan, Don Cornelius, Juice Newton, Jessi Colter, James Last, John Prine, Cher, Roy Buchanan, Stanley Clarke, Natalie Cole, Levon Helm, Steve Cropper, Duck Dunn.

Services Offered: Complete engineering and/or production services for record, video or demos.

JEFFREY RUST*Engineer & Producer***JASIR PRODUCTIONS**

539 So. Barksdale, Memphis, TN 38104
(901) 728-6271

Credits: Composition/production: musical underscore for *Zoo Story* and *American Dream*, two plays by Edward Albee in production at MSU Theatre; music for the international film, *Entrance* by Eric Hirsch; other productions including fashion show tapes for modeling agencies, and demonstration tapes for college jazz players which have won awards in *Downbeat* magazine's student music awards.

Services Offered: 4-, 8-track in-house recording; 2-, 4-track remote. Songwriting and arranging, jingle writing and production, scoring for film and TV, music and effects production for fashion shows and theatre. Jeff Rust received his BA in music from the Berklee College of Music with a major in scoring for films.

KEITH RUST*Engineer & Producer*

4902 Don Dr., Dallas, TX 75247
(214) 630-2957

Services Offered: My professional and enthusiastic approach to recording allows me to work comfortably in any situation, from commercials to album production, and all points in between.

JAMES SABELLA*Engineer & Producer***SABELLA STUDIOS**

49 Oakdale Road, Roslyn Heights, NY 11577
(516) 484-0862

Services Offered: Complete production services for jingles, voiceovers, master recording for original music. Cus-

tom catalog music. Full 24-track recording studio with MCI 24-track machine and Neve 8068 console with full line of outboard equipment.

RICK SANDIDGE

Engineer & Producer

SANDCASTLE RECORDING STUDIO

Ste. 109 Wade Hampton Mall, Greenville, SC 29609 (803) 235-1111

Credits: Rick Sandidge has produced the following: The Killer Whales, The Rob Cassels Band, The Pilots, Sonny Turner, Panic, Grace Capps, Country Gold, J.D. Wilson, Harry Willis, Barry De Fleron Band, The Drifters, The Grapes.

Services Offered: Producing, engineering, video producing.

SILVER J. SARGENT

Engineer & Producer

SILVER SARGENT

P.O. Box 897, Hartford, CT 06120 (203) 522-2371 or 724-9814

Credits: Has worked with: Mike Jonzun, Maurice Starr, New Edition, Sugar Hill, Tommy Boy, Profile Records, Atlantic Records. Studied at the New England Conservatory in 1978/co-owner of L.U.V. Sound Studios, Hartford, CT. Hands on training at Mission Control (24) tracks in 1985. **Services Offered:** Specializing in record producing 12-inch singles or LPs. Songwriting, computer MIDI pre-production and/or master recording. "Labels"—S.O.C. Records, LUB Sound and Artist Collective.

ALWIN SAUERS JR.

Engineer

MIRAGE PRO RECORDERS

1139 1/2 E. 88th Pl., Los Angeles, CA 90002 (818) 242-4129 24 hrs. service.

Credits: Radio: *Billboard's Radio Show of the Year*, *Doors Three Hours of Magic*, *Rockline's Holiday Show* world broadcast. Demos and LPs: *Babalade Come With Me*; *Sweet Singing Cavaliers*; *Great Vision Records*, *Wilton Felder Jr. Live*; *Dazz Band*; *Sam & Dave*; *Bo Diddley*; *Big Mama Thornton*; *Herb Jeffries*; *Tsunami*; *Patty Weaver*; *Susan Lynch*; *Vixen*.

Services Offered: Studio engineering, 2- to 24-track formats, radio pre-production engineering/editing, studio design, studio builder, studio management, live front mixer, live monitor mixer, tour and stage management. Currently engineering at Mirage Pro Recorders, L.A., CA. I bring a professional attitude to all projects and strive to bringout the best in your music.

SKIP SAYLOR

Engineer & Producer

SKIP SAYLOR RECORDING

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

Credits: Chico DeBerge, Con Funk Shun, Don Siegel, Phyllis Nelson, Carl Anderson, Maria Conchita Alonso, Gene Clark, Osborne & Giles, Joyce Kennedy, Gary Taylor, E.T. Van Dyke Pons, King Errisson, Scottsdale, Scott McCarl, Kelle Rhodes, Steve Narahara, Shattered Faith, Spittin' Image, Don Hamilton, Rodon, Pam Nivens, J.T. Tollis, various movie soundtracks.

Services Offered: Engineering and producing. In-house 24-track facility available.

MARK SCHULTZ

Engineer & Producer

263 Washington Terrace, Audubon, NJ 08106

(609) 547-8928

Credits: Ben Vaughn *Combo Beautiful Thing*; Kenn Kwerder *Kitchen Folk*; Das Yahoos *Sturm und Drang*; Social Voyeurs *The Boy & The Beat*; *Baba Lou Baba Lou at Bob's*; *The Big People Modern Girl*; *The Johnstons Long Way Home*; *Larry Norman*; *Ed King*; *Five Story Fall*; *Terry Dan*; *Scott Anderson*; *Jane Roman*.

Services Offered: Engineering and music production by Mark Schultz means: access to a complete 24-track facility with emphasis on sampling/sequencing/digital equipment (too numerous to list); knowledge of excellent musicians for all types of music; keyboard, guitar and vocal arrangements; charting service; consultation for any aspect of recording and post-production; cost-efficient, creative sessions that are fun, loose and drug-free. I specialize in taking good "new" artists in the studio and making their first project sound great. Brochure and rates on request. No metal/rappers please.

RANDY L. SCRUGGS

Producer

RANDY SCRUGGS PRODUCTION CO.

2828 Azalea Pl., Nashville, TN 37204 (615) 383-0486

Credits: Produced projects on Sawyer Brown, Bobby Bare, Earl Scruggs, Waylon Jennings, Michael Card, the DMB Band, Jessy Dixon, Jessi Colter, The Burrito Brothers.

STEPHEN J. SELTZER

Engineer & Producer

P.O. Box 234, Somerville, MA 02143

(617) 623-1066

Credits: Call or write for demo tape and rates.

Services Offered: Engineering and production—meditation music to dance mixes.

PAUL SETSER

Producer

PAUL SETSER CREATIVE SERVICES

2930 N. Newhall St., Milwaukee, WI 53211

(414) 962-9174

Credits: The five-channel soundtrack for "The Spirit of Milwaukee" 57-projector slide show, plus multi-image and video scores for major corporations in the Midwest and across the country. Numerous contributions to AMI and ITVA award-winning productions.

Services Offered: A nationally recognized audio producer specializing in all audio-visual performance media. Original music and conceptual savvy create the "setsurround" touch, informing the industry standard.

LEROY SHYNE

Engineer & Producer

SHYNE SOUND

Box 9906, San Rafael, CA 94912

(415) 459-2833

Credits: Clifton Chenier live at the San Francisco Blues Festival (Arhoolie 1093). *Mix* magazine article December '84 on San Francisco Blues Festival.

Services Offered: Live concert production, sound reinforcement service, mobile live to 2-track unit (analog or digital), cost effective stereo PZM recording of sound system, and editing-mastering of 2-track recordings.

BARRETT SILVER

Engineer & Producer

SILVER LINING PRODUCTIONS

2304 Colston Dr., Suite 103, Silver Spring, MD 20910 (301) 495-9460

Credits: "Quality Health Care & The Cost Squeeze" aired on Hospital Satellite Network this summer. Also a segment for Randolph Macon College for Learning Resources Network's videodisc library.

