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Cover:
 Soundworks, in New York City, is located in the historic Studio 54 complex. Built six years ago, the studio was designed by its staff to be a futuristic music video production facility for in-house and outside producers.

Photo: Brenden Poh, Art Porta Studios

Cover Corner: Joe Jackson. The Interview begins on page 226.

Photo: David Gans



In *Getting into the Industry: A Guide for Women*, Rosanne Soifer offers practical advice and addresses some of the problems women encounter in the highly competitive fields of audio, video, and broadcasting. Page 53

DEPARTMENTS

- 5 FEEDBACK
- 8 CURRENT
- 10 SESSIONS/
STUDIO NEWS
- 74 STUDIOSCOPE:
MUSIC PUBLISHING
by Jeffrey Graubart
- 136 LUNCHING WITH
BONZAI: FIRESIGN
THEATRE
by Mr. Bonzai
- 177 BOOKSHELF
- 260 PLAYBACK
- 262 ADVERTISERS'
INDEX
- 263 CLASSIFIEDS

LISTINGS

- 83 NEW PRODUCTS
FOR 1984

MUSIC

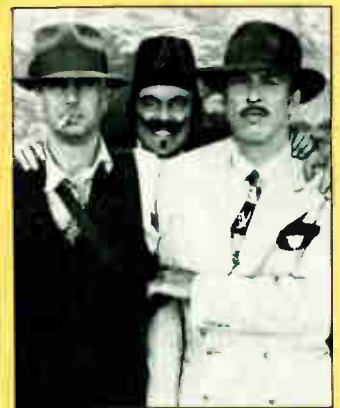
- 204 SESSION PLAYER
by Carol Kaye
- 208 ARTISTS STUDIOS:
PAKADERM STUDIO
by David Goggin
- 210 THE CRUSADERS
by Josef Woodard
- 220 THE PLIMSOLES
by David Gans
- 226 JOE JACKSON
INTERVIEW
by David Gans
- 234 DR. L.
SUBRAMANIAM
by Linda R. Reitman
- 243 MUSIC NOTES

AUDIO

- 16 STUDIO USE &
ABUSE
by Ken Pohlmann
- 22 MACHINE
ALIGNMENT
by Tom Lubin
- 35 BILL PUTNAM,
PART III
by Larry Blakely
- 44 GETTING THE MOST
FROM 8 TRACK
by John Alexander
- 48 ROSEWOOD
RECORDING
by Q. Bryce
- 53 GETTING INTO THE
INDUSTRY: A GUIDE
FOR WOMEN
by Rosanne Soifer
- 67 SOUND ON STAGE:
BOWIE TOUR PREP
by Bruce Nixon
- 78 DIGITAL
DISCUSSIONS
by Ken Pohlmann
- 142 PRODUCER'S DESK:
DENNIS MCKAY
by James Riordan
- 195 BUILDING A PLATE
REVERB
by Dennis Cronin
- 200 THE REVIEW ROOM
by Melodie Bryant

VIDEO

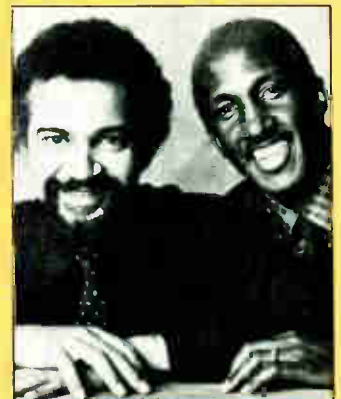
- 147 MIX VIDEO
SUPPLEMENT
(See contents page 149)



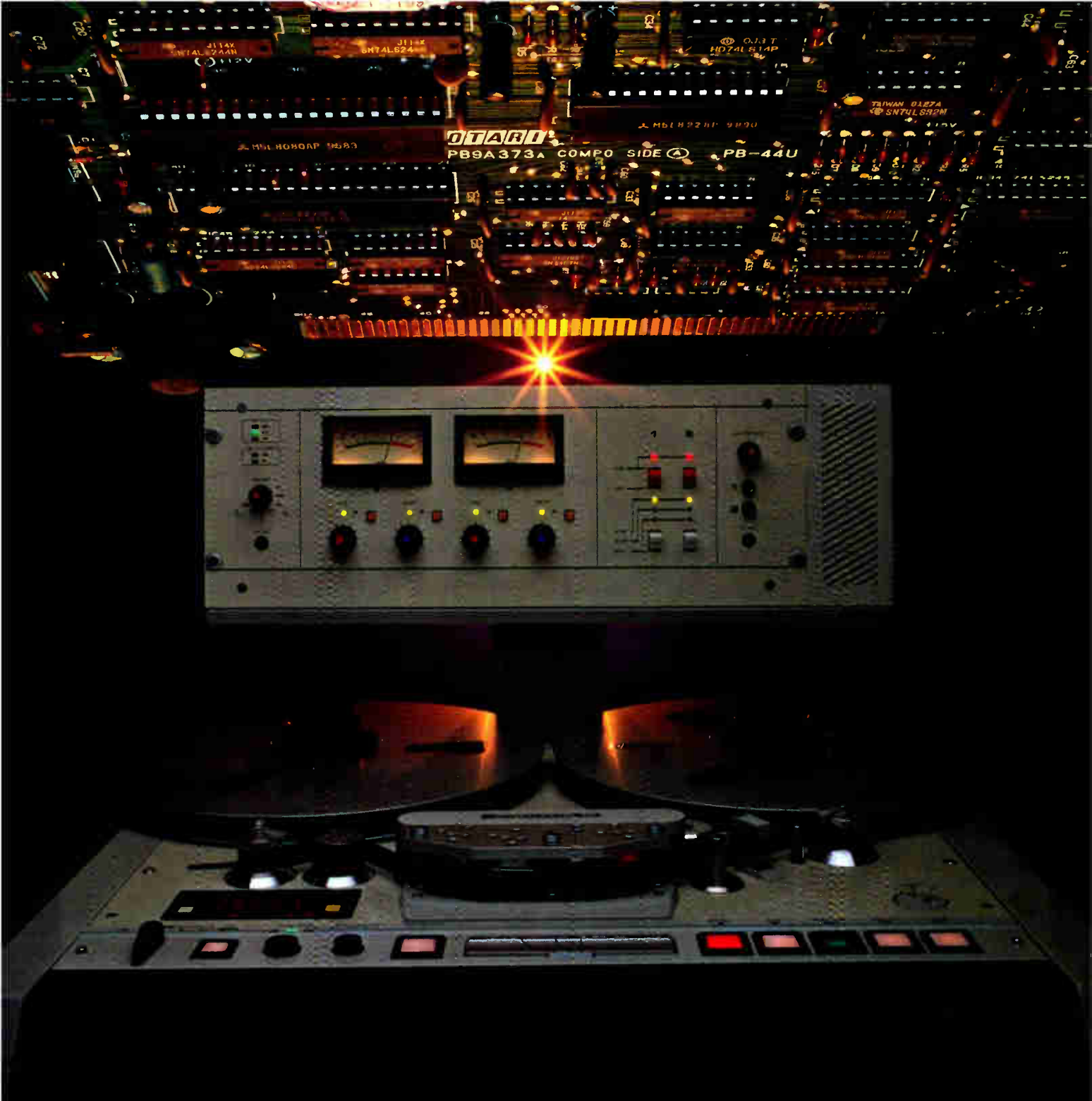
This Month, *Mr. Bonzai* lunches with Phil Austin, Philip Proctor, and Peter Bergman (better known as the zany co-conspirators of *The Firesign Theatre*) who talk about their past work and their new "Nick Danger" video album. Page 136



For an inside look at what's happening in the busy field of video production, check out our special 48 page *Video Supplement*, which begins on page 147.



In a frank and candid interview, *Joe Sample* and *Wilton Felder* recall their experiences over the years, as studio musicians, solo artists, and as the driving force behind *The Crusaders*. Page 210



OTARI'S SUPER ANALOG THE MTR-12

*The Audio Engineering Society Convention
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Mix Magazine is published at 2608 9th St., Berkeley, CA 94710 and is ©1983, by Mix Publications, Inc. This is Volume Seven, Number Ten, October, 1983. Mix (ISSN 0164-9957) is published monthly. Subscriptions are available for \$24.00 per year. Single or back issue price is \$3.00. Subscriptions outside USA are \$36.00.

Please address all correspondence and changes of address to Mix Magazine, 2608 Ninth St., Berkeley, CA 94710 (415) 844-7901. Controlled circulation postage paid at Berkeley, CA and additional mailing offices.

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

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An open letter to audio manufacturers from Doug Sax

RE: COMPACT DISC

There are many things that I should be doing for my company instead of writing this letter, and there are at least twenty valid reasons why I shouldn't open up this can of worms, but ultimately there is one deciding factor - it must be done.

A few months ago, during a magazine interview, I was asked if I considered the Compact Disc a threat to Sheffield Lab. "Only to my integrity," I replied, explaining that Sheffield ran digital master tapes on their recordings, but that I had serious reservations about their sound qualities.

The above answer is glib and true as far as it goes, but I frankly hadn't expected a storage medium that I feel to be far below established high fidelity standards to garner such outlandish praise from the big three magazines: *Stereo Review*, *High Fidelity* and *Audio*. Some of what I've read is astounding. Possibly I shouldn't have expected anything more from publications that have established a reputation for being non-critical, but the amount of misinformation being written could fill a magazine - and does. Any privately-held opinions concerning these magazines don't count. What does count is the fact that they have over 2 million readers and these readers are your customers, or used to be your customers.

I invite you to read the last three issues of these magazines, and if you still have retained your lunch, ask yourself honestly: would you buy a new phonograph cartridge at this time? Would you buy a new preamp boasting a superior RIAA section? How about a new CD player? I have two myself; well, I borrowed two but I bought the discs. If you like the CD system you needn't read further - unless perhaps you like it but don't manufacture it.

Glad you're still with me. A quick evaluation: clearly the CD does not match the abilities of a digital master tape. A handful of chips are not doing their job as well as \$20,000 worth of professional electronics. There appears a constant series of aberrations that you don't hear from a professional digital master. Reviewers perceive these as engineering faults that have been covered up by the shortcomings of analog recording. Even though I feel a digital master is musically disastrous, I respect its ability to store energy. It will sound just as bad in one year as it did the day it was made. An LP cut from a digital

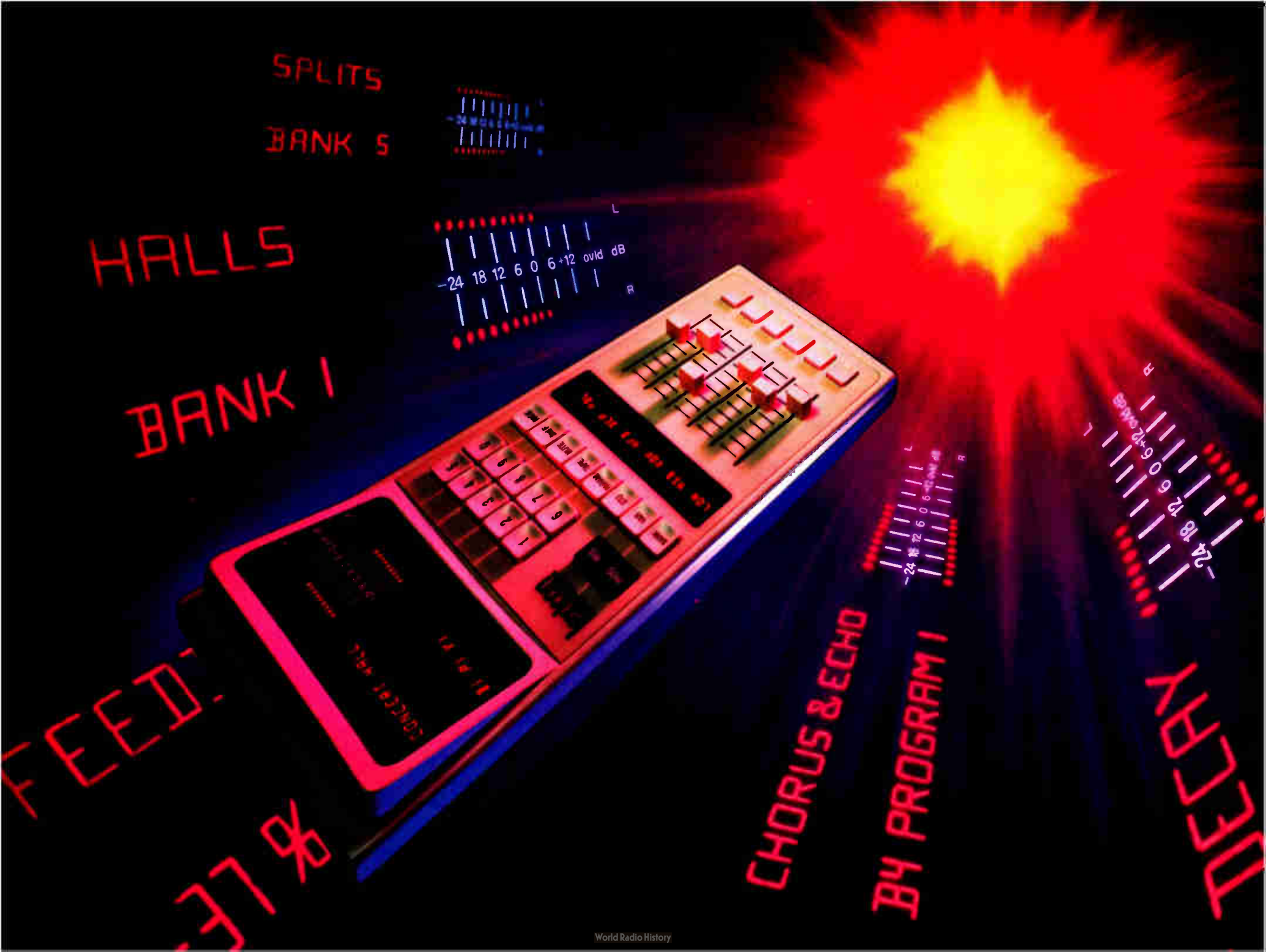
master tape will either sound inferior to, or essentially the same as, or in some cases, definitely better than the CD version. The differences will lie in how well the LP was mastered and processed, and how well the CD master tape was made. On the other hand, if the CD master was made from a good analog tape, then the LP can blow the CD out of the water.