Services Offered: Video production for associations and corporations as well as the educational market. Complete services from scripting and pre-production to production, post, and distribution. Ikegami 79 EAL as well as Sony cameras. Professional results with a personal touch. Silver Lining Productions.

JERRY SKORA

Engineer & Producer

PRODUCERS VIDEO

805 West Wolfram, Suite #5, Chicago, IL 60657

(312) 525-3109

Credits: Technical producer for concerts: 1981 Rolling Stones tour, Chicago documentaries, Chicago Lawndale Project test commercials.

Services Offered: Single and multi-camera packages: Ikegami HL 79EAL, HL-95 (up to six cameras) from mobile unit or on site anywhere in any size club or performance area or recording studio. Ikegami EC-35s also available with all Prime Lens' and accessories. Tape Formats: Beta or 1-inch Sony systems. Also available: Ultimatte and video assist. engineering consultant and maintenance services.

TOM SOARES

Engineer & Producer

NORMANDY SOUND, INC.

25 Market Street, Warren, RI 02885

(401) 247-0218

Credits: John Cafferty and The Beaver Brown Band, Maurice Star, Bill Hagens (Starpoint), Jimmy Smith, Cornel Dupree, Paul Nisen, Billy Cobham, Bobby and The Midnights, Foghat, Herbie Hancock, Cheech & Chong, Eddie Martinez, Steve Elson.

Services Offered: Engineering and line production.

JIM STABILE

Engineer & Producer

PYRAMID RECORDING

1228 Lula Lake Rd., P.O. Box 331

Lookout Mtn., TN 37350

(404) 820-2356

Credits: Alabama, Allman Brothers Band, Monkees, Wet Willey, Alvin Lee, Humble Pie, Bertie Higgins, Point Blanck, Melissa Manchester, Bonnie Bramlett, Kristie McNichol, Toronto.

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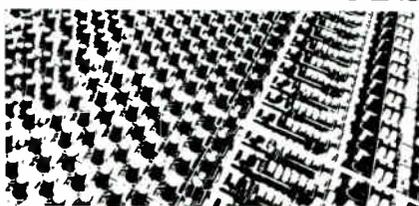


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Richmond, VA 23220 (804) 358-3852

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INDEPENDENTS



BOB STONE

Engineer & Producer
BOBCO MUSIC

P.O. Box 27728, Los Angeles, CA 90027
(213) 281-7367

Credits: Frank Zappa, including *Boulez Conducts Zappa, Shut Up 'n Play Yer Guitar, The Old Masters, Valley Girl*, etc. Dweezil Zappa, Donna Summer, Missing Persons, The GoGo's, The Whispers, Loleatta Holloway, Shalimar, Eloise Laws, Teri De Sario, Randy Brown, Noel, D.C. La Rue, Arpeggio, Pamela Stanley, Mickey Mouse Disco
Services Offered: All phases of production, recording and re-mix requiring creative and quality attention are offered, including 12-inch single mixes and digital remastering for CD. Extensive multi-track analog/digital experience to provide world-class results world-wide.

RON STREICHER

Engineer & Producer

PACIFIC AUDIO-VISUAL ENTERPRISES
545 Cloverleaf Way, Monrovia, CA 91016
(818) 359-8012

Credits: Audio engineer for Mann Music Center/Philadelphia Orchestra; radio broadcasts for the Los Angeles Philharmonic Orchestra; live "direct-to-stereo" broadcasts and recordings for National Public Radio, American Public Radio, Calif. Radio Music Network, Public Broadcasting System, et al; recordings for Angel, CMS Desto, Mobile Fidelity, Discovery, CRI, SAZ, and of numerous technical papers on microphone and recording techniques for the Audio Engineering Society, *Mix* magazine, and others.
Services Offered: Pacific Audio-Visual Enterprises provides cost-effective, quality-oriented services by specializing in basic, time-proven production techniques—without unnecessary fuss or gimmickry. The result: a successful job... on time, and within budget. And with my lifelong involvement in music presentation, I can also serve as a musical consultant, as well as a recording engineer. Complete facilities are maintained ready to travel for in-studio or on-location audio projects across town or around the world: analog or digital recording, editing, and post-production; record and/or cassette duplication; radio or television audio broadcast production; live mixing for concert sound reinforcement; music and performance coordination; audio systems design and consultation; lectures and seminars on recording techniques.

JOHN STRONACH

Engineer & Producer

JOHN STRONACH PRODUCTIONS
c/o Record Plant, 1032 N. Sycamore
Hollywood, CA 90038
(213) 653-0240, 545-8234

Credits: 70 gold and platinum records including REO, Joe Walsh, Dan Fogelberg, Steven Stills, Rufus, Jacksons, Diana Ross, Supremes, 3 Dog Night, Tim Weisberg, Keith Moon, Jimmy Cliff, Alvin Lee, John Mayall, Steel Breeze, Robin Williams, Jr. Walker, Sarah Vaughn, and many more.
Services Offered: Complete production and engineering services as well as music supervision and mixing for film scores (film credits by request). I have worked in studios all over the world and I'm ready to discuss your next project now!

MICHAEL S. SULLIVAN

Engineer

FORMULA ONE SOUND
4716 Dewey Ave., Riverside, CA 92506
(714) 686-5809

Credits: Live sound, recording, fully qualified engineer. In industry since 1972. Some production experience. Work with many bands. Punk to jazz!
Services Offered: Recording engineer—all aspects, tracking through mastering. Live sound—have complete sound system.

HILL B. SWIMMER

Engineer

UPHILL MUSIC
1626 N. Wilcox, Suite 703, Los Angeles, CA 90028

(213) 666-8388

Credits: Current projects include: Patti LaBelle, Gladys Knight, Stephanie Mills, Teena Marie, Klymaxx, Pointer Sisters, Julio Iglesias, Jose Jose, Jose Feliciano, Bob Seger, Tom Petty and Rosemary Clooney, New Artists: Skipworth and Turner, Body.

Services Offered: Analog and digital recording and mixing of records, video, film and compact disc. Pre-production and conception recording services offered. New artist tapes received and reviewed.

TECHNISOUND PRODUCTIONS, INC.

Producer

STEPHEN KAY

140 Madison Avenue, Westfield, NJ 07090
(201) 233-2026

Credits: MTV (Lance Reynolds Productions), Pepsi-Cola, Michael Anthony Jewelers, Gateway Oldsmobile, Kaplan & Barry Advertising, Weissberg Associates, Gianettino & Meredith, Moore Entertainment Group; session work for: The Power Station, House of Music, Grand Slam, Eras Recording, M&I Studios, The Daily Planet, Grand Master Flash, All Star Sound, David Scance Productions, more.
Services Offered: Record, film score, jingle, and demo production featuring the unbelievable Fairlight CMI Series III, the state-of-the-art digital keyboard/audio production device. Fully equipped spacious 8-track studio, 24 x 8 board, effects, DX7 w/1500+ sounds, 7-ft. Yamaha grand, two vintage customized ARP 2600s. Complete your project in-house, or do Fairlight III production for transfer at a larger facility. Will travel with Fairlight III to location of your choice for session work. Thirteen years of professional studio experience. Reasonable rates—demo tape available. Call Stephen Kay at (201) 233-2026 for more information.