Surprised? That's my opinion, speaking for The Mastering Lab, and the opinion of Bernie Grundman of A & M Records. Between us we have over 35 years of independent disk cutting experience. It is also the opinion of top recording engineers when they have compared the \$7.98 production pressing to the \$17.00 CD. The controversy among professionals concerning digital recording wouldn't exist if the digital recorder even approached its claim of accuracy but, as it stands now, many engineers not only prefer analog recording to digital but actually feel that the aberrations of digital make it unusable. Do you think that your customers would be interested in these facts or are they and you better served by the one-sided view expressed by the "big three"?

I'm not going to waste your time reciting the litany of high fidelity rules that are being broken by the Compact Disc. Suffice it to say that the CD will not fool the ear forever and that its maximum potential is far below that which analog has achieved; it is a finite, low resolution, synthesized model of its input. The only thing infinite about the CD is the bullshit.

Something doesn't feel right about how all this is developing. The push from the manufacturers of CD systems is unprecedented in my memory. Sony is spending a fortune transporting buyers, representatives and writers to Japan and back. The media cannot be immune to the onslaught of players, PR men and advertising. Readers have been exhorted to buy the CD system months before its availability but I read no words concerning the forthright statement from Denon that the CD system has some flaws. I see nothing about the dramatic slowdown of sales for the CD in Japan where there is a surplus of hardware and software and no advice to the buyer to wait a bit - that some of these models are first generation, their replacements are forthcoming and you might be buying last week's broccoli. Where is the reasoned overview that has historically proven that introducing a new storage medium is often prone to failure? How attractive will the CD be when Pioneer and Matsushita

—page 72



SPLITS

BANK 5

HALLS

BANK 1



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World Radio History

CURRENT

AES Convention Comes to New York

"Exploring the Digital and Analog Domains of Today and Tomorrow" is the theme for the 74th convention of the Audio Engineering Society, to be held October 8-12, 1983 at the New York Hilton Hotel. The convention will begin on October 8, which is one day earlier than previously announced. That day has been designated as "D-Day" and will specifically focus on papers and workshops dealing with digital technology. The three floors of technical and manu-

facturers' exhibits will open on Sunday, October 9, and will continue until Wednesday.

The convention will also feature special sessions on motion picture and video sound, a seminar on studio business operations, and 80 technical papers on a variety of subjects, including sound reinforcement, acoustics, studio design, test and measurement procedures, psychoacoustics, transducers and disk recording.

An extensive series of workshops is scheduled, with programs on time coding, film/tape synchronization, tape machine design, microphone techniques, and digital editing. An audiovisual presentation on the Compact Disc will be offered on Saturday and Sunday evenings.

A splendid time is guaranteed for all. ■

Ensemble, Ornette Coleman, Wilhemina Fernandez, the Inuit Indian Throat Singers, and many others. . . . *Sony Professional Audio Products* has appointed new MCI/Sony dealers: *Lake Systems*, Newton, MA; *Leo's Professional Audio, Inc.*, Oakland, CA; *Pro Audio General Store, Inc.*, Coral Springs, FL; *Professional Products*, Bethesda, MD; *Studio Supply*, Nashville; *Westlake Audio, Inc.*, Los Angeles, and *Recording Studio Equipment*, North Miami Beach, FL. . . . Also at Sony, recent appointments include *Jeff Evans* and *Ernie De Los Santos* sales managers for the western and central regions, respectively. . . . *William H. Butler* has resigned as president of *Fernseh Inc.* and until a new president is named, the company will be run by a management committee consisting of Marketing Vice President *Dietmar Zieger*, Operations Vice President *Erich Zipse*, and Financial Vice President *Donald K. McCauley*. . . . *Allen and Heath Brenell USA, Ltd.*, has appointed *Secom Systems* of Chamblee, GA, to represent their products in Tennessee, North Carolina, Mississippi, Alabama, Georgia, and South Carolina. Newly appointed for New Jersey and New York (including New York City and Long Island) is *48th Street Musical Enterprises* of Patterson, NJ. . . . *Satellite Audio Report*, a new monthly newsletter covering the distribution of audio programming by satellite, will begin publication in October. Subscriptions are \$185. For information, contact *Satellite Audio Report, Waters & Co. Security Mutual Bldg., Suite 322, Binghamton, NY 13901*. . . . *The 3M Company* has designated *Positive Video* (Orinda, CA) as an authorized Videodisc pre-mastering facility in Northern California. . . . *Tapette Corp.*, audio, video and flexible disk (diskette) duplicator, has appointed *Phil Cook* as Vice President, Operations. . . . *Garth Gentilin* has been named Vice President of sales at *Unitel Video, Inc.* . . . *Quad/Eight Electronics* announces the appointment of *Joe Urbanovitch* as Chief Engineer, Manufactured Systems. . . . Sales manager promotions at the Magnetic Tape Division of *Agfa-Gevaert* include *Robert Zamoscianyk* (southern region), *Mark Nevejans* (Atlantic region) and *Peter Jensen* for the midwest region. . . . The corporate headquarters for *Altec* has moved to 1250 Gum Street, Anaheim, CA 92806, (714) 632-7717. Their mailing address is Box 3113, Anaheim, CA 92803. All Altec manufacturing and customer service/repair has been transferred to 10500 West Reno Ave., Oklahoma City, OK, 73126. (405) 324-5311. . . . *Lexicon's* Chief Executive Officer, *Ron Noonan*, has won the coveted Marion (USA to Bermuda) cruising race. Noonan's Bristol 40 sloop *Wildflower* won overall first place in the 645 nautical mile race. Corrected time was 3 days, 17 hours, 47 minutes and 18 seconds.

notes

Due to the demand for *Studer* products, the company has initiated a U.S. dealership program, including *Audio Engineering Associates* of Pasadena, CA; *Bridgewater Custom Sound* of Harvey, IL; *Doug Brown Enterprises* of Tulsa, OK; *Cramer Video* of Needham, MA; *Midcom, Inc.* of Arlington, TX; *Emco, Inc.* of Rockville, MD; *Pro Audio General Store* of Atlanta, GA; Coral Springs, FL, and Carol Stream, IL; and *Studio Sonics Corporation* of Schaumburg, IL. . . . Also at Studer, *Hans D. Batschelet* announced the appointment of *Nancy M. Byers* as Eastern Regional Sales Engineer and *Nick Balsamo* as Northeastern Regional Manager. . . . *Crown International* has announced the appointment of two new organizations, *Kodo Associates* and *Promark Associates*, as representatives for the firm's electronic component products. . . . Some 2,200 persons participated in the recent *Audio-Visual America* conference and trade show in Chicago. The annual event, sponsored by *NAVA, the International Communications Industries Association*, featured over 50 workshops and an exhibit of some 200 booths from major manufacturers. . . . *Randy Kling*, president of *Disc Mastering Inc.* of Nashville, TN, has been appointed a dealer for *Tannoy* products in the Nashville area. . . . *3M* announced it is selling the service support capabilities and spare parts inventory for its professional analog audio recorders to *Electro-Technology Corporation*, Menlo Park, CA. The sale includes a licensing agreement to manufacture spare parts. . . . "Music For All People," the Los Angeles music exposition, will be held November 18-20, 1983 at the L.A. convention Center. . . . *Fran Dym* and *Sumner Rider & Associates, Inc.*, announces the formation of *Dym/SR&A, Inc.*, (New York City), specializing in public relations for electronics and high technology companies. . . .

The *Schubert Systems Group* has expanded to a full service sound reinforcement company by acquiring the assets of *Innovative Audio Inc.* In addition, *David Morgan* has been taken on as a new partner of the Gardena, CA, based firm. . . . *Thomas F. Curry* has been appointed to the position of General Manager of *Eureka Teleproduction Center* in San Carlos, CA. . . . *Bill Van Doren*, a long-time veteran of the prominent Studer organization, has joined *Digital Entertainment Corporation* (DEC) as regional manager for the newly established west coast office in Hollywood. . . . *Synergetic Audio Concepts* has announced a fall/winter schedule of 2-day audio engineering seminars on solving basic audio and acoustic problems, and will include the use of the Crown TEF Analyzer. Upcoming seminars will be held in: New York, Oct. 6-7; Washington, D.C., Oct. 18-19; Atlanta, Oct. 26-27; Orlando, Nov. 7-8; Dallas, Nov. 15-16; Houston, Nov. 29-30; Las Vegas, Dec. 13-14; Anaheim, Jan. 18-19, 1984. For information, contact Syn-Aud-Con, P.O. Box 669, San Juan Capistrano, CA 92693. (714) 496-9599. . . . *Bruce Thorkelson* has joined *Ampex Corporation's* Magnetic Tape Division as Southwest regional sales manager. . . . The Board of Governors of the Los Angeles chapter of the *National Academy of Recording Arts & Sciences* (NARAS) has elected *Dave Pell* chapter president, *Morgan Ames* first vice president, *Marilyn Baker* second vice president, *Alfred Schlesinger* treasurer and *Peter Luboff* secretary. . . . *Music & International Promotion Management* is a new publication from Denmark aiming to create an international forum for music managers. For information contact Pat Zumph, 1100 N. Dearborn Parkway, #1004, Chicago, IL 60610. . . . The *New Music America - Washington '83* festival will be held October 7-17, in Washington, D.C. The event will include performances by *The Philip Glass*



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NORTHEAST

MCI recording artists *The Fixx* are currently working on new material at *The Workshope Recording Studios*, Douglaston, NY, with engineer *Rob Bengston*. Twenty four track live recordings of *Pete Townshend* and *Monty Python* were recently mixed at The Workshope for the Miramax Films presentation "Secret Policeman's Private Parts," musical director, *A. Brewer*; engineers, *Rob Bengston* and *Kevin Kelly*. . . . At *Bearsville Studios* in Bearsville, NY, *Bebe Buell* recorded, with *Rich Derringer* producing and *Tom Edmonds* engineering. Newly signed Bearsville Records recording artists *The Deal* currently recording a 4-song EP, with *Richard Gottehrer* producing, *John Jansen* engineering. . . . At *Normandy Sound* in Warren, RI, Journey's drummer *Steve Smith* has recently completed his first solo LP *Vital Information* for CBS Records. The album, produced by Steve Smith, was recorded and digitally mixed by engineer *Phil Greene* and assistant *Tom Soares* and digitally mastered by *Bob Ludwig* at *Masterdisc*, NY. The record includes such notables as bassist *Tim Landers* (The Crusaders, *Billy Cobham*), guitarist *Mike Stern* (*Miles Davis*) and *Dean Brown* (*Billy Cobham*) and saxophonist *Dave Wilczewski* (*Al Kooper*, *Mat "Guitar" Murphy*). . . . *Zip Code* is recording their soon to be released EP at *Underground Sound* in Farmingdale, NY, with *Michael Smallenoff* producing and *Stu Ruda* engineering, and *Body Heat* is in laying down tracks for their new single with *Michael Smallenoff* producing and *Stu Ruda* engineering. . . . At *North Lake Sound* in North White Plains, NY, recent sessions include: new pop artist *Rocky* laying tracks for his debut album on *Roulette Records*, with *Elliott Rothpearl* and *Chris Cassone* producing and engineering. *Dr. John* laying keyboard tracks for reggae artist *Louis Blanche's* project, with *Chris Cassone* at the board. . . . Recent activity at *Wizard Sound Studios* in Briarcliff Manor, NY, includes *Ian Hunter* recording his new Columbia album with *Max Norman* producing, and *Mike Scott* engineering. *The Armband* in recording a new album with *Mike Scott* producing and engineering, *Phil Magnotti* assisting. . . . At *Syncro Sound Studios* in Boston, MA, *The Cars* began pre-production for their forthcoming LP for *Elektra Records*; *Thom Moore* and *Walter Turbitt* shared the engineering chores and *G.S.* assisted. . . . At *Celestial Sounds* in NYC, *Melba Moore* is in, *Paul Lawrence Jones III*, *Skip Anderson* and *Steve Williams* producing. *Carl Beatty* engineering, *Larry DeCarmine* assisting. . . . At *Greene Street Recording*, NYC, *Pumkin* producing a 12" dance single by *Disco 4* for *Profile Records*. *Otis Liggett* returns to the studio after completing a remake of "Every Breath You Take," to start work on another 12" for *Emergency Records*. *Roddy Hui* engineering with *Bart Adams* assisting. . . . *Air Craft Communications* in Pittsburgh, PA, recently completed the soundtracks

for the promotion of Pontiac's new car "Fiero." Local producer *Ron Hankison*, who has produced jingles for *Fisher Scientific*, *Cosmopolitan Health Clubs* and others, wrote and produced the music for the soundtracks. *Air Craft* engineer *Gary Hohman* did the guitar, synthesizer, and vocal tracks, while studio manager *Barney Lee* engineered the session and sang lead vocals. . . . At *Trod Nossel Recording Studios* in Wallingford, CT, *Primm Productions* of Santa Ana, CA, recorded vocal tracks for a film featuring *Ron Husmann*. Hit songwriter *Sarah Nix* prepared cassette dupes for submission to a major artist. *El Tren Latino* came in from New York led by *Ed Wilson* and produced by *Sonny Bravo* to cut a single for promotional purposes connected to their upcoming tour of Costa Rica. . . . At *Unique Recording* in NYC *Johnny Copeland* is recording tracks for his upcoming album for *Rounder Records*. *Dan Doyle* producing and *Michael Finlayson* engineering, *Cathy Gazzo* assisting. . . . *Remote Men* have been recording basics at *Soundworks Digital Audio/Video*, NYC, for a future release. Additional tracks are being done at *Quadrasonic*, NYC, with engineer/producer *Steven Remote* and high-tech synthesist *Man Parrish*. Final mixing and audio sweetening will be done aboard the *Aura Sonic* mobile audio truck from Flushing, NY. . . . From Boston, MA, *GBH Productions'* mobile audio facility, Unit 4, was once again the control center for audio recording and post production for the PBS series "Evening at Pops." The programs, which will be offered as high fidelity stereo simulcasts, were mixed by veteran audio producer *John McClure* and engineer *Steve Colby*. Multi-track and synchronizer duties were managed by *Frank Cunningham*. . . . At *Quadrasonic* in NYC, *Maurice Starr* is busy producing *Arista* recording artist *Tom Brown's* next single "Rockin' Radio." Engineer: *Dave Ogrin*; asst. engineer: *Tommy Gonzalez*. . . . At *Blank Tapes* in NYC, *John Morales* and *Sergio Munzibai* producing a mix for *The Tubes* for *Capitol Records*. *Butch Jones* engineering. *Morales* and *Munzibai* also producing a mix for *LaToya Jackson* for *Larc Records* and the *Soul Train* theme by *O'Brian* for *Don Cornelius*. *Butch Jones* engineering. . . . Recently at *The 19th Recording Studios*, South Glastonbury, CT, include pop gospel artist *Scott White* in with producer *Rahni Harris* and engineer *Ron Scalise*. *The Riverside Drivers* are doing their debut 45, *Wes Talbot* engineer and producer. . . . Recent guests at the *Boogie Hotel* in Port Jefferson, NY, included *Immaginos* completing their new album for *CBS Records*. *Sandy Pearlman* and *Albert Bouchard* are producing. *Paul Mandl* engineering with *Chris Isca* assisting. . . . Recent activity at *RBY Recording and Video* in Southbury, CT, included *Eddie's Mother* in mixdown sessions of two original songs for major label consideration. Engineers *Jack* and *Evan Jones* were assisted by *Dave Stern* and *Ralph* and *Ellen Jackson*. A video shoot of one tune was also completed. *David Quinn* produced. . . . Recent activity at *Skyline*, NYC, in-

cludes *Air Supply* recording a new single for *Arista*, produced by *Jim Steinman* and engineered by *John Jansen* and *Arthur Payson*. *Richard Gottehrer* producing EPs by *Tim Scott* for *Instant Records* and *The Bongos* for *RCA*, both engineered by *John Jansen*. . . . At *Chelsea Sound Studios*, NYC, recording is in progress for the soundtrack to *Louis Malle's* new *Universal Pictures* film "Crackers," starring *Donald Sutherland*, *Jack Warden*, and *Sean Penn*. *Glen Roven*, who wrote and arranged the music, is conducting for producer *Ed Lewis*, with *Phil Bulla* engineering, *Michael Allaire* and *Gene Curtis* assisting. . . . At *Secret Sound Studio* in NYC, *Mike Stern* recorded his new album for *PMC International* with tracks being put down by such artists as *David Sanborn*, *Victor Lewis* and *Tom Barney*. *Hiram Bullock* is producing with *Scott Noll* engineering and *Warren Bruleigh* assisting. . . . At *Kajem* in Gladwynne, PA, session activity includes *CBS/Portrait Records* artist *George Wallace* produced and recorded a new single, "A Real Friend," His wife, *Amy Bolten*, who is with *Import Records*, accompanied *Wallace* on vocals. *Mitch Goldfarb* engineered.

SOUTHEAST

At *Gizmo Recording* in Vienna, VA, *Mississippi Dan Niblett* recording a single for *Gizmo Records* called *Take, Take* scheduled for early fall release. Also *Melinda Root* is working on the single "Justifiable Homicide" for *Gizmo Records*. These are both country music records engineered by *Dan Niblett* and *Bob Dunbar*, produced by the same duo. . . . Current recordings at *Music City Music Hall* in Nashville, TN, include *RCA* artist *Dean Dillon* working on his next single with producer *Blake Mevis* and engineer *Bill Harris*. Hawaii's country artist *Melveen Leed* completing a new album with her producer *Bud Dant*. *Bill Vandevort* is engineering the project. . . . At *Soundshop Recording Studios* in Nashville, TN, producer *Ron Chancey* was in working on some *McDonalds* commercials with *Les Ladd* engineering. The *Jimmy Sturr Polka Band* was in cutting its new album. *Tom Pick* engineered. . . . *Stevie Nicks* was at *Criteria Recording Studios* in Miami, FL, utilizing their post production audio facilities for an upcoming TV special. Present at the session was producer *Jimmy Jovine*, with engineer *Shelley Yakus* at the board. *Richard Achor* assisted. . . . At *Bullet Recording* in Nashville, TN, *Neal Joseph* and *Keith Thomas* begin production of a new Praise album for *Word Records*. *Scott Hendricks* and *Danny Mundhenk* are engineering. *Kyle Lehning* is in working on tracks for a new *Bobby Caldwell* album on *Polygram Records*. *Danny Mundhenk* is assisting *Kyle* at the board. . . . Recent activity at *Crescendo Recorders*, Atlanta, GA: in Studio A, producers *Larry McBride* and *Milan Bogdan* are working with their act *Atlanta*. *Milan Bogdan* and *Gary Ham* engineering.

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Starshower has been working on some live two track digital with *Will Eggleston* engineering and the band producing. From *Strawberry Jamm*, West Columbia, SC: *Randy Roddy* has just released *Memories of You* on Frontier Records. Co-produced by *David Spinks* and *John McCollough*, the release is being promoted by *Jack Pride*. *Rob Crosby* has just released "Hard to Be a Working Woman" on Guru Records with executive producers *Larry King* and *Bobby Vinson*. The single was produced and arranged by Rob and co-engineered by *Rob* and *Bob Curlee*. News from Muscle Shoals, AL, includes *Millie Jackson*, at *Muscle Shoals Sound Studios*, with *Brad Shapiro* producing. Producer/songwriter *Bud McGuire* mixing tracks on *Eddie Moore* at *Fame Studios*. MCA Nashville head *Jim Foglesong* producing session on the *Thrasher Brothers* at *East Avalon Recorders*. *Bob Ferguson* producing and *Lee Daley* and *Alan Schulman* engineering album on *Gary Jolly* at *Wishbone, Inc.* In Orlando, FL, recent studio activity at *Bee Jay Recording Studios* includes the mixing of *Axe*'s new album for ATCO Records. At the board was *Andy De Ganahl* with *Al Nalli* producing. Famed guitarist *Johnny Van Zant* recently started his new album project for MCA with *Bill Vermillion* at the controls. Activity at *Disc Mastering, Inc.* in Nashville, TN, includes a variety of well known country acts. *Leon Everette*, just off a top ten country single, was recently in to finish up both another single ("The Lady She's Right") and an album. Everette and *Ronnie Dean* co-produced the recordings, with engineer *Randy Kling* of DMI mastering the projects. At *New*

River Studios in Fort Lauderdale, FL, *Ross Emery Band* recording for upcoming album project for Bagel Records. *Joel Levy* producing, engineered by *Peter Yianilos*, assisted by *Ted Stein*.

SOUTHWEST

At *One World Productions*, Taos, NM, *Michael Hearn* (former guitarist with Michael Murphy) with *Micky Guy* mixing down live remote recording of the *Great American Honky Tonk* band *Peter Miceli* engineering. . . . *Ric Tangle and the Squares* have completed production on their fully mastered 7-song demo at *ACA Studios* in Houston, TX. Produced by *Rick Poss*, the project was engineered on 24 tracks by *Andy Bradley*. . . . At *Rivendell Recorders* in Pasadena, TX, the Contemporary Christian rock group *Petra* began recording their sixth album release this month. Los Angeles-based engineer/producer *Jonathan David Brown* is at the board. *Petra*'s last album released fall of '82 has sold over 120,000 copies thus far on Star Song Records. *Big Picture Productions* has completed producing a 3-song master demo featuring music written by Houston artist *Tim Munson*. Recorded and mixed at *Rampart Studios* in Houston, TX, the project (entitled "A-Pace") features *Buck McKinney* on vocals. Producing and engineering for Big Picture Productions was *Dan Yeaney*. . . . Recent activity at *Sierra Recording* in Fort Worth, TX, includes overdub sessions with *Little Joe*, *Johnny and La Familia* for their new Warner Brothers release. Basic tracks were recorded at Joe's own studio in Tem-

ple, TX, with mixing supervised by producer *Joe Cueto* in Los Angeles. . . . *Little Dog Music, Inc.*, an ASCAP affiliated music publishing company in Dallas, TX, announces the release of a new album by Crow Johnson on Zassafras Records, entitled *Picture the Thought*. The tunes were penned by Ms. Johnson for this, her second album, which is available for sale via mail order as well as at concert and club dates which she performs all over the country. The album was produced and recorded at *Sundance Productions'* 24 track studio in Dallas. . . . At *Musician's Recording Studios* in Houston, TX, *Sandy Stewart*, Houston-based songwriter, has been laying overdubs on her project for Modern Records. The executive producer of the project is *Gordon Perry*. . . . At *Sumet-Bernet Sound Studios* in Dallas, TX, *Whitfield/Todd* have just completed mixing their most recent project for Wooden Records with *Bobby Dennis* engineer-

NORTH CENTRAL

The band *Chris Lee & Co.* have been preparing demos for label shopping and also a large demo packaging for publishing at *Tanglewood Studios* in Brookfield, IL, with *Larry Millas* and *Rob Kingsland* behind the board, with production assistance by ex-Cryan Shame and Greg Allman producer *Jim Fairs*. . . . Recent recording activity at *Pinebrook Recording Studios*, Alexandria, IN, includes: *The Bill Gaither Trio* (vocals for new Trio album); *Lew Kirby/Shawnee Press* (keyboard/vocals for catalogue demo); *Larry Mayfield* DimenMark Music (orchestra and special effects tracks for children's musical). At *Multi-*



Trac Recording Studios in Redford, MI, **Dale Hicks** has just completed work on his upcoming single "You Never Thought You Could Love Me," scheduled for release on Trio 3 Records. **Nick Canzano** and **Paul Ruggirello** producing and **Breck Watt** behind the board. . . . At *Solid Sound Recording Studio* in Hoffman Estates, IL, both **Barry Manilow's** band and **Air Supply** were in laying down tracks. Both groups were in town for concerts at neighboring Poplar Creek Music Theater. Behind the board on both occasions was engineer and studio owner **Judd Sager**. . . . Recording activity at *Studio A*, Dearborn Heights, MI, includes **Mel Davis** producing an EP on singer/songwriter **Tim Murray** for MJT Productions. **Dan Gury** putting finishing touches on **Dan Gury & the Dyna-Dukes** soon to be released album.

NORTHWEST

Dennis MacKay is completing the final mixes of **Al DiMeola's** new album *Scenario*, at *Caribou Studios* in Colorado. The LP features Jan Hammer on keyboards, Tony Levin on bass and Chapman Stick, and Phil Collins and Bill Bruford on drums. A digitally-recorded album featuring Simmons electronic drums, the Fairlight/CMI digital synthesizer, and various drum machines and sequencers, *Scenario* is quite a departure for DiMeola and engineer/co-producer MacKay. . . . **RAM**, a British American rock and reggae band, is currently recording an album at *Zebra-Underground Studios* in Scotts Valley, CA. . . . At *Eureka Teleproductions Center*, in San Carlos, CA, activity includes composer **Dave**

Marcus laying Synclavier and LinnDrum tracks for E.T.C. industrial videos for Rolm Corp. and Amdahl Corp. . . . After receiving interest from a major record label, Bay Area band **Dial 9** is using Oakland-based **Howe Sound's** mobile facility for their latest demo tape. . . . Action at *The Automatt* in San Francisco, CA, includes **Blue Oyster Cult** working on a new CBS album with **Bruce Fairbairn** producing, **Dave Wittman** engineering the mix and **Ken Kessie** engineering the overdubs with **Ray Pyle** assisting both. . . . **White Light Productions** of Marin County has recorded a remake of the Phil Spector hit "The Big Hurt" at *T & B Audiolabs* in San Francisco, CA. Produced by techno-pop master **Barry Beam** and Beatlemania star **Richi Ray**, the song is sung by vocalist **Marianna**. The project was engineered by T & B's own **Mark Ellinger**. . . . At *Phil Edwards' Recording* in San Francisco, CA, current engineering activities include the recording and mixing of several new Concord Jazz releases, including the mixdown of the last recorded live performances of the late jazz pianist, **Hampton Hawes**. Also in the works are several 24 track album projects for **Eckankar**, featuring orchestral and small ensemble performances recorded live at the June '83 Creative Arts Festival in St. Louis with the PER mobile recording truck. . . . The internationally acclaimed **San Francisco Mime Troupe** has been working in *Hyde Street's* Studio A in San Francisco, CA, recording show tunes from recent Mime Troupe performances. The LP project, which will be released on Chicago-based Flying Fish Records, is produced by **Mitch Grenhill**. Engineering is by **Michael Cogan** with assis-

tance from **Les Stuck**. . . . Currently recording in **Bear West** in San Francisco, CA, **Steve Ashman** of the **ZaZu Pitts Memorial Orchestra**, **Chris Sanborn** engineering. **Paul Rogers** (singer/songwriter for Jimmy Knight & the Daze) working on solo project produced by **Chris Lockheed**. **Nat Adderly** mixing for new Theresa Records release **Mark Needham** engineering. . . . **Paul Parker** is working on his upcoming single at *Independent Sound* in San Francisco, CA, with **Jeff Mehl**. . . . Studio activity at *The Plant Studios* (formerly Sausalito Record Plant) in Sausalito, CA, includes **Ron Nevison** producing and engineering **Grace Slick's** new solo album for RCA Records. **Rick Sanchez** assisting. **Full Sail**, with Phil Groves, Dan Durkin and John Lawrence, is finishing their new EP to be released in October, with producer **Craig Sams** and engineer **Bob Missbach**. . . . **Luciano Gomez** is at *Tres Virgos Studios* in San Rafael, CA, cutting basic tracks on four songs with **Robin Sylvester** and **Gordon Lyon** engineering the sessions. Players include guitarist **Chris Hayes** and bassist **Mario Cippolina** of Huey Lewis and the News, Durocs drummer **Scott Mathews** and veteran piano player **Nicky Hopkins**. . . . At *Corasound* in San Rafael, CA, dance rock band **Times Beach** is completing tracks, produced by **Adam Greifer**, formerly with Chrome Dinettes. Times Beach won 20 hours free studio time at Corasound when they won the monthly City Arts Monthly/City Beat Demo Tape competition. . . . Another session at *Oasis* in San Francisco, CA: songs from the rock opera noir, "Streetbeat," by **Silhouette** are nearing completion, with **Greg Goodwin** engineering. "Streetbeat" is a Faustian-

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themed stage production recently premiered at Bill Graham's new Wolfgang's club. It was written and stars Silhouette lead guitarist and singer **Michael Molenda**. . . . In Studio A at **Patchwork Productions** in San Rafael, CA, singer/songwriter **Tony Carafelli** is currently at work on a single for Sausalito-based B.G. Cooks Records. Executive producer on the project is **Bobbi Sue Griffey**, with the production/engineering team of **Gordon Elliott** and **Ron Saurman** at the console. . . . Album action at **Starlight Sound Studio** in Richmond, CA, includes a project by ex-Sons of Champlin guitarist **Terry Haggerty** and features such renowned players as saxmen Ernie Watt and PeeWee Ellis, drummer John Robinson, keyboardist Geoffrey Palmer and vocalist Phil Perry. Keyboardist/vocalist **Pat Craig** (Tasmanian Devils, FCC) is handling the production chores and **Norman Kerner** is engineering. **Kent Walsh** is assisting.