CHRIS TERGESEN

Engineer

310 East 89th St., New York, NY 10128
(212) 996-0803

Credits: Albums by many artists including Roberta Flack, David Bowie and Melba Moore. Film experience includes feature films, movies for TV, home videos, documentaries and industrials. Jingles include Ford, Norelco, Max Factor, Lipton Cup-A-Soup, Bojangles, GTE, Tropicana, Dean Witter, *USA Today*, Purolator Courier, Folgers.

IAN TERRY

Engineer & Producer

IAN TERRY PRODUCTIONS LTD.

147 East 74th St., No. 16, New York, NY 10021
(212) 628-8650

Credits: Engineered 150 LPs, 24 film scores, 3000 commercials. Produced 25 LPs.
Services Offered: Engineering—all types—production.

STEVE THOMAS

Engineer & Producer

LAKESIDE PRODUCTIONS

P.O. Box 1914, Forest Park, GA 30051-1914
(404) 366-4553

Credits: Regional radio commercials for retail and political clients; various single releases on independent labels; hundreds of master quality demos.
Services Offered: Complete in-house production of radio commercials, industrial music and demos. We have a full-line 8-track studio with software-based MIDI capabilities and are experienced with working with clients not only in our area, but out of state as well.

GERALD THOMASON

Engineer

VIDEO, AUDIO, LIGHTING

P.O. Box 1396, Lawrence, KS 66044-1396
(913) 841-4915

Credits: Live recordings of Charlie McClain, his company and Torch II crew reinforcement for eight years, recording engineer four years, lighting eight years, video one year, Chapman Recording Workshop 1985.
Services Offered: Reinforcement and recording engineer / consultant, lighting / video director / consultant.

BILL THOMPSON

Engineer & Producer

1978 Ardith Dr., Pleasant Hill, CA 94523
(415) 689-1197

Credits: Debora Iyall, Sheila E., Ronnie Montrose, Sylvester Radance, Sam Bostic, The Freaky Executives, Walter Hawkins Choir, Pete Escovedo, 700 Club, Thrill of the Pull dance mixes and re-mixes for Atlantic, Virgin, CBS, Island, Polydor, and UK Records.
Services Offered: Engineering and production from pre-production to mastering: demos, LPs, re-mixes, soundtracks, location recording.

DAVID THOR
Engineer & Producer
TALENT CENTER
#10 McLaren, Ste. A, Irvine, CA 92718
(714) 837-3521

Credits: Production manager for such acts as Robin Trower, Ronnie Montrose, Gregg Allman, Stephen Bishop, Al Stewart, Dave Mason with other successful western U.S. tours. House and monitor mixing for The Replacements, Social Distortion, Busboys, James Harmen. Currently sharing house engineering position at the Whiskey A Go Go. **Services Offered:** Available for live and studio production with 15 years experience. Currently moving into video, movie and jingle soundtrack work with world class session musicians and songwriters to suit every musical need. We at the Talent Center are interested in developing the Orange County and Southern California music market into a recognized worldwide entity, coordinating our efforts with the already established L.A. based majors. We offer pro 1-inch 16-track ability for EP to LP and cassette release productions. With full sound stage studio we're capable of in-house live or lip sync music videos. Call for more information.

RICHARD TIEGEN
Engineer & Producer
PLUM STUDIO, LTD.
2 Washington St., Haverhill, MA 01830
(617) 372-4236

Credits: Atlantic Records, 1968-1969. Produced over 30 independent records. Own a state-of-the-art 24-track facility. Musician, having played with the legends, including Sam & Dave. Member of BMI. **Services Offered:** Complete record production in our 24-track facility. Will supervise all phases including: arrangements, session players (some of the best) pressing and mastering. Also, video production from cost-effective live in-house shoots to fully edited 3/4-inch and one-inch music videos. Plum Records, our own label, now publishing and distributing independent product throughout New England.

TIFFANI TIME
Producer
315 East 56th Street, New York, NY
(212) 758-5094

Credits: Credits available upon request. **Services Offered:** Translating your ideas and artistic concepts onto vinyl, CD, video, or film. Will oversee entire project from start to finish, or work on only one aspect. Experience in all phases of multimedia production, pre- and post- (including: composition, arranging, scoring, song picking, editing, 12-inch mixes, remixes, and mastering). Other services include: Drum and synth programming; musician contracting; in-house development for bands, solo artists, musicians, and composers; publishing and placement services for your songs; extensive industry contacts in the U.S. and abroad.

HORUS JACK TOLSON
Producer
228 Haight St., San Francisco, CA 94102
(415) 626-4373

Credits: Record Production: *Die Hard Lover*, *Loverde*, *Give Me Back A Little Piece of My Heart*, Norma Lewis. Remix credit: *Keep on Holding On*, Margaret Reynolds. *Technique* (ERC/Polygram). Commercials: Zing Ring, Wells Fargo Bank, Cal & Class. *Life is the Reason*, Norma Its Gonna Happen. **Services Offered:** Full production in soul/disco and pop records, demos, and full production of music for commercials, jingles. Synthesizer and keyboard work. Arrangements and orchestration. Extensive custom electronics and microphones available (direct-coupled all-FET designs). Call for rates.

JAN TOPOLESKI
Engineer & Producer
62 Van Ness Dr., Brick Town, NJ 08723
(201) 477-1860

Credits: Engineered "J.A.M. '86," which included performances by Bruce Springsteen, Clarence Clemons, Frankie Valli, Tal Farlow, and Southside Johnny. I have also engineered sessions with Marshall Crenshaw, Clarence Clemons, Nils Lofgren, Max Weinberg, Garry Tallent, Evan Johns and the H-Bombs, and various local New Jersey acts performing all types of music. **Services Offered:** Engineering; production; drum, sequencer and MIDI programming, and custom sampling.

GREG TRAMPE
Engineer & Producer
MUSIC MASTERS
17 Ponca Trail, St. Louis, MO 63122
(314) 821-2741

Credits: Albums: Terry Aden (country), Boyfriend (rock),

Painkillers (rock), Lise Joy (Top 40), Kevin Daniels (cont. Christian), Jim McNeil (gospel) etc. Corporate credits: AT&T, Anheuser-Busch, Mel Bay Publications, Suburban Journals, Jefferson Smurfit Corporation, etc. **Services Offered:** Album production, music video production, original soundtrack music for multi-image, film and video.

SCOTT TUTT
Producer
SCOTT TUTT MUSIC
P.O. Box 121213, Nashville, TN 37212
(615) 329-0856

Credits: Has never produced a record that didn't chart nationally. Also president of Reptile Records. Has published several #1 records. Instrumental in the careers of: Alabama, Earl Thomas Conley, Jerry Dale McFadden, Pat Garrett, Brice Henderson, Susan Marshall, Government Cheese, The Dusters and The Bigamy Brothers. **Services Offered:** Scott Tutt Music is an independent publishing house and record production company. Services offered: studio production and music publishing. From this point, depending on particular artist and project, Scott Tutt Music can assist in many facets, from label shopping to pressing to promotion. Whether you want to sell LPs off the stage or record for a major label, you've got to have great music, and quality product. That's what you'll get from Scott Tutt. Recording is not limited to Nashville, although there are many excellent studios in Music City.

ERIC TYLER
Engineer & Producer
IN SYNC STUDIOS/T-JAM PROD.
1858 Ontario Place N.W., Washington, DC 20009
(202) 332-4869

Credits: Responsible for creating the "DC Sound" T-Jam Productions and In Sync are definitely on the one. **Services Offered:** We offer complete production services in our spacious studios. We also offer MD421, 441 mics, Emulator II, SP12, DX7, Mirage SOD1 REV7, PCM-70, RXII, Yamaha Acoustic, Simmons drum kits, various guitars and basses. Give us a call for record and jingle work. Rates upon request.

STEVE TYRELL/BARRY MANN
Producers
TYRELL-MANN PRODUCTIONS, LTD.

8295 Sunset Boulevard, Los Angeles, CA 90046
(213) 656-7244

Credits: The Jets, Rickie Lee Jones, Bonnie Raitt, Tracey Ullman, Mann/Weil, Richard Kerr, Will Jennings. Films: *An American Tail* (Spielberg/Universal), *Extremities* (Atlantic Releasing), *Flight of the Navigator* (Disney); *Eight Million Ways To Die* (Tri-Star), *Teen Wolf* animation (Southern Star Prod.).

Services Offered: Three studios with all major amenities including Synclavier and video lock-up available only to in-house clients.

STEVE VAVAGIAKIS
Engineer & Producer
118-17 97th Ave., Queens, NY 11419
(718) 849-5725

Credits: Films: The WNET-13 televised film *It's The Real Thing*, *Ain't No King Coming*, *In The Dark* and *Batterie Film*. Jingles: Cote Furniture, Tenex Communications, Creative Papers, WEVD-FM spots for Good Deal Windows and Fentis Foods. LPs include projects for Red Rhino Records, Slash, Rough Trade, Rohit International, Peter's International, and Vasipop. Tutorial: Lang Percussion Music Minus One, and audio magazine *International Percussionist*. **Services Offered:** Pre-production consultation covers: scope of project, picking the right material, organizing a performance group, optimizing tempo, lyrics and arrangements. Access to Inner Ear Recording, a complete two-inch, 16-track recording studio featuring: Neumann tube microphones, a vintage Steinway grand, Emulator II, Yamaha DX7, Simmons and Oberheim digital drums. Specialties include drum machine and synthesizer programming, highly developed editing skills, and special effects generation. Post-production overview of quality control from listening to pre-lacquer cut acetates through listening to test pressings and cassette recordings.

EMILSAM VELAZQUEZ
Engineer & Producer
JOGAL MUSIC
230 West 55th St., (9H), New York, NY 10019
(212) 245-3392

Credits: I am a professional musician who has worked with Tito Puente, Willie Colon, Larry Harlow, Celia Cruz, Roy Ayers, Luis "Perico" Ortiz, and others. **Services Offered:** I have specialized in the Latin market for eight years, am fluent in English and Spanish, and have

—LISTING CONTINUED ON NEXT PAGE

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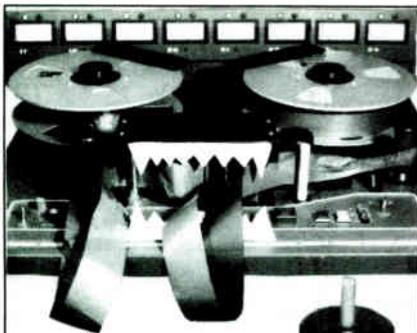
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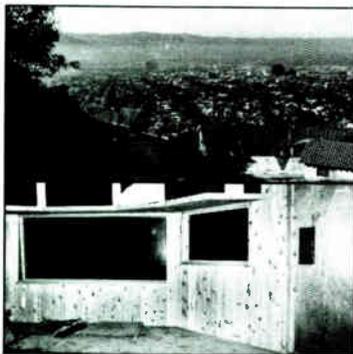
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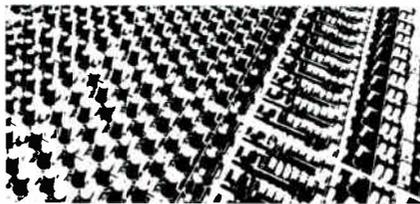


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INDEPENDENTS



—LISTING CONTINUED FROM PAGE 175

worked with a variety of musical projects. My primary interest is engineering and producing. I am a studio contractor, an arranger, an engineer, a jacket designer, and am generally qualified to handle pre- and post-production work, carrying out projects from start to finish.

BRIAN A. VESSA
Engineer & Producer
BV PRODUCTIONS
P.O. Box 3272, Santa Monica, CA 90403
(213) 453-3636

Credits: Underscore to Michael Mann films *Band of the Hand* and *Manhunter*; four gold albums and assorted recordings for Ariola and Melody Records; Brett Perkins *Let It Show*; numerous commercials and industrials for Porsche, Disney, Del Monte, etc.

Services Offered: Production and engineering, music for records, film, and video, Synclavier and computer/synth programming, studio design and maintenance. With over 20 years experience as a musician, ten years in the professional audio field, and a degree in electronics, I can provide the necessary link between concept and realization of a musical project, whether for an album or in the world of video, synchronizers and SMPTE. My interest is being a catalyst in the creative process.

MATTHEW WALLACE
Engineer & Producer
DANGEROUS RHYTHM PRODUCTIONS
2321 Russell St. Ste. 1-H, Berkeley, CA 94705
(415) 843-3923

Credits: Faith No More, Legal Reins, Shy Hands, Yo, Party of Five, Naked Into, Monkey Rhythm, All Fell Down, Bandaliers, Santa Clan, Ten Tall Men, McGuire's, Love Overdose, Tom Fogerty, Glorious Din, My Sin, Necropolis of Love, Spoon Ranch, Pray for Rain, Jeff Fogerty, David Crosby, Three Day Stubble, Marshall Fields, Castle Blak.
Services Offered: Pre-production, engineering, producing and post-production.

GREG WARD
Engineer & Producer
EARZ ENTERPRISES
3633 Crooks Rd., #7, Royal Oak, MI 48073
(313) 549-0268

Credits: Engineering, mixing and production credits on several major labels. Artists include: Parliament/Casablanca, Funkadelic/WB, Red Hot Chili Peppers/EMI, Bobby Barth/ATCO, Automatrix/MCA, George Clinton/CAP, Zapp/WB, Bootsy Collins/WB. TV/audio prod. Sat. Nite Music Machine/WDIV-TV. Currently eng./prod. two projects, new groups of new rock persuasion.

Services Offered: Engineering and/or production services offered. Specialty in rock, funk and pop music. Ten years' professional experience. Adaptable to any studio, project or relationship to project. Based in Detroit, willing to travel. Connections in Japan within the next 12 months. For a great sound and a good time call EARZ.

ROBBY WEAVER
Engineer & Producer
BERTUS PRODUCTIONS/THE STUDIO
22723 Berdon St., Woodland Hills, CA 91367
(818) 883-1920

Credits: Engineer: film scores: James Newton Howard *Eight Million Ways To Die*; Patrick Leonard *At Close Range*; and film mix Madonna title song; Jay Ferguson *Quiet Cool*.
Albums: Johnny Gill, Teddy Pendergrass, Spirit, Rory Block.

Services Offered: Serving a select clientele with advanced music/audio technology and state-of-the-art production techniques in an intimate, comfortable environment. 24-track music production, post-production sound, ¼-inch video lock-up, polysampling Synclavier, voiceovers, special effects sound and digital sound library, composition.

STEVEN WELLNER
Engineer & Producer
370 Kerrwood Drive, Wayne, PA 19087
(215) 964-0564 or (305) 774-1634
Credits: Sound Reinforcement: 1984-86 *Antics*, *Front Page East Coast* tour. Demo: Dan Traynor Band, *Mix* rock interview.
Services Offered: Engineering and production assistance.