SOUTHERN CALIFORNIA

At **Sound City** in Van Nuys, producer **John Ryan** just finished the debut Polygram LP by **Broken English** with **Chris Minto** engineering and **Rick Polakow** assisting. . . . At **Skip Saylor Recording** in Los Angeles, A&M Records artist **G.T.** is finishing up an album with producer **Gary Taylor**. **Jon Gass** is engineering and **Tom McCauley** is assisting. . . . At **Conway Recording** in Hollywood, **Page One**, a San Francisco-based band, is recording an LP for Pacific Wave Productions with **Steve Verroca** producing. **Warren Dewey** is engineering the project with **Jeff Stebbins** assisting. . . . Recent recording activity at **Kendun Recorders** in Burbank includes **Eldra DeBarge** and **Barney Perkins** producing the second **DeBarge Family** album for Motown Records. The first album went gold. Perkins is engineering, assisted by Kendun staffers **Steve MacMillan** and **Dan Marnien**. . . . At **Orange Entertainment Center** in Orange, **Randy Ames**, arranger/producer, is in the studio with **Bao Hoang**, Vietnamese writer/librettist. **Eddy Clement** is assisting with the orchestration and playing French horn. The lyrics are Zen-based, backed by very lush contemporary music. . . . At **Sound Image Studio** in North Hollywood, producer **Ed Tree** is in with singer/songwriter **Mark Fosson** working on an LP, with **Patrick von Wiegandt** engineering. Producer/engineer **Jeff Borgeson** is working with artist **Tim Kruger** on his upcoming EP. . . . At **Spindletop Studios** in Hollywood, singer/actor **Robert Guillaume** cutting tracks for new album with producer **Webster Lewis**, **Steve Thume** engineering. Enigma Records group **Code Blue** remixing tracks with producer **Chris Bond**. . . . **Intersection**, a 4-piece jazz funk blues ensemble, is currently recording their first album, an audiophile release for Golden Goose Productions. Produced by **D.P. Rose** and **T. Longstreth** and engineered by Rose and **J. Goetz**. Recording is being done at **Golden Goose Recording**, Costa Mesa. . . . Projects recently completed at **Piper Recording Studio** in Carson, include an album by blues-harpist **William Clarke** for Watch Dog Records, **Joe Lodovici** producing, an album entitled **Ice Box Sunday** by gospel singer **Johnny Hays** with **Ron Porras** producing. Engineering and mixing the projects was **Allen Kaufman**. . . . At **The Village Recorder** in Los Angeles, **Earthlings** work-

ing on mix for upcoming EP in studio D with producer **Neil Geraldo** and engineer **John Harrison**. . . . At **Artisan Sound Recorders**, Hollywood, disk mastering engineer **Greg Fulginiti** recently mastered LPs for **Heart** and **I Ten** with producer **Keith Olsen**; **Asia** produced by **Mike Stone** on Geffen, **Rick Springfield** with producer **Bill Drescher** on RCA; **Elton John** produced by **Chris Thomas** on Geffen. . . . At **Yamaha Research & Development Studio** in Glendale, **Ronnie Foster** has completed producing two of Brazil's major recording artists, **Djavan** and **Pepeu** for CBS International Records, Brazil engineer by **Keith Seppanen**. . . . Composer **Mark Snow** is at **Evergreen Recording Studios** in Burbank recording his score for the CBS telefilm "Two Kinds of Love." Engineer is **Rick Riccio**, assisting is **Mike Hatcher**. . . .

studio news

The Peabody Conservatory of Music in Baltimore, MD, will open its brand new, state-of-the-art recording studio complex this fall. Acoustically designed by **Dave Klepper** and **Jerry Marshall** of Klepper Marshall King Associates, the complex features three control rooms with multi-track and digital facilities linked to all of the studios and performance halls at the Conservatory. The opening of Peabody's new recording studio coincides with the start of the school's innovative Bachelor's Degree Program in Recording Arts and Sciences. The program, only the third of its kind in the country, is designed specifically to meet the growing demand for skilled audio producer/engineers who are capable of combining technical expertise with a thorough knowledge of music. . . . **Westrax Recording Studios**, located in New York City, recently upgraded its 8 track studio to 16 tracks. The new equipment includes a Sound Workshop Series 30 board, Tascam 85-16B 16 track with dbx noise reduction, Lexicon PCM-42 digital delay, and an Orban 622-B parametric equalizer. Also recently purchased was a Neumann U87 microphone. Proprietor **Peter Link**, head engineer **Jesse Plumely** and managing director **Bob Lowe** are also just completing the building of a new iso vocal booth in the 16 track facility. . . . **Sound Stage Studios** in Nashville, announces a new division: Stage III Productions and Omni Records, under the direction of **Bill Deaton**. Stage III can provide a professional service for those wanting a quality record at an affordable price. . . . **Donald A. Puluse**, one of the nation's most respected recording engineers, credited with 12 gold and platinum records, has been named Chairman of the Music Production and Engineering Department at Boston's **Berklee College of Music**, as announced by Berklee President Lee Eliot Berk. Puluse, who assumed his Berklee position Sept. 1, is a leading figure in the recording industry, having guided the production of such unparalleled hits as Bob Dylan's "New Morning," Sly Stone's "Dance to the Music," Janis Joplin's "Joplin in Concert" and the immensely popular "Chicago III." . . . **Paul Jaeger**, Director of Audio Services at **Du Art Film Labs**, NYC, announced the installation of their new Harrison TV-3 audio mixing console. Along with the purchase of the new console, the newly redecorated room includes new dubbers, a 4 track 35mm recorder, JBL 4430 bi-radial monitors, outboard equipment, new screen

and footage counter. Equipment was supplied by Martin Audio, NYC. . . . **Larrabee Sound Recording Studio** in Los Angeles, CA, has just completed installation of full 56 track capability Series E Solid State Logic console. Also included is the new updated ultra-sophisticated E 48 Series Issue I software program. . . . **QCA Recording Studio** in Cincinnati, Ohio, has recently added a new Studer A80VU 24 track machine, an AMS Model RMX 16 digital reverberation system and four Aphex CX-1 compressor-expanders. . . . **Lansing Sound Studios, Inc.**, is pleased to announce the opening of Studio B, a brand new, state of the art, 8 track recording studio in Lansing, MI. Owner/operator **Bob Baldori** and his associates have been providing professional audio production to the capital city area since 1968. Lansing Sound Studio A, located in Okemos, will continue to provide 24 track recording service in mid-Michigan. . . . **Colorado Sound Recording, Ltd.**, announces its 24 track recording facility located in the Denver metropolitan area. They have begun full operation of the recently completed Milam Audio designed dual-studio facility. The studio is equipped with a 24 x 24 Trident TSM mixing console, Ampex MM1200 tape recorder, UREI 813A time aligned monitors, driven by a UREI 6300 power amp. The newest addition is the AMS RMX 16 digital reverb system. Other outboard gear includes UREI compressor-limiters, Prime Time and MXR digital delays, an Ursa Major Space Station, and an Ecoplate II plate reverb. . . . **Audio Architects** of Nashville, TN, recently installed an Audioarts console and Studer recorders in Warners/Nashville studio. . . . **The Center for the Media Arts**, New York's fast growing high-technology professional school, announces the fulfillment of the dreams of music students, hi-fi buffs, and industry professionals alike - the inauguration of its Audio and Recording Arts program into a fully equipped, working curricula. In the past month, 70 students have started the 700 hour comprehensive hands-on training program, featuring state-of-the-art multi-track recording studios, mixing labs, editing labs, and electronic labs. This year's enrollment is expected to top 300 students. . . . **Bob Yesbek**, owner of **Omega Recording Studios**, announces the acquisition of a second 24 track music studio located in downtown Washington, D.C. Formerly "Room 10" the new facility is still serving its regular clientele while also handling the overflow business from Omega's popular suburban studios. The new studio features MCI console and tape machines and UREI monitors. The original Kensington, MD, studio continues to offer complete music and media production services using all Studer tape machines, and API and Auditorics consoles. Omega plans to centralize both operations into one large 3-studio complex in the near future. . . . **Audiograph Productions Inc.** is pleased to announce the opening of their new upgraded recording facility in Okemos, MI. The new recording equipment acquisitions include: a Studer A80 MkIII 24 track, Studer A810 2 track, Studer A710 cassette, Neotek Series II 32 in x 24 out console, UREI 813A Time Align monitors and a full complement of compressors, EQ, delay systems, Kepex gates and Gain Brains. The new facility was designed by chief engineer **Glenn Brown** and features variable acoustics (.7 sec. - .45 sec. broadband) with louvered traps. . . . ■



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Studio Use & Abuse

This article is written for studio owners. I want the rest of you to get lost—do something else—look at the advertisement on the opposite page and call them for more information; if you're not a studio owner, don't bother reading this. You just wouldn't understand.

Granted, there is some money to be made in letting the band dance on the Neve and bounce the Neumanns off the floor. Sometimes the artiste requires such outlets to again stimulate the creative juices. On the other hand, I think there's a clear distinction between frayed professional nerves and a destructive binge. I'm not proposing to put your clients in strait jackets, although the idea has occurred to me. Rather, I'd like to argue for a little common sense.

Of course, if you're the kind of guy who enjoys driving through supermarket parking lots at fifty miles an hour while steering the wheel with your knees, and you enjoy visiting the body shop every Saturday, then you might also enjoy testing gravity with ribbon microphones, using a hammer on your reverb plate for a good thunder sound effect, or turning your monitors up full, then pulling patchcords (by the cord, not the connector). In other words, you might enjoy debiting from the column marked Profits, and adding to the

expenditure column marked Spares, which, in astronomical terms, is known as a Red Hole.

On the other hand, you might want to run a tight ship, and not stand for any nonsense (i.e. crap) and make your life easier and your expenditures more meaningful (i.e. beach house, yacht, or at least a new 24 track). The simple trick is to understand your studio for what it is – a highly sophisticated and vulnerable instrument which demands careful attention in terms of usage and maintenance.

Clearly, a studio owner is faced with a set of unique problems in his simple quest to make an honest living. A recording studio is a unique environment in which creativity must liberally flourish while technical upkeep must be strictly enforced. Nothing will help the owner's gnawed fingernails—running a studio is like renting out a Gutenberg Bible for parties—but some common sense and a few studio rules might make all the difference.

The control room, as far as I'm concerned, is the engineer's turf. He is in control of the situation and the equipment. It is his job, and no one else's, to oversee the manipulation of the equipment and maintain decorum in the room. Frankly, many producers seem to side with the client, so it's even more clearly the engineer's job to stick up for the studio's interests. He

is the keeper of the hardware. If he's a good engineer he knows how to discretely preserve all of the rules concerning proper usage of equipment, yet keep the client happy in terms of the music. In essence, that's the engineer's only important function. As a studio owner, that takes a load off your mind. All you have to do is hire a good engineer. Of course, he has to have ears, and of course he has to get along with the clients, but he also has to thoroughly understand the use and abuse of audio equipment. I think he has to know the hardware almost as well as your maintenance man – only then can the engineer protect the tremendous investment embodied in your studio.

It's easy to spot a good engineer. He runs his sessions with real finesse, particularly with respect to his treatment of the hardware. A good skydiver never neglects his parachute; a good engineer never kicks the tape machine. When a problem develops, he can quickly check to determine its nature, evaluate its extent, then find an alternate method to achieve his desired result. He uses the patch bay like a fiend—he knows the console's signal flow like he designed it—he can patch around anything, and the client never even knows. A good engineer is smart; he knows that problems must be largely concealed or the client can

by Ken Puhmann

Clearly, a studio owner is faced with a set of unique problems in his simple quest to make an honest living.

THE HIT SEAT



Photo courtesy New River Studios, Fort Lauderdale, Florida

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When you hire a recording engineer, look for the eternal patience of a saint, the college education of a circuit designer, the benevolent tact of a diplomat, the steady nerves of an assassin, and of course, the platinum ears of a recording engineer.

become rattled, lose confidence in the engineer, and the session can fall apart. A good engineer is gracious but firm; he knows the severe consequences of a cup of coffee spilled on a tape machine. The eye in the back of his head watches for that kind of thing. He indulges almost any kind of behavior, except when it would contradict his own professionalism.

Studio owners, when you hire a recording engineer, look for the eternal patience of a saint, the college education of a circuit designer, the benevolent tact of a diplomat, the steady nerves of an assassin, and of course, the platinum ears of a recording engineer. Also look for a guy who's responsible for your equipment. When it's 3 a.m. and you're at home in bed, he's the one who smiles and asks the drummer not to put his beer bottle on the console. You were asleep and dreaming about Tahiti, your closed eyelids never flickered when your engineer saved you \$10,000 in I/O module and power supply repairs and a week of down time.

Out in the studio, meanwhile, a very curious scene is being enacted. People wearing headphones are singing, blowing, drumming or strumming - and dancing around to an inaudible beat, doing a kind of repetitive ritual again and again, and becoming more and more frustrated each time, sometimes tearing off the headphones, and looking for someone or something to punch. Also, there's smoke in the air, and pop-tops are flying. In the middle of this, suspended on spidery arms, are extremely delicate instruments used to record minute changes in sound pressure level. They are very sensitive devices, responding even to the quiet buffeting of air molecules around the sensing element.