PAUL WICKLIFFE
Engineer & Producer
SKYLINE PRODUCTIONS/SKYLINE STUDIOS, INC.
36 West 37th St., New York, NY 10018
(212) 594-7484

Credits: 1986 Grammy Nominee for Engineering; Album—*Modern Manners* by Special Elk. Principal owner of Skyline Studios, NY and Horizon Sound, NJ. In the past ten years, I have recorded with name talents such as Pat Benatar, Jimmy Buffet, Irene Cara, Judy Collins, Sammy Davis, Jr., Steve Forbert, Robert Gordon, John Hall, John Hammond, Jr., Phyllis Hyman, Grace Jones, Maria Muldaur, Nile Rodgers, Shannon, The Spinners and Loudon Weinwright; and jazz artists Wynton Marsalis, Kevin Eubanks, Hank Jones, Chico Freeman, Mel Lewis, Bill Frisell and Marc Johnson.
Services Offered: Production and/or Engineering for records or commercials.

JOHN WICKS
Engineer & Producer
THIRD STORY RECORDS, INC.
5120 Walnut, Philadelphia, PA 19139
(215) 747-1201

Credits: Produced: The Dead Milkmen, Monette Sudler, The Nik Everett Group, The Johnsons. Engineering clients include: Patti LaBelle, Dexter Wansel, Eric Bazilian and Rob Hyman of "The Hooters."
Services Offered: Complete production service and record label.

PETER B. WILDER
Engineer & Producer
APEX—ADVANCE LTD.
44 Church St., Burlington, VT 05401
(802) 863-8652

Credits: Engineering: audio-for-video, Vermont Educational Television; remote audio broadcast, Vermont Public Radio; live audio mix for B.B. King, Randy Newman, Richard Thompson, others. Several albums and over 100 jingles. Production credits: Arranging, composition, and production of several regional albums, cassettes and jingles.
Services Offered: Total audio services, from inception forward. Engineering, studio, live or broadcast. Production including composition, arranging and instruments. Jingle production and composition. Synthesizer programming; studio design; studio equipment sales and installation, complete packages with and without MIDI compatibility. Our convenient location and friendly staff will be able to assist on any audio endeavor, be it record production, concert sound, audio for video, jingles, studio consulting or equipment supply. We're the one stop for Northern New England. "Have Ears Will Travel." Rates and prices on request.

W. BYRON WILKINS
Producer
SYNTAX PRODUCTIONS
30W141 Lindenwood Drive, P.O. Box 149
Warrenville, IL 60555-0149
(312) 393-4100

Credits: AT&T/Bell Labs, Pillsbury/Green Giant Co., Caterpillar Products. Member: AES, ITVA and AFL.
Services Offered: 4-track studio, computerized scripting, graphic/title slides, 35mm photography, multi-media program production, video soundtrack production, narration talent, original music production, radio commercial production.

JOHN D. WILSON/JOE P. ROBERTSON
Engineer & Producer
**CAVE PRODUCTIONS/
RECORDING ARTS CONSULTANTS**
114 E. Union, Prescott, AZ 86301
(602) 445-0413

Credits: John D. Wilson/Synchestra—Mother Earth's Lullaby, Daydreams, Silver Ships and Electric Snowflake—cartoon, Music From Left Field—Haven, They're Here. Ramada Inn—TeleSound. Joe P. Robertson/John D. Wilson: The Beamer Project-Sidetracked. Santa Fe—Promises, Pledges & Lies. The Record Peddler Sharlet Hall Museum / Earl Rodgers.

Services Offered: Complete budget planning, pre- and post-production, in-house, 16-track facilities for full production and demo projects. Access to 24-, 48-track studios available. Offering total project planning and development. Television and radio commercials, original music and video production.

ROBERT WINSOR
Engineer & Producer
 Normandy Sound, Inc.
 25 Market Street, Warren, RI 02885
 (401) 247-0218
 Credits: Beaver Brown, New Man, K.K. Proffitt, MX, Neutral Nation, The Fools, and many others.
 Services Offered: Record engineering and production.

GREGG WINTER
Producer
EXTRATERRESTRIAL SOUND
 174 Pacific Street, 1G, Cobble Hill, Brooklyn, NY 11201
 (718) 834-1441
 Credits: Debut album for The Nails entitled *Mood Swing* on RCA Records Worldwide, *The Pleasure Principle* by Treat (a Scandinavian hard rock band) on Polygram International, 12-inch mix of *After the Fire's Der Kommissar* on Epic Records, *Army of One* on WEA Records International, as well as numerous independent label productions.
 Services Offered: Being a songwriter and musician (I wrote and sang background vocals on "Eyes on Fire" for Blue Oyster Cult's *The Revolution by Night* album) is extremely helpful to my work as a producer. Helping bands get the most out of their songs and then tweaking the arrangements is priority one. From that crucial starting point the right performance and the right sounds can naturally flow.

HOWARD WOLEN
Engineer & Producer
 11016 Kittridge St., North Hollywood, CA 91606
 (818) 508-1259
 Credits: Smokey Robinson, Herb Alpert, Roberta Flack/Peabo Bryson, Thelma Houston, The Temptations, Natalie Cole, Dionne Warwick, Robert John, Kim Carnes, Barry White, Alphonse Mouzon/Herbie Hancock, Jack Miller Reggae, Teddy Pendergrass, Jennifer Holiday, Hollywood Beat, Solid Gold Show sound mixer/recordist, various others.
 Services Offered: Engineering, producing, songwriting and collaboration, mixing, fixing, editing.

GEOFFREY WORKMAN
Engineer & Producer
ORIGINAL PROJECTS UNLIMITED
 7926 So. Alder Way, Littleton, CO 80123
 (303) 972-3679
 Credits: 22 platinum records and over 50 million plus in record sales. Credits include Journey, The Cars, Queen,

Tofo, Foreigner, Sammy Hagar, Motley Crue, Twisted Sister, Tommy Tutone, Dokken, Ron Wood, Gary Myrick and more.
 Services Offered: Original Projects Unlimited's primary interest is in original bands that have the potential to be commercially unique and marketable. The company specializes in recording production and packaging independent records, including production, engineering, art direction, and marketing strategies. Management available. Fees vary. Bands may submit bios and demos. All studios welcome to send brochures.

BENJAMIN F. WRIGHT, JR.
Engineer & Producer
RITESONIAN PROD. INC.
 7454 Vista Delmonte, Van Nuys, CA 91405
 (818) 989-5373
 Credits: Arranger on many hits: Michael Jackson, Earth Wind & Fire, Janet Jackson, DeBarge, Aretha Franklin, Whispers, Shalamar, Tavares, Gladys Knight & The Pips, Temptations, Paul Anka, Sergio Franchi, Diana Ross, Quincy Jones and many commercials.
 Services Offered: 24-tracks with lots of digital equipment and computers. Arranger, producer (records, commercials, stage), songwriter, publisher, record label.

CLEVELAND WRIGHT III
Producer
MOTIVATOR MUSIC PRODUCTIONS
 1591 Bruckner Blvd., Suite #8-C, Bronx, NY 10472
 (212) 328-8323
 Credits: Temper, Anthony Malloy, Russel Patterson, Black Ivory, Impact, Instant Funk, Wayne and Charlie, Omar Chandler, Kid's At Work, Master's of Ceremonies.
 Services Offered: Songwriting, arranging, producing, 32-track pre-production MIDI recording studio.

PHIL YORK
Engineer & Producer
 705 E. Pioneer Dr., Irving (Dallas), TX 75061
 (214) 438-8248
 Credits: Twenty-year veteran has recorded gold and platinum records, musical numbers to Oscar-winning feature movie soundtrack. Was voted "Best Recording Engineer" 1983, by Texas Music Association. Skilled in all music styles. Produces and engineers audio for MTV type videos. Has recorded over 30 Billboard chart records. All in Texas.
 Services Offered: Familiar with major Dallas area recording studios. Produces and/or engineers only highest quality products. A knowledgeable and easy-to-work-with pro-



PHIL YORK
 Irving, TX

essional. Can provide complete studio or location recording and production services for rock, pop, country, and other styles of music. Offers fast, excellent judgment in recording and mixing. Specializes in music recording for record release and sale. Offers introductory and advanced multi-track recording engineer training classes in Dallas Metroplex.

MICHAEL YOUNG
Engineer & Producer
MOTOR CITY MEDIA CORP.
 13121 W. Seven Mile Rd., Detroit, MI 48235
 (313) 342-6550
 Credits: Sound reinforcement engineer; Paradise Valley Revisited, Lerbe, Moment's Notices, Howard Baker, Mayor Frederico Pena, Mayor Coleman Young, Faith for Miracles. Video sound engineer; Faith for Miracles, Community Highlights, Golden Moments. Producer/engineer; Will Harris Band, Knots.
 Services Offered: Live sound, video sound and recording engineering. Independent record and video production. Technical consultant for sound reinforcement and digital audio.

BACK ISSUES

- 1985 January, Northwest Studios. Superbowl Sound. Springsteen on Stage. Ray Parker Jr. Leon Russell.
- 1985 February, Independent Engineers & Producers. Brian Eno. The Art of Touring. Roger Powell on MIDI. Les Paul.
- 1985 March, Southeast Studios. Loudspeaker Technology. Martin Rushent. *Cotton Club* Sound. John Fogerty.
- 1985 April, Video Production Supplement with Facilities Listings. Compact Power Amps. Radio Recorders' Harry Bryant. Eurythmics.
- 1985 May, Northeast Studios. Digital Reverb. Flo & Eddie. Holophonics. Emmylou Harris. Humberto Gatica.
- 1985 June, Sound Reinforcement & Remote Recording Listings. Location Recording Tutorial. Grateful Dead Sound. Weird Al Yankovic. Synthesizer Oriented Studios. David Sanborn.
- 1985 July, Recording School Listings and Southwest Studios. Mixing Consoles. Dr. Demento. Kashif's Studio. Roger Nichols and John Denver.
- 1985 August, Studio Design Issue: Listings of Designers & Suppliers. Control Room Acoustics. Thomas Dolby. Orchestral Recording. On the Road with Prince. Neil Young.
- 1985 September, Southern California Studios. Film & TV Sound. Frank Zappa. Digital '86 Supplement. *Mishima* Sound. David Foster.
- 1985 October, New Products for AES. Maintenance & Testing. Abbey Road Studios. Ambisonics. Ben Burt on Imax. Nile Rogers.
- 1985 November, North Central & Canadian Studios. George Massenburg. Video Supplement. Alligator Records. Women in Media Production.
- 1985 December, Tape-to-Disk Listings. Mastering, Pressing & Duplication. TEC Award Winners. Sound for the *Twilight Zone*. Tom Waits.
- 1986 January, Northwest Studios. Equipping Home Studios. Paul Winter. SMPTE-MIDI Connection. Yoko Ono.
- 1986 February, Independent Engineers & Producers. Microphone Special Report. Laurie Spiegel. Budgeting for Sessions. Joni Mitchell. 1986 March — SOLD OUT
- 1986 April, Video Production & Post Production Facilities. Video Supplement. Al Kooper. Wireless Mics. Alan Parsons.
- 1986 May, Northeast Studios. Digital Supplement. Sampling Primer. CD Facilities. Future of Console Design. Steve Lillywhite.
- 1986 June, Remote Recording & Sound Reinforcement Listings. Roadability. Russ Titleman. CD-ROM & CD-I. Ry Cooder.
- 1986 July, Recording School Directory and Southwest Studios. CD Pre-mastering. Britain's Live Aid. Producer Rick Rubin. Christian Rock. Stevie Wonder. 1986 August — SOLD OUT
- 1986 September, Southern California Studios. Film Sound. Telecommunications. Production Music Libraries. David Byrne's *True Stories*.
- 1986 October, North Central and Canadian Studios. Television Sound. Fred Catero. John Entwistle's Studio. Backstage at *Late Night*.
- 1986 November, New Products Directory. CD-I Supplement. Kenny Loggins Tour Sound. Daryl Hall. Grounding Primer. Rupert Neve.
- 1986 December, Tape-to-Disc Issue: Mastering, Pressing & Duplication Facilities. CD Manufacturing. Mastering Engineers' Forum. Lee Ritenour's Studio. Casey Kasem.
- 1987 January, Northwest Studios. Alternate Tunings. REM. Sampling. Polygram's Dick Asher. Jack Nitzsche.

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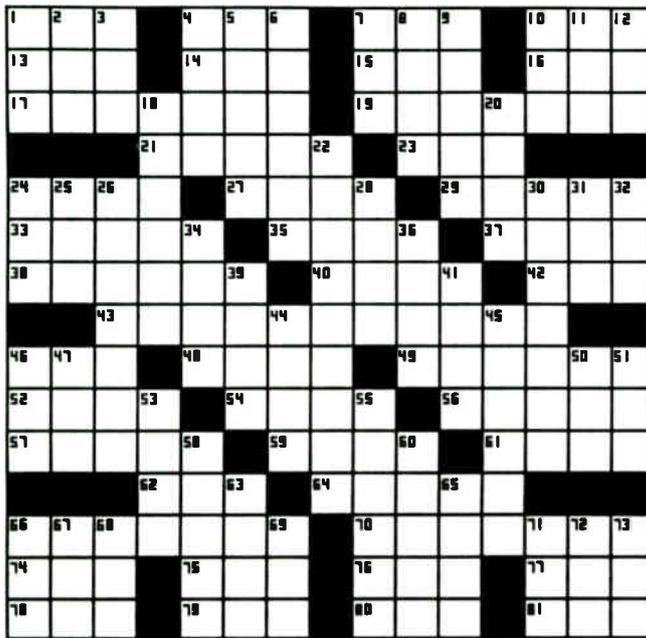
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MIX WORDS

—CONTINUED FROM PAGE 12, SESSIONS

STUDIO NEWS



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"CAN IT BE, OR CAN IT NOT BE"