Meanwhile, all of this shouting, singing, hand clapping, trumpeting, drumming, bowing, blowing, and tensed anger is pushing and pulling their capsules around like ships on a storm-tossed sea. As studio owner, it crosses your mind that maybe a fourth of your investment is tied up in those transducers. They are each expensive to buy; you need many both in terms of quantity and variety; they are expensive to maintain, and some of them are simply irreplaceable.

Probably for all of those reasons, microphones receive much more than their fair share of abuse. They represent the outer perimeter of a studio's defense against its clients and someone who would never consider reaching over to turn a knob on the console might not hesitate to push over a microphone stand if his temper dictated it. Perhaps it's something psychological: the rest of the studio is so big and mysterious while the microphone is small and obvious. In other words, defenseless. That phenomenon seems especially true of vocalists. When your part consistently turns out flat, surely it's the microphone's fault. I mean, it's there, sticking right in your face - how annoying.

At any rate, I've seen plenty of abused microphones - bashed-in windscreens, dented cases, even microphones broken in half. Only a tiny percentage of that damage was malicious. It's simply that microphones are delicate instruments, existing in a precarious environment. For any chance of survival, they have to be treated with the utmost care.

A sobering consideration is the fact that virtually all microphone repairs have to be handled by the factory. Whereas your maintenance man can do overnight miracles with a faulty DDL, a torn capsule means a month at the factory, and that's that. Parenthetically, call the Gotham Hotel and find out how much a microphone vacation costs these days. The point is that a tremendous amount of maintenance cost can go toward microphones and, moreover, it's something that can't be overlooked; the sound out of those capsules has to be as good as can be. Your studio's survival depends on it. I know, I know; you're saying, "Shucks, we take care of our mikes here at Pearls Before Swine Studios; what's the big deal?" Well, the big deal is this - take one of your perfectly good microphones, and A/B it against a new microphone of the same model. Gee, your perfectly good microphone sounds like it's wrapped in Pampers. Take scrupulous care of your microphones, or send them all back to the factory for

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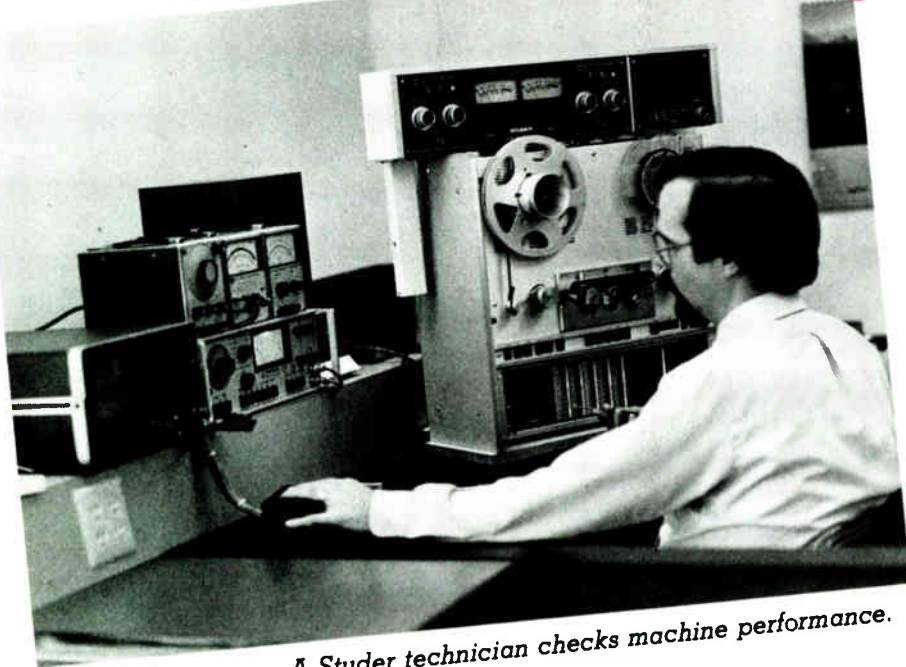
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MACHINE ALIGNMENT

22 Steps to Good Recordings



A Studer technician checks machine performance.

by Tom Lubin

Whether your studio has 4 or 48 tracks, regular maintenance is the most critical aspect of its continued operation. The multi-track recorder is the heart of any studio, and like an automobile, it operates better when properly maintained. This article explains the process of machine alignment for three-head recorders. In a subsequent issue we will discuss alignment procedures for high performance two-head recorders.

1. Clean the machine with cotton swabs and some kind of cleaning fluid or 100% denatured alcohol. If you use a cleaning fluid, be sure the fluid does not contain any chemical that will attack rubber parts. You should also make sure the swabs are the paper variety. The plastic ones tend to soften in the cleaning solution and the tips will get gummy as the plastic softens. The wood type never seem to have enough cotton at the tip so are prone to scratching.

The dirt usually accumulates in the corners of the fixed guides and in the slots between the individual tracks, particularly if you are a heavy handed editor who likes to use a lot of grease pencil.

2. Demagnetizing is always done

before putting the chief engineer's private alignment tape on the machine. Some studios demagnetize their machines every day, some only do it when it seems necessary. (Fairly inexpensive meters that measure magnetic field strength are available). A good way to tell if the machine needs to be demagnetized is to put it into record with no signal feed to the machine. Turn the playback up loud and if you hear a lot of little clicks and pops in a random fashion which some engineers call popcorn, then the machine probably needs to be demagnetized. After demagnetizing, the pops should be substantially reduced. (Misalignment of the erase and record bias will also give a similar sound, i.e. clicks and pops.)

Be sure all important tapes are clear of the general area you are using or demagnetizing. Turn off the tape machine's power, or the amplifiers will go crazy when the demagnetizer comes near the heads. All movements of the demagnetizer should be done in slow motion. Reason: the demagnetizer creates an extending and collapsing 60 cycle magnetic field. This field weakens as you get farther from the tip. The thing you are demagnetizing will be influenced by this field, mirroring the magnetic field created. If the demagnetizer were to be turned off while in close con-

tact with one of the heads, the head would become positively or negatively magnetized depending on the phase of the demagnetizer when it was turned off.

If you turn the demagnetizer on while it is close to the heads, a considerable magnetic surge will force the head to magnetically saturate. This saturation is very difficult to get rid of, so at arm's length from the machine, turn on the demagnetizer, and slowly bring it into close proximity with the machine. The field will increase. When the demagnetizer is slowly withdrawn, the field dissipates gradually until the field is out of the range of the object being degaussed. The heads are now completely demagnetized. All of the metal guides and rollers should also be done, as they too can become magnetized. (For this reason, non-magnetic materials are used for capstans and guides on many machines.)

3. Turn on the machine and let it heat up for at least an hour. Most machines will tend to drift from their alignment if they are checked out cold. The amount of electronic drift depends on the machine. Head alignment drift due to the expansion and contraction of the head block occurs to varying degrees, depending on the amount of heat that the electronics and motor generate. To reduce the warmup time, find out how the machine automatically shuts off and defeat it, so that you are able to put the machine into record without any tape on the transport. Be sure to remove the reels before attempting this. The three motors running, as well as the heat generated by the various amplifiers, will reduce the warmup time.

If you have to do any patching of outboards, Dolby's, or dbx's, patch them into the circuit, but with the noise reduction out. Any termination variations between the normal connections and the outboard equipment will be taken into account when the machine is checked out. If you need to do any patching to check azimuth, do it now. The azimuth is always checked while monitoring the output of the tape machine.

When patching in any outboard equipment, be sure you have not loaded or double terminated the output, and the azimuth metering device does not affect the output level. Most newer equipment has non-loading high impedance bridging inputs and very low impedance internally terminated outputs. Proper termination becomes a problem when you are using an older recording device. What is best for your machine can usually be determined from the equipment manual.

A tape machine is a complicated piece of machinery, and occasionally something goes wrong. There are times when a machine will have a dirty switch

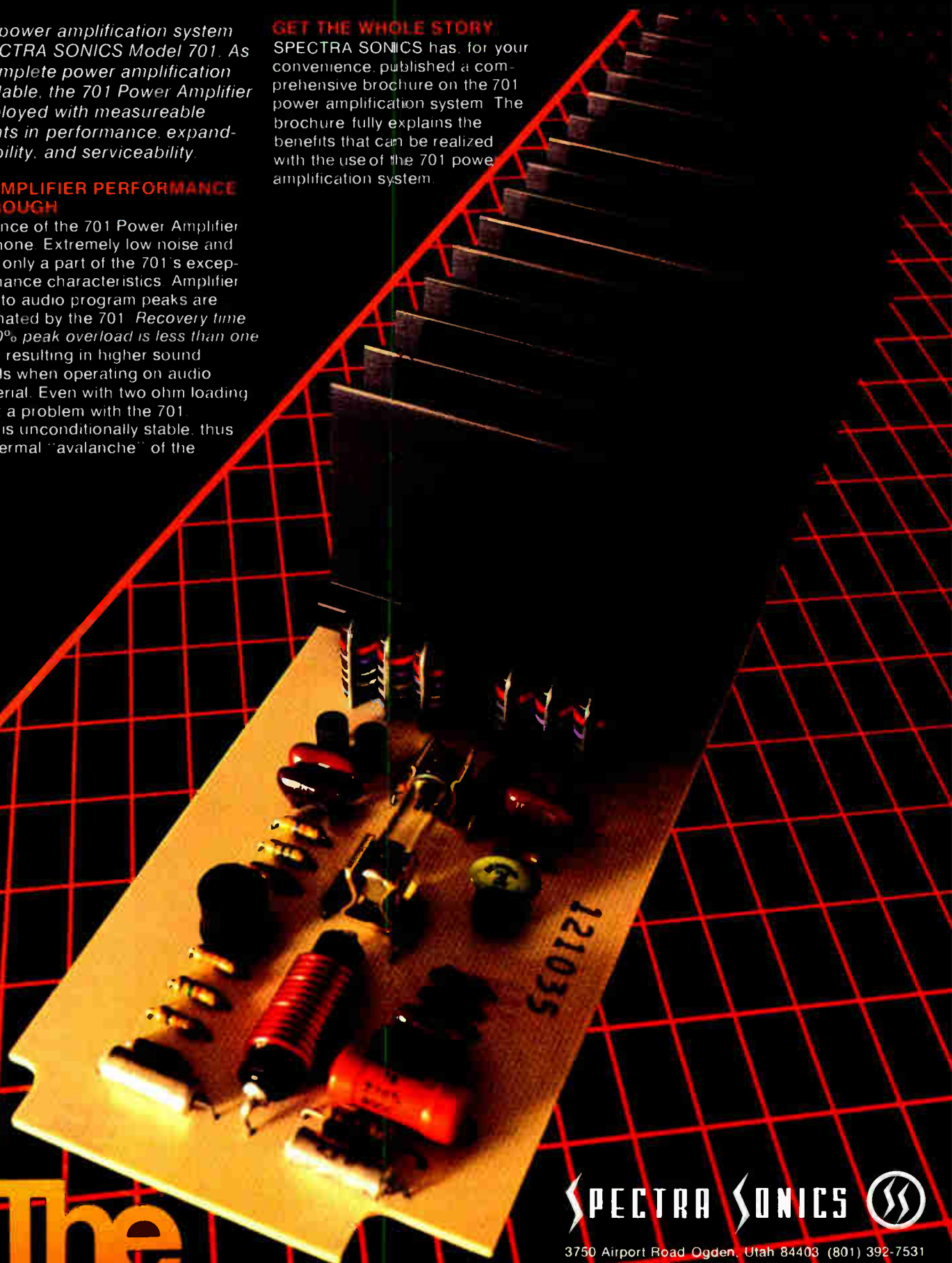
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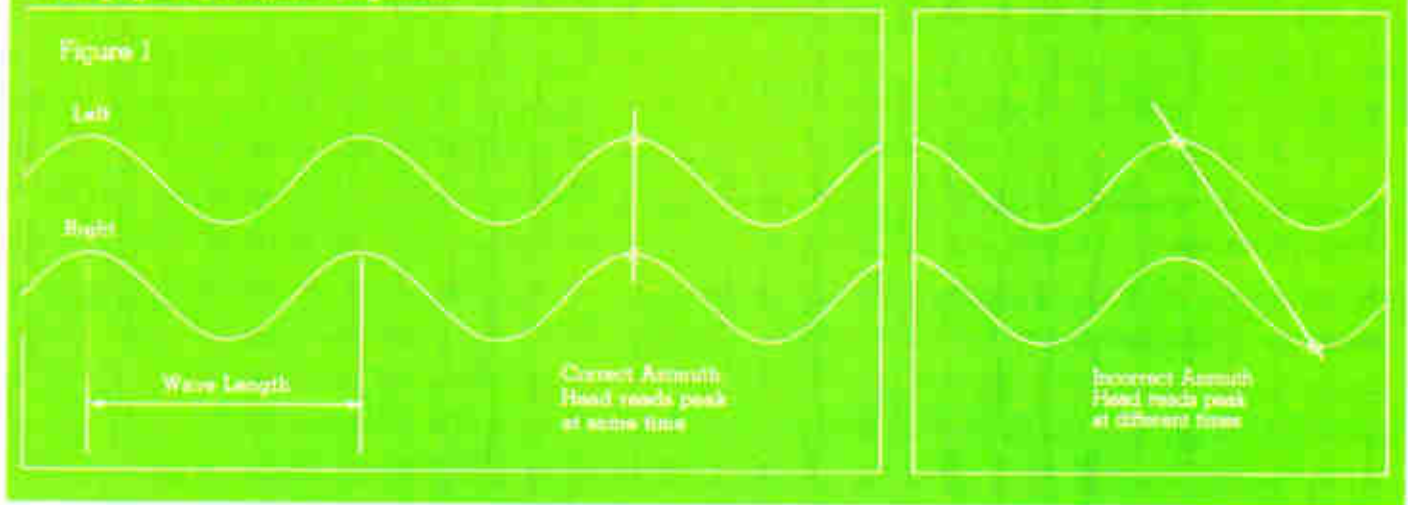


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multi-track (three or more tracks) this error will make it impossible to have every other track perfectly in phase with every other track, so a compromise is usually reached. The azimuth is set for the best possible alignment for any combination of the tracks. Some of the tracks may not be perfectly in phase, but none are completely out. For checking tape dropouts the diagonal straight trace will pivot from the 45° angle when either of its inputs drop out. At low frequency the 45° line

on many machines turns into an oval due to slight phase shift in the playback heads and amplifier chain.

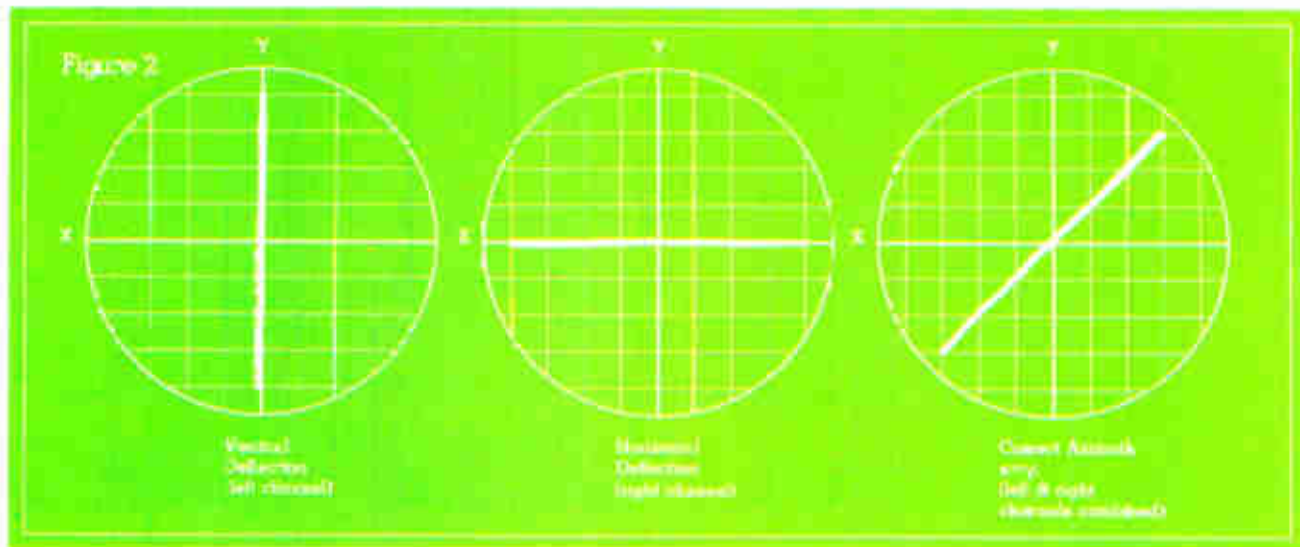
How do you adjust for proper azimuth alignment? First, the heads have several critical adjustments, i.e. height, tilt, wrap, tangency, all of which are available at the block. The accidental tampering of these adjustments can affect all other settings including azimuth and can have the dire consequences of non-standard alignment recordings. Facing the front of the machine, looking

at the top of the head block, the azimuth adjust is always on the left side of the head mount. There will always be a number of other possibilities. The other head block adjustments are for the height, wrap, and tilt of the heads. Needless to say, if you turn the wrong thing, the maintenance man is going to be upset. On most machines the height adjustment looks like the azimuth adjust, but is on the right side of the head. The tool required for adjustment depends on the machine. The tool should be

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non-magnetic. A very light, careful touch is necessary. While looking at the sum and difference meter, or the scope, gently turn the azimuth clockwise and then counter clockwise, until you find the point where you have the maximum summed output and a 6 dB difference at all frequencies, or the diagonal trace maintains its quadrants at all frequencies.

9. Recheck the PB (playback) tones. A severe misalignment of the azimuth will affect level. The record

alignment and the test record tape must be the same type as that used on the session. Feed a common tone into all tracks of the machine. Start with 1 kHz or 750 kHz. The tone should be at zero output as referenced to the board output. All record level adjustments are performed with the machine meters monitoring the output of the machine. Turn up the record level until you have 0 dB at 1 kHz.

10. Change the tone to 10 kHz. If necessary, readjust the output level on

the board to maintain zero level. This adjustment is almost always a screwdriver adjustment and is usually located on the record amplifier card.

11. Bias. You could fill a book on the whys and wherefores of bias in tape recording. I'll take the liberty of quoting John Woram's *Recording Studio Handbook*: "There have been many explanations of AC bias, most of which seem to add more confusion than enlightenment to the subject. AC bias seems, at times,

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to be in a class with the aerodynamically-impossible bumble bee; everyone knows it works, but no one is quite sure why! Reduced to its simplest terms, it would seem that rapid alternation of the bias frequency overcomes the magnetic medium's inertia to change in applied force."

12. Bias is adjusted while the machine is recording and its meters are monitoring the output. There is a bias adjustment for each channel. Usually it is a screwdriver adjustment. There may also be an erase peak adjustment. If the machine does have one, you should adjust the erase peak before the record bias. Generally the erase peak needs infrequent attention. The erase peak is adjusted with the machine meter monitoring the bias level. The erase level control is turned clockwise until a peak is reached. Further increase of the erase peak will result in the meter level dropping. This peak is rather ill-defined. Find out how far you can turn it either way until the level starts to drop from the peak and make the setting somewhere between the extremes. It is possible that the erase peak adjustment is in fact not set for the peak. As in other cases where a variation exists, the manual should be referred to for proper procedure.

13. Bias adjustment. Feed a 10 kHz tone into the machine, with the machine meter on playback. While looking at the output meter, find the maximum 10 kHz

output which may occur with either an increase or decrease of the bias, depending on what tape was previously used on the machine. You have peaked the bias. If you continue to increase the bias, this will drop the audio output by a certain amount, hence the term overbias. The amount of overbias is defined by the number of dB the program output drops from the peak. How many dB you overbias depends on the type of tape, frequency of the audio tone used to set the bias, and the opinion of the chief engineer. Changing the bias will affect record levels. If the peak is off scale, turn the oscillator output down.

14. The bias adjustment completed, set the board oscillator for 1 kHz, 0 dB, and adjust the record level for a PB output of 0 dB.

15. While continuing to record, go to 10 kHz oscillator. Zero oscillator, adjust the high frequency record adjust for 0 dB, PB. The high frequency record is usually a screwdriver slot on the record amp.

16. Record azimuth. While monitoring the playback head, adjust the record head until its azimuth aligns perfectly with the now calibrated PB head. Use the same procedure and tones as were used for PB azimuth alignment; however, now the tones are being recorded and referenced to the PB. It is possible, though not common practice, to align record azimuth by putting the machine in sel-sync. If the azimuth requires much adjustment, 1 kHz and 10 kHz record levels should be readjusted.

17. The machine checks out for playback, azimuth and bias. Recheck the record drive for 1 kHz and 10 kHz.

18. Now feed a low frequency zero level tone into the machine. The low frequency to be used varies from machine to machine. Put the machine into record and observe the output. Take the oscillator and start at 100 kHz, sweep the frequency downward, making sure the input level does not vary. The output will dip a couple of dB and then return to a peak. This peak will occur somewhere around 40 to 60 Hz. As the frequency decreases, so will the output after this peak occurs. The low frequency to be used is determined by where the dip occurs, which puts the output somewhere between the lowest and highest point of the bump. While monitoring the PB, adjust the low frequency playback for zero.

19. Most machines have other controls whose sole purpose is calibrating the meter functions. These trimmers do not affect the internal settings. Put the machine in input and adjust the record calibration, with a 0 VU at the input. Trim the REC CAL for zero. The next adjustment is done with the machine in record and meter select switch at BIAS. The bias calibrate should be adjusted until the meter reads zero. This control

does not affect the bias level. Having these two functions calibrated will improve the speed of operation.

The REC CAL will give you an accurate meter reading of input or output. The bias CAL will allow you to change the bias level for different tape without having to actually record on that tape. Once you know what bias change is required to go from what you normally use to some other type of tape, you put the machine into record and increase or decrease the bias level by that amount. When you return to your usual tape, return the bias to zero.

20. Go to the head of the tape you are going to use and record a series of tones. If everything looks right, then you are ready to use the machine. Release the tension on the machine so the capstan is not running. Many machines' capstans ride against the back coating of the tape. It is possible for this friction to create enough heat to seize the motor bearings. Many servo machines put tension on the tape when it is at rest. It does not hurt the tape, but can heat up the motor bearings and the internal workings. Multi-track machines also have a cue or sel-sync gain adjustment. This can be checked during PB adjustments for 1 kHz for reference. Put the machine in sel-sync, play 1 kHz and then adjust the sel-sync PB frequency response. This is very useful when combining tracks or explaining to clients why sel-sync sounds funny. Some new machines have identical responses in sel-sync and play. A few have sel-sync PB EQ. Most multi-tracks will also have a sel-sync bias trap, and of all the adjustments on the machine, this adjustment requires the most equipment to properly set. It keeps the high level bias current out of the audio amps. This is a fine adjustment a novice should not attempt.

21. If you need to check a machine out at 7½ ips the procedure is a bit different. Ampex recommends a playback tape that has a level of -10 dB. Set the -10 dB level to read zero VU on the machine. Then follow normal procedure. The record drive should be turned down so the meter reads 0 level. At 7½ ips a steady state high frequency zero level cannot be maintained without severe overdriving. Hence, the frequency response alignment is done 10 dB below zero level. Once the response is checked, play the 0 dB, 1 kHz 7½ ips tone. When it is played after the preceding frequency check out, the meter will pin like crazy. Turn the tone to 0, feed a 0 dB tone into the machine. The meter output will indicate -10 dB. Turn the record level until the output meter reads zero.

22. You are now ready to record. ■

* Woram, John M.: *The Recording Studio Handbook*, pp. 258-259; Sagamore Publishing Company, Plainview, NY, 1977

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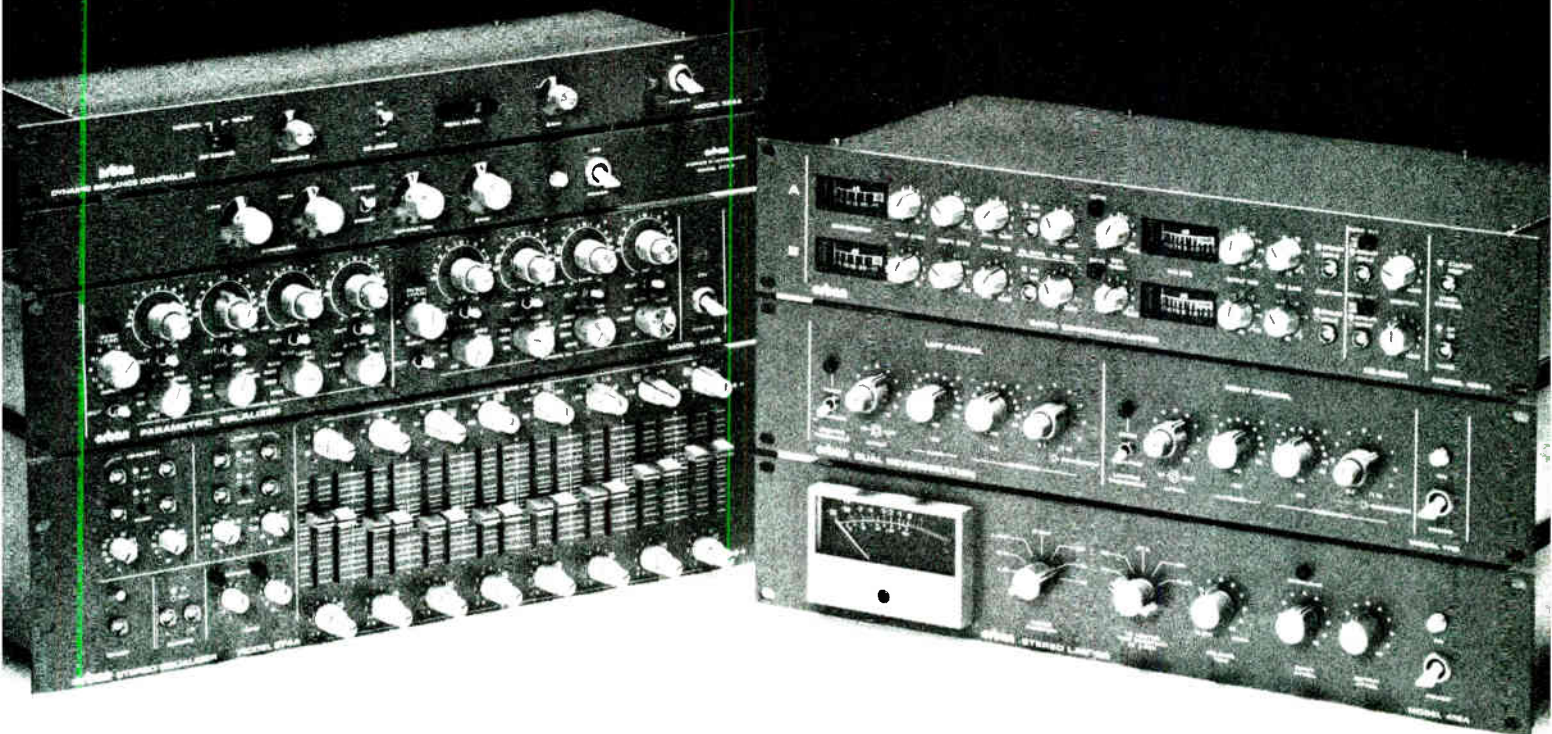
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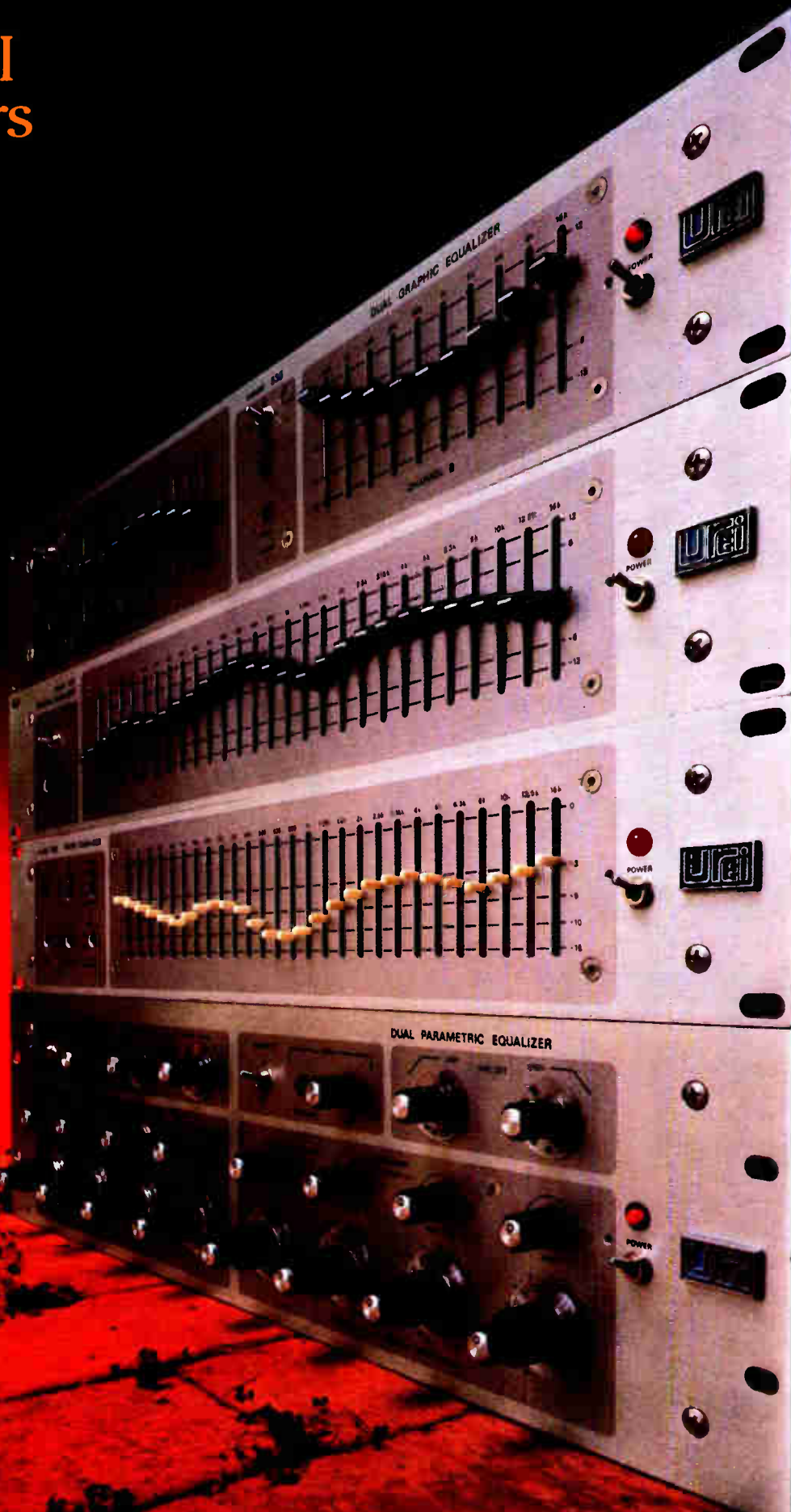
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The HOLLYWOOD Years