ACROSS

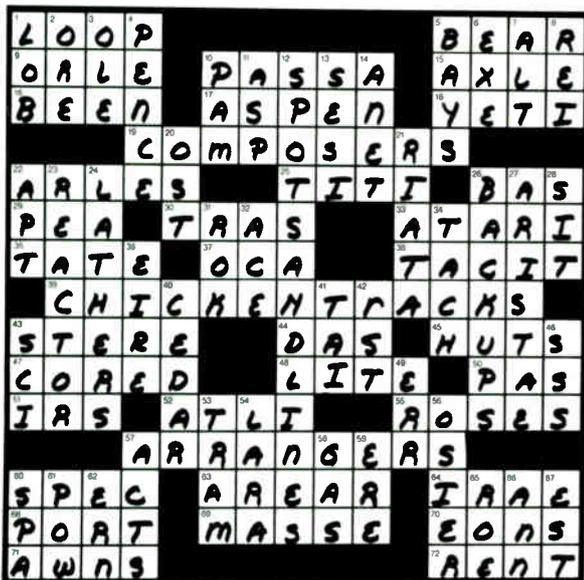
1. Routine
4. Sprite
7. I, in Essen
10. Fire
13. To's partner
14. Roof sealer
15. Also
16. Rubber tree
17. Orchestral boomers
19. Angelic axe
21. Songwriters' org.
23. Latin study word
24. Cicatrix
27. Leaves the path
29. Planter
33. Test
35. Dover ____
37. Donate
38. College
40. Noise ____
42. Type of cartridge
43. See 22D
46. Rocky Raccoon's girlfriend
48. Volcano
49. Type of eyes
52. Pronto
54. Reservoir
56. Hot spot
57. Certain Indian
59. Que ____
61. Hied
62. ____ Palmas
64. Red ink item
66. Strings
70. Double reed
74. Metric measure
75. Meadow
76. Another Indian
77. Hwy.
78. Household god

79. Baste
80. "____ Blues"
81. "Holy ____"

DOWN

1. Ship segment
2. ____ wolf
3. Cat
4. Greek letters
5. Poker
6. Padres
7. A great communicator
8. Earth's center
9. Payroll concern
10. It runneth over
11. Pub quaff
12. Butterfly ____
18. "Bourbon St. ____"
20. Synthesis pioneer
22. With 43A, questionable stage practice
24. Engine additive
25. Tract of land (archaic)
26. Result of independent promotion
28. Bridge play
30. Plugged in or anxious
31. A Peron
32. Sleep abbr.
34. Fisher's need
36. Eskimo settlement
39. News
41. Bible name
44. Obligation
45. Shores
46. On the ____
47. ____ ben Maryyam
50. Compass pt.
51. Pops
53. ____ Mall
55. Pay for in advance
58. Toughness standard
60. Receed
63. Snicker ____
65. European river
66. Comics prince
67. Kind of account
68. Poetic preposition
69. See
71. Tolkien bad guy
72. Hearing prefix
73. ____ Riders of the Purple Sage

Solution to December Mix Words



Corey Kissinger has joined *Sigma Sound Studios* in Philadelphia as manager of the Technical Services Department. And "*Abe Taylor Abercrombie*" is that studio's new media services engineer... *David Locksley* has joined the creative staff of *Sea-West Productions* and *Sea-West Recording Studios*, Hauula, Hawaii... *Omega Audio* in Dallas has installed a new CMX CASS I audio post-production editing system... *Goodnight Dallas* recently purchased Yamaha REV7 and SPX-90 processors, two Nakamichi MR-1 cassette decks, the Sony 501 ES PCM digital processor, and an assortment of microphones... *Studio Unicorn* in Bridgeport, CT, recently added the Yamaha TX-816 (eight DX7s), the SP-12 Turbo sampling drum machine and DX-Droid/EZ-Tracks software... *Greene Street Recording* in New York City has become the first studio in the United States to receive the AMEK APC1000 console. The desk was to be installed and functional in December... *Quantum Sound Studios* in Jersey City, NJ, has installed their SSL-4000 (48 input) console with Total Recall... *Trod Nossel Recording* in Wallingford, CT has purchased a Sony JH-24 with Autolocate from Lasalle Pro Audio Boston/Hartford... *Creative Audio/Video Engineering* has opened in Prescott, AZ, offering complete music and video production for radio, television, single artists, etc. Equipment includes a Soundcraft 1600 console, Tascam MS-16, 16-track recorder, Yamaha REV7 and SPX-90 digital effects units, dbx comp/limiters and noise gates, Lexicon PCM41 and UREI 809 monitors... *Studio Ultimo* in West L.A. completed installation of a custom 3-way TAD/JBL component monitor system... *Quest Recording*, Oshawa, Ontario (Canada), has upgraded to 24 tracks with the addition of a Studer A80 MkIV multi-track and Quad Eight Westar 36-input console with Compumix automation... *Bob Harman* and *Jim Cook* have joined *Walt Disney Pictures* as re-recording mixers in the studio's newly renovated Burbank sound facility... *The Enterprise* in L.A. has obtained some equipment for its electronic keyboard facility including a Lexicon 480-L, two Massenberg pre-amps, and six Lynx synchronizers... *Barbara Jefferies* has been appointed scoring administrator for *Record Plant Scoring, Inc.*, which leases and manages studios "L" and "M" on the Paramount Pictures movie lot... *Acoustic Spaces Inc.* has completed the designs for *Fantasy Factory's* new 24-track studio building. Construction will begin in the Spring in Sugarloaf, NY... *Solid Sound's* offspring business, *World Class Tapes* located in Ann Arbor, MI, purchased a new Infonics cassette master, model 204A, as well as a new Infonics cassette slave, model 364A. This enables them to produce real time quality at high speed time... *Greg Youngman Music* in Long Beach, CA, recently purchased a Prophet 2000 to aid in producing music and effects for radio/TV commercials...

FEEDBACK

Dear Mix:

The article entitled "Cassette Tapes: A Critical Survey" which appeared in the December, 1986, issue of *Mix* described tests of cassette tapes by an "expert." The method of testing and the criteria for judging performance are extremely questionable and contrary to tape manufacturers' methods of testing and the IEC testing standards. Any conclusions drawn from such testing would tell *Mix* readers very little about tape quality and perhaps mislead those readers who did not see the obvious flaws in test procedure.

The first and most obvious problem is introducing a variable such as noise reduction into the test. When one tests tapes, one must always realize that the recorder's influences are also being tested. This is inescapable. To introduce another variable such as noise reduction into the test removes the tape further from definite conclusions about its own performance. A second problem is the choice of test parameters. Frequency response depends on the bias signal, record preemphasis (assuming the playback equalization is correct), the record and playback heads (the widths of the gaps in particular), the flux level on the tape, and other, lesser factors. Frequency response is *not* a measure of tape quality. It is a measure of compatibility between tape and machine.

Tape quality is measured by dynamic range at high and low frequencies, modulation noise, print-through, consistency, and mechanical properties of the tape. The only parameter of quality mentioned in the article was the bias noise portion of dynamic range, which is the spread between bias noise and maximum output of a particular signal at a given limit of distortion.

As a "General Observation," the author claims type II tapes outperform type I tapes if the type II bias and record equalization are used for recording and the wrong 120-microsecond playback equalization is used for playback. This is not true. Such a tape will have more treble response, but it will also have more noise and be an inaccurate copy of the original signal. No true tape expert would make

such a suggestion without such a warning, and no expert would consider such a result to be better performance.

The article is interesting in that it represents an attempt by a creative and curious tape user to sort out cassette tape quality. *Mix*, as a recording industry magazine, should identify articles as written by true experts or by amateurs so that readers can better interpret the information. There were too many mistakes in this particular article that could mislead non-technical readers and injure the reputations of manufacturers of high quality products.

Sincerely,

Terence D. O'Kelly
National Sales Manager
Professional Products
Audio/Video
BASF Corporation, Bedford, MA

Dear Mix:

Cassette tape has lived with a mysticism surrounding it for as long as the medium has existed. The lack of correct information concerning cassettes has been reinforced by your magazine's publishing the cassette tape comparison in your December 1986 issue. The test methods used in this article bear no resemblance to correct test methods used in any professional recording situation.