by Larry Blakely

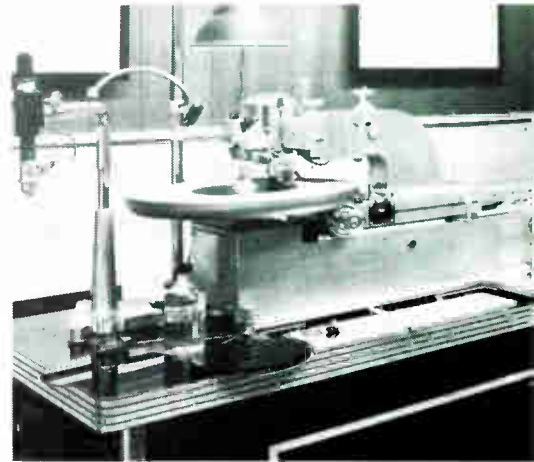
L made the decision to leave Chicago, where I was a big frog in a small pond, and move to Los Angeles. I looked forward to this new challenge in the recording capital of the world. And though many of my Chicago clients had promised to support me in this move by recording at my new facility in Los Angeles, I realized that going 'head to head' against the legendary Radio Recorders, the giant of the independent recording studios, was serious business.

"I moved to Hollywood in 1957 and sold my interest in Universal Recording. The late Bernie Clapper became President of Universal after I left. Two key individuals who had worked with me in Chicago joined me on my trek westward. They were Tony Parri, the Controller of Universal, and Jerry Ferree, who became our Chief Engineer. Later, Bob Bushnell, Malcolm Chisholm and Bob Golden also left Chicago and joined us in the west.

"Since 1948 I had been in regular communication with Les Paul, and we had become close friends. I met Les through the legendary Gene Austin of 'My Blue Heaven' fame. Les and Gene had made about 30 sides together, and I had arranged to release them on my Universal label. Moving to Hollywood kept me in touch with Les on a regular basis, and for me, this was a ball! I hold Les Paul in high esteem, and I stand in awe of what he contributed to the recording industry. The NARAS award to him last year was a nice accolade, but I don't know why they waited so long.

"The new parent company was to be named United Recording Corp., and by mid-1958 much planning had already taken place. We were making a valiant attempt to incorporate as many technological innovations in this facility as possible. (This all came at a great time, since stereo was busting the industry wide open.)

"I located a building at 6050 Sunset Boulevard, near 'Gower Gulch' (CBS Radio studios and Columbia Pictures lot). This facility was formerly the



Scully Lathe in the mono mastering suite at United.

Jerry Fairbanks movie soundstage, and was a decrepit shell, but the space was adequate and the location good. I brought Mr. Curt Esser out from Chicago, who had worked with me at Universal as the architect. The financing for United came from the proceeds from the sale of my majority interest in Universal of Chicago. I used notes from this sale to collateralize additional borrowing. As part of the plan to raise additional capital, many of our clients, musicians and arrangers acquired minority interests and even brought in other investors.

"The pressure to get 'on the air' in Hollywood led me to purchase Master Recorders on Fairfax Avenue from Bunny and Rose Robyn. This decision was prompted by Randy Wood, president/founder of Dot Records and probably the most singularly important



Three famous faces from United's halcyon days: L to R Frank Sinatra, Bing Crosby, Dean Martin.

Early tube console in Studio One. (circa 1962)

person in my decision to move to Hollywood. Actually, at one point we had entered into serious negotiations to purchase Radio Recorders (7000 Melrose Avenue), but for a number of reasons the deal was never consummated.

During the time that United Recording was being built, I was recording a lot of dates at Master Recorders for Dot, Imperial, Liberty, Mercury and some twenty other labels. I recorded all the 'hot' Dot acts, as well as

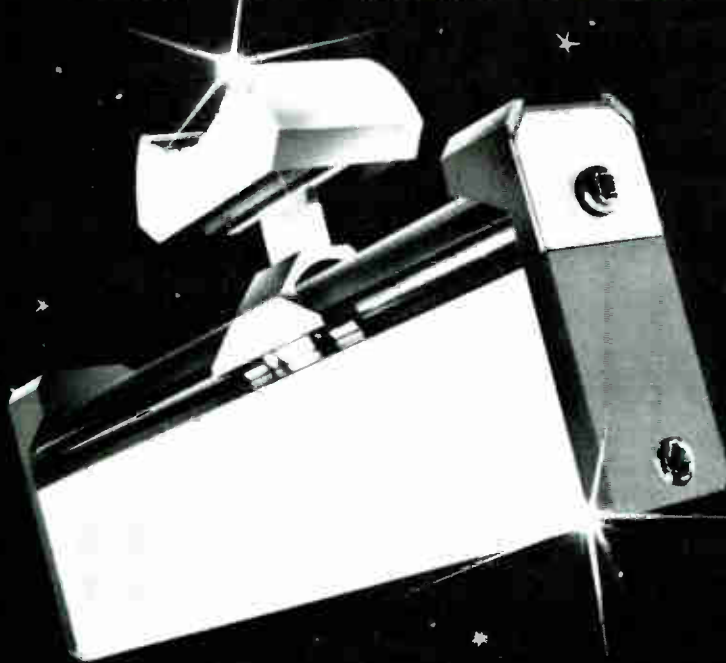
Ricky Nelson's sides for Imperial (Ozzie his father, was the producer). Bunny Robyn had made most of the Fats Domino hits at Master Recorders and also at Universal Recorders of California (no connection with Universal in Chicago), where he was previously a mixer.

"In 1958 we completed Studio B at United, along with two reverb chambers. I think Johnny Mann recorded the first date there. The rest of the plant was still under construction and,

during this time, I was doing dates at both United and Master Recorders. We actually kept Master Recorders going for a year after the United facilities were completed in early 1959. All of us who did engineering were mixing dates around the clock. Bunny Robyn had joined us and stayed with United as its

—page 38

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The Ventures in session at United Studios in the early 60s.

—from page 36, *Putnam*

first vice president for three years. Bud Morris came to United from Universal (in Hollywood) where he was chief mixer. Eddie Brackett and Ben Jordan came over from Radio Recorders, and Malcolm Chisholm also joined us. United grew and grew – with 3 studios, a mix-down room, 3 mastering rooms (including one with *stereo!*) and a small manufacturing plant, all in 15,000 square feet of building.

"We had Studio A (approx. 60,000 cu. ft.), Studio B (approx. 35,000 cu. ft.) and Studio C, a small dialogue studio where we did many of the early Hanna Barbera shows such as 'The Flintstones.' Studios F and D were more mastering rooms which were equipped with Scully lathes and Westrex or Grampian cutter heads. Most clients insisted on the Grampian head for hot singles. The Westrex was more widely accepted for LPs where level was not the prime consideration. (Remember, in those days we were still making masters in both mono and stereo for the same release. It was done this way up to the mid-sixties.) Studio G was our stereo mastering room which used the Fairchild 'vertical/lateral' system, which was electronically matrixed for 45/45 stereo.

"We built our first mixdown room, Studio E, though there was not much to do when mixing down 3 tracks. (Four track came a little later.) Studio A had its own unique and permanently assigned 3,000 cubic foot stereo echo chamber, which became quite famous over the years. There were four other good-sized chambers and a small one over B control room.

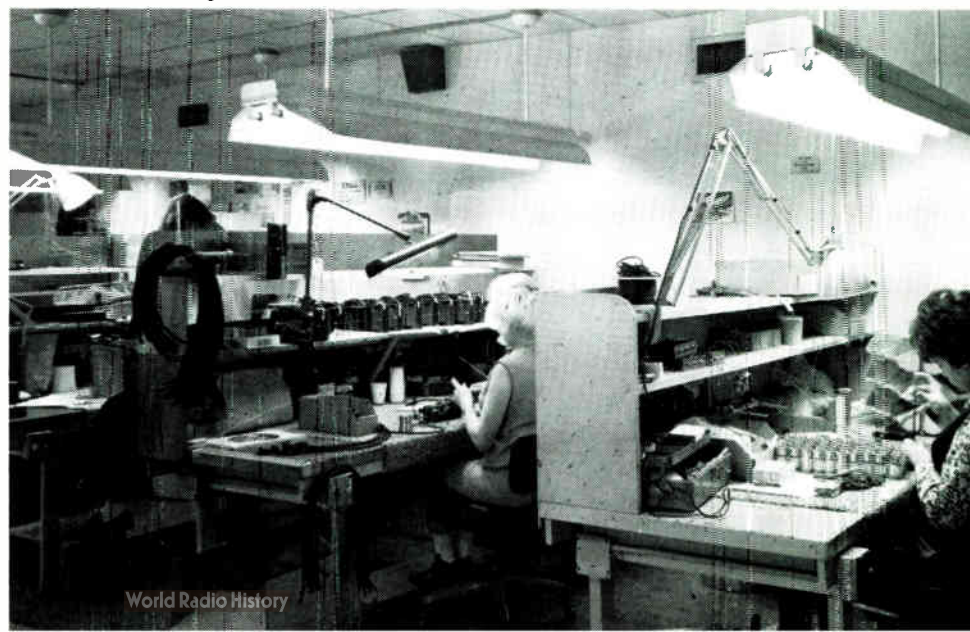
We also had a maintenance shop, tape libraries and *not enough* air conditioning.

In the early 1960s we began negotiations to acquire Western Recorders at 6000 Sunset from Don Blake, Bill Kirkpatrick and Ted Robinson. This was ideal as it was just one block away from United. We made the deal and quickly began to completely remodel Western. Part of this facility was the 6000 Radio Center Theater, which had been the origin of many net-

work radio shows during the heyday of network radio. This was now to be remodeled and become the new Studio 1 of Western Recorders.

"Many alumni from Radio Recorders joined our ranks: Artie Becker (who was tops in the ad agency field), Bones Howe (who was the best jazz music mixer in the business), Jim Economides, Walt Payne and others who departed the legendary Radio Recorders for United. One day Stan Kenton was telling me about a guy in Oregon who did big band remotes for kicks. He wanted a job in Hollywood in the worst way. His name was Wally Heider. He came aboard, and (needless to say!) has gone on to make a great name for himself. He is, in my opinion,

The first assembly line at the 6050 Sunset address.



the best big band mixer that ever happened. His 'remotes' had no equal.

"After the acquisition of Western Recorders in 1961 and our extensive remodeling program, our total facility consisted of two plants, one at 6050 and the other at 6000 Sunset. Our corporate offices and accounting were located in United at 6050 Sunset. At Western, we had the traffic office for both plants, headed by Dick Sexty and Lela Greenstone who was Dick's girl Friday. Western's volume grew 400% in two short years.