After many years of working with magnetic tape both large and small, I have found that if one treats the cassette medium as a magnetic tape, and respect it the way we respect tape at any other point in the recording chain, it can give us reasonable renditions of what we attempt to record. Continuing to treat cassettes as some dark phenomena as this article implicitly does, only reinforces the inability of so many to deal with cassettes correctly. Truly, this article has shown the need for much more information about the cassette medium.

Matthew J. Sutton
Sutton & Associates, Seattle, WA

Note: The cassette tape survey in our December issue represented the author's attempt to quantify differ-

ences between tape types and brands using simplified methods and test gear such as a pink noise generator and audio frequency spectrum analyzer. The procedure was far removed from sophisticated and established practices such as the IEC testing standards and should have been plainly identified as such. Our apologies to all concerned for any misconceptions this may have caused.

Dear Mix:

As someone who subscribed to [another pro audio magazine] for many years, I find your format very refreshing. Articles on the video as well as audio aspects of studio and live work broaden perspectives on the marriage of the mediums which will soon occur. I've been doing live shows (concerts and video) up here in the Great White North for about 15 years and have always relied on professional audio publications for new products and skills information. The evolution of the digital world doesn't make it far past Toronto, Montreal or Vancouver; therefore your mag is of great service to us snowbunnies who try to keep up with the real world while trying to keep our snowblowers running.

As part of my business is becoming more video than audio, I would appreciate the addresses of some large-screen projection system companies (i.e., Barco and General Electric). This is definitely on my buying list for Spring '87, since there are none in this area and I feel it would be a good business move. Anyway, keep up the good work and keep your skis waxed.

Sincerely,
Michael Plant
Great Northern Sound
Hamilton, ONT, Canada

Dear Michael: For more information on the systems you mentioned, contact: General Electric Company, Projection Display Products Division, Electronics Park 6-206, Syracuse, NY 13221; and Barco Industries, Inc., 2211-B Executive St., Charlotte, NC 28208.

echo left/right" providing an echo return effect taken from the snare 1/4 cart; according to the Wendel manual this was designed to provide a less expensive alternative to renting a digital echo unit just to provide a snare drum echo in the studio.

This brings up the subject of documentation, which in the case of many products is unreadable, or at best confusing—often seeming to have lost something in the process of being translated from Sanskrit to Nahuatl. Happily, the Wendel jr manual doesn't follow the norm: it is concise (18 pages), helpful and informative, while keeping instructions in a light and occasionally even amusing vein. This is really how manuals should be written and many manufacturers could learn a thing or two by checking out Wendel's.

Triggering accuracy is excellent, and *fast*. Wendel's specifications state total trigger delay does not exceed 32 microseconds, which is roughly equivalent to 1/30th of a millisecond. In comparison, MIDI propagation delays are commonly encountered in the three to 15 millisecond range, and sometimes go much higher. In a variety of studio situations, triggering from drum machines, taped tracks, and live from a preamped mic signal, Wendel triggered so fast as to be considered instantaneous.

So, Wendel jr triggers like lightning, is versatile, and even comes with understandable instructions. But how does it sound? While the evaluation of the quality of sounds is largely subjective, I can safely state that Wendel's samples are excellent. We played the kick/snare cart (included with the unit) using an alternating bass/snare quarter note beat and synched it up to "Time Out of Mind" from the Steely Dan *Gaucho* CD. The drum sounds were identical. So you don't have to trust my opinion—if you've heard *Gaucho* or Donald Fagen's *The Nightfly*, then you've already auditioned the original Wendel, and Wendel jr's sounds are the same. By the way, the Wendel samples are all recorded fairly dry, so users are free to add their own favorite signal processing as required.

At \$995, Wendel jr is priced right, and it's a real studio timesaver, especially in those situations where the drum sound is somewhat lacking. The optional cartridges are priced in the \$75 range, and Wendel Labs recently announced an agreement to provide software of the Wendel sounds transferred directly in the digital domain to the Fairlight format, so CMI users can also take advantage of Wendel. Either way, Wendel jr is a winner—an indispensable tool with much to offer the creative producer. ■

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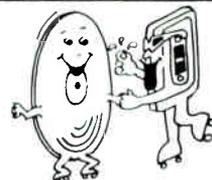
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ADVERTISERS INDEX

PAGE ADVERTISER

171	A & R Record & Tape Co.
145	Acoustic Sciences Corporation (ASC)
144	Advance Recording Products
20	Aircraft Music Library
41, 81	Akai/IMC
73	Alesis
63	Allen and Heath Brenell
174	Alpha Audio
171	American Tape Warehouse
157	AMP Services
187	Ampex Corporation
161	API Audio Products
94	Apogee Electronics
89	Applied Research and Technology (ART)
119	Audio Media Research (AMR)
104	Audio Technica US
153	Audioline
93	Kenneth A. Bacon Associates
102	Berklee College of Music
77	Beyer Dynamic
36	Biamp Systems
100	Blue Jay Recording
49	Bruel and Kjaer
61	Bryston
167	Burlington Audio/Video Tapes
101	Caig Laboratories
39	Carver Corporation
75	Carvin Corporation
80	CRL Audio
123	Clarity
95	Computer Music Systems
31	Crest Audio
133	Crown International
12	Digital Creations
175	Dimension
33	DOD Electronics
22, 23	Dolby Laboratories
71	Dorough Electronics
176	DRC Rebuilders
29	Eastern Acoustic Works (EAW)
94	Electrospace
165	Evatone
47	Focusrite
44	Fostex Corporation
173	Four Designs Company
148	Full Compass Systems
135	Furman Sound
154	Future Disc Systems
71	Genelec
69	Gold Line Connector
37	Bernie Grundman Mastering
90, 91	Harrison Systems
111	Hill Audio
19	Ibanez
160	Institute of Audio Video Engineering
181	Interlochen Center for the Arts

PAGE ADVERTISER

84	Kahler/APM
97	Kawai
67	Klark Teknik (DDA)
149	LaSalle Music Inc.
40, 134	Lexicon Inc.
161	Linear and Digital Systems
141	Littlelite
136	Los Angeles Recording Workshop
173	LT Sound
108	Mark of the Unicorn
176	Merrill Lynch Realty
43	Meyer Sound Labs
2, 3	Mitsubishi Pro Audio Group
129	Musically Intelligent Devices
99	NEOTEK Corporation
9	Rupert Neve Inc.
116, 117	New England Digital
57	Orban Associates
7, 140	Otari Corporation
27	Peavey Electronics
136	Pi Keyboards
165	Polyline Corporation
157	Pressing Plant
159	Professional Audio Services & Supply
147	Pyramid Audio
143	QCA Record Pressing
174	RCA Records
60	Renkus Heinz
129	Rhythm City Music
13	RolandCorp US
106, 107	Royal Recorders
52	Samson Music Products
87	Sancken Microphone Co.
127	Simon Systems
58, 59	Solid State Logic
40	Sound Investment Enterprises
188	Soundcraft Electronics
137	Soundcraftsmen
114	Soundtracs
123	Stoughton Printing
11	Studer Revox
141	Studio Consultants
103	Tannoy
17	TASCAM
65	Technical Audio Devices (TAD)
28	Techron Industrial Products
51	Telex Communications
138	Thoroughbred Music
14, 15	3M Corporation
121	Time Line
79	Turbosound
155	United Tape Company
25	UREI
139	Versadyne
167	Vertigo Recording Services
145	World Records
34, 35	Yamaha International



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