"At Western, Studio 1 was the old Radio Center, which had over 300 seats. We removed them, poured in a flat floor and ended up with a nice large studio of approx. 65,000 cubic feet. Studio 2 originally had a 10 foot ceiling, which we raised to 17 feet. Studio 3 was made from the space that we had left over. As fate would have it, this was the studio which became legendary, to the extent that its reputation warranted its being copied by Wally Heider. (He even named the copy Studio 3 when he started his first recording company. This was very flattering. This was not the only copy. There was also one in Canada and in Maryland, each publicizing the fact that it was a replica of the famous United Western Studio 3 in Hollywood.) This was the famous studio that was home for The Beach Boys, Glen Campbell, The Mamas and the Papas, Johnny Rivers, Jan & Dean, Sonny & Cher, Herb Albert, Mike Post, Linda Ronstadt, Rick Nelson, Three Dog Night, Grass Roots, Baja Marimba Band, Connie Francis, The Everly Brothers, The Association, Kenny Rogers, The Lettermen, and on and on. . . .

"We had a bronze plaque listing all these million-selling artists who had started their careers in Studio 3. The guys who made that studio work were Bones Howe, Hal 'Lanky' Lindstrot, Phil Kaye, Chuck Britz and many others.

"The other facilities at Western included another mastering room with a Scully lathe and a Westrex cutter. We also had a disk dubbing room with four Arcturus lathes, a maintenance shop, two production rooms for tape copies; we added another stereo mastering room, stereo echo chambers and several EMTs. We also had ten tie lines that ran the 1/2 block between United and Western, which were flat to 15 kHz.

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nited continued to grow in combination with the new facilities at Western. Business was great and we were on a real roll. We purchased Sound Recorders in San Francisco and

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then changed its name to Coast Recorders. Don Geis, from our Hollywood staff (another Universal Recorders of California alumnus) moved to San Francisco and became the first manager.

"Winston Wong, one of Sound Recorders' original partners, became a top mastering engineer at United. Bob Doherty was managing the studio operations at United and Western, in addition to mixing a lot of dates. We had a closed shop (all IBEW engineers) until the mid-sixties. There was a staff of 12 top notch mixers, 6 to 8 recordists, 4 or 5 guys doing mastering, 2 to 3 apprentices doing setup, 4 or 5 people in maintenance and a chief engineer. To my knowledge, no other independent

custom studio has ever reached the size in total facilities, staff, breadth of service, and revenue production of the combined United, Western and Coast Recorders.

When Decca closed its Hollywood studios in the early '60s, Andy Richardson, Al Butow and Lee Hirschberg (now recording manager at Warner Brothers Records), all joined United. Rudy Hill, another United alumnus, still works for Lee at Warners.

Rudy worked more dates with me than any other person, first as a setup man and later as second engineer. Al McPherson, now head of maintenance for Warner Brothers, was active in the same role at United for many years. Bob Doherty was recruited from MGM Records in New York in the early '60s. He put in a lot of hours as a super mixer and later became vice president and general manager of all studio operations, a position he held for many years. Bill Perkins, a famous jazz tenor sax player with Stan Kenton, became a most sought after mastering engineer at United. Bill is now playing tenor sax on the Carson show.

"With the large volume of studio dates and the expanding staff of mixers, we established a procedure which required each mixer or second engineer to prepare a studio setup sheet. For convenience we printed a form with a scale drawing of each studio, with numbered and lettered grids. These setup sheets served several useful purposes. They are a historic record of the recording date showing the types of mikes used on each section of the orchestra, their respective input position, location of risers, isolation screens, parallel or series boxes and any other special inboard or outboard equipment needed for the date. If we were doing an album, it was particularly useful for future dates.

Our typical microphone arrangement would be: strings: AKG C-60; reeds: RCA 77DX; brass: Neumann U47 and RCA 77DX; drum: Neumann KM56; piano: RCA 44BX; bass: RCA 77DX; percussion: Sony C21; guitar: Electro-Voice 666; Celeste: E-V 666; and vocal: AKG C-60.

"During this exciting period of the '60s and into the '70s, the studios were jumping 24 hours a day, 7 days a week, and Warner Brothers was our largest account.

"The growth of the recording studios peaked between the late '60s and early '70s, at which point the very nature and essence of the recording business began to change. And, for me, so ended much of the personal satisfaction and enjoyment that had always been a motivating force to me. From 1967 to 1970 my personal activity was rich in every area connected with sound recording, from studio design, acoustics, product design and their related fields. The many dreams of my childhood and the early years of my business career had, for all intents and purposes, been realized. I can hardly think of anyone who was contemporary

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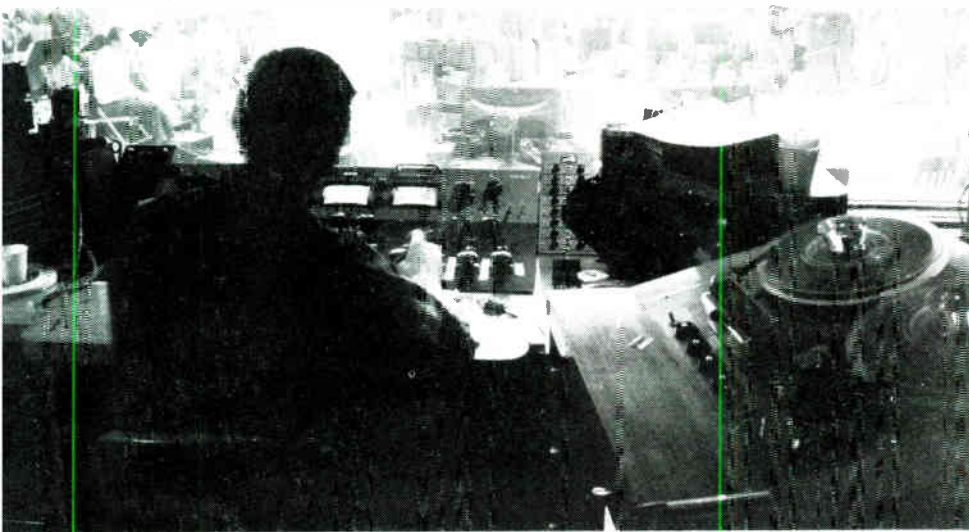
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A typical "orchestra" date at United in the early 60s

to that period, whom I have not recorded. Those whose talents I had idolized had become my friends, and to have gained their professional respect was a great reward.

"Nelson Riddle introduced me to Frank Sinatra, and our first meeting

was on the occasion of a TV special, which was prerecorded. Frank was in the process of winding up his contract with Capitol and owed them some sides, which we finished at United. Then we became active in the inception of Frank's new record label, Reprise

Records (which later was acquired by Warner Brothers).

"One of the early dates we did for Reprise was Bing Crosby and Frank Sinatra together. This was a momentous occasion. I first met Bing on a TV pre-record late in the '50s, and I kept on recording him after that. On this same Reprise date were Dean Martin, Sammy Davis and Johnny Mercer. To say the least, this was the living end for me.

The Ray Charles country album which Sid Feller produced was the Grammy Record of the Year in the year it was released. I received a nomination for Best Engineered Record for that one, but lost out to The Chipmunks. However, Ray's 'I Can't Stop Loving You' (which I recorded) has become a classic in the country/western blues field.

"It might be of interest to explain how the record companies operated then as compared to now. There is a significant difference in the relationship between the record company and the recording studio (when comparing the period of the 1950s and early

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*At the Test Department
of Universal Audio in 1962.*



—from page 41

1960s) to the style of operation that exists today. The major record companies—Columbia, RCA, Decca and Capitol—operated their own studios and at the head of the creative department was a Director of Artist and Repertoire or 'A&R' head. He was an artistic administrator, guiding the contractual negotiations with artists, finding new talent, picking material, and in most instances producing dates with some of the labels' top artists as well as supervising other producers in the A&R department. In most instances an A&R man worked with the same artist over and over, par-

ticularly when he had made a few hits with that artist.

"The same era also produced a growing number of independent labels: Mercury, Dot, MGM, Chess, Liberty, Kapp, Warner Bros., Atlantic, King, Imperial, ABC, Paramount, A & M, Colpix, United Artists, Reprise, Time and a rapidly growing list.

"Independent record companies had a different style of management for the creative sides of the business. There was hands-on supervision of record dates by the owner or owners of the label. This also applied to the selection of material for the artists. The artist cooperatively took directions and accepted the material selected by the boss. This was done with few exceptions.

"Making records in those days was a heck of a lot of fun. In the 2 or 3 track era, when you walked out of the control room after a date, what you heard was what you got! Sometimes, if it was a rush release, we would master the same day and distributors would have product in four days!

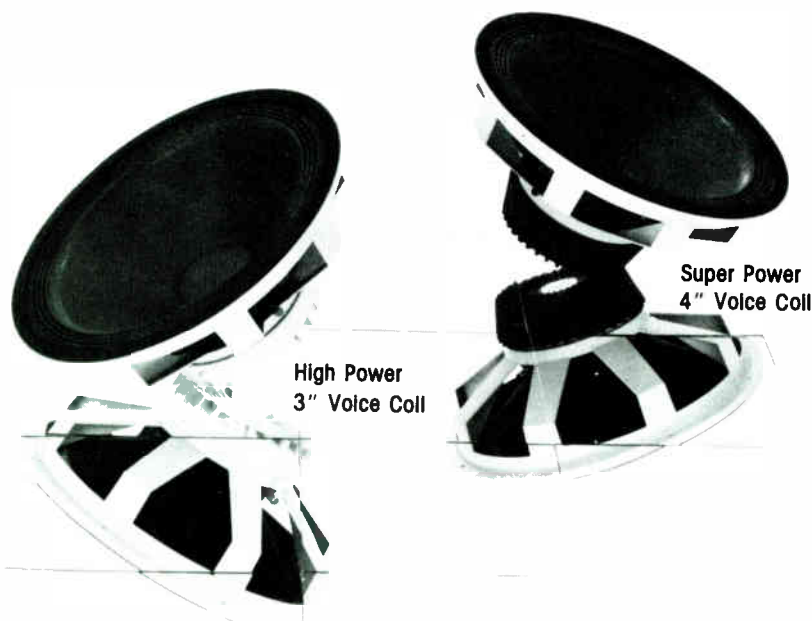
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All of this was encapsulated in a time frame which was also a transition period, when the independent producer became dominant and the old guard A&R department saw its demise. Then came the artist/producer-owned studio, the small single studio-style operation, and the evolution of new technology which brought the whiz kids out of the woodwork. Not just in Hollywood, but everywhere in the world. It became more and more difficult to compete in a fragmented market. We shifted gears many times, and it is remarkable that we were able to weather the storm time and time again. Many others were not so fortunate.

"In 1971 we leased the United Studios to Jerry and Joan Barnes, who operated Studios A and B for several years. We later combined all of the operations under the banner of United/Western Studios with the total operation managed by Jerry Barnes. The operation became more diversified and, out of necessity, Studio 1 was converted to a scoring stage with projection, and we expanded the facilities more in the direction of TV and motion picture scoring.

"To this point, I have failed to mention Universal Audio, the UREI forerunner. In 1958 we installed Universal Audio, the fledgling manufacturing company that I had brought with me from Chicago. We moved this into the upstairs area of United at 6050 Sun-

—page 224



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Getting the Most from 8 Track

by John Alexander

For some reason the little guy is always getting lost in the technological shuffle as new methods of production continually attempt to outdate old reliable methods. Eight track recording studios are just such a "little guy," often being passed over in favor of 16 and 24 track recording. But, in many cases, bigger is not necessarily better. Eight track recording is still a viable means of producing quality work at economical prices, and furthermore, it allows truly creative producers and engineers the opportunity to indulge themselves to the maximum. Eight track is also the most recommended approach for beginners, as it can offer novices a basic educational foundation from which to learn. In short, 8 track is far from the

dinosaur that state-of-the-art followers consider it to be.

To begin with, the cost savings for uninitiated artists using 8 track is substantial indeed. Whereas they may enter a 16 or 24 track studio and be charged for tracks they are not capable of filling, 8 track offers more than enough leeway for producing demos, as well as commercial product.

Bill Goodwin, Grammy Award winning jazz drummer, member of the famed Phil Woods Quartet, President of OmniSound Records, and highly acclaimed producer, explains how he has opted to record many of his prestigious acts in 8 track, at Mountain Sound in Stroudsburg, PA, and stands firmly by the results he has achieved. Acknowledging the creative input of chief engineer Chris Fichera, Goodwin states, "Producing such acts as David Frishberg, Eric Kloss, Gil Goldstein, Hall Crook, Bill Dobbins, Red Mitchell, Phil Woods, the Quartet, and my own band Solar Energy—all these artists have recorded here on 8 track and only in special instances have we had to take

the tapes to a 16 or 24 track studio in New York for added musical embellishment."

Chris Fichera adds, "One of the things that makes 8 track recording appeal to me is it's a definite challenge, as opposed to 16 or 24 track recording. You often have to get a lot of the instruments onto one track, and one track only. You have to economize your output to leave other tracks open for experimentation. Artists can come into an 8 track studio and get quality product for a great deal less expenditure as well. It all adds up to the same thing and I think that's very important these days."

—Page 46

Above: Engineer Chris Fichera in the Mountain Sound control room



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Enthusiasts are quick to point out that one of the most appealing things about 8 track recording is that when utilized correctly it becomes almost indistinguishable from 16 and 24 track. In fact, when you listen to an album professionally recorded in 8 track and one recorded in 16 or 24 track, they should compare equally. The creativity behind the work should be all that is apparent.

Fichera explains that 8 track engineers must be prepared to make decisions very quickly at all times, and believes no other method of recording quite matches the intensity of 8 track. "For example, drum kits have to be pre-mixed onto two tracks. You have to get relative levels and equalization for the snare, toms, etc., right away. Once a couple of instruments have been committed to one track you can no longer change the balance, so you must always remain alert and certain of the choices you make. The thing that makes this all so fascinating for me is you only have one chance to get it right. Another important thing to remember is having good mikes and positioning them correctly is half the battle in getting a good sound."

The trick to 8 track recording, if there is one, seems to be developing the foresight to discern exactly what a completed arrangement will sound like as soon as you have finished laying down the first track. The producer and engineer are forced to develop an added understanding of the product they are working on. In this way, the recording engineer in an 8 track recording studio must be able to completely understand the sound desired by a producer or client in order to do their work justice. Hence, this extra measure of total involvement may prove just as beneficial for the beginning musician as it will for a veteran producer in achieving the precise sound he is striving for on a commercial product.

Chris Fichera admits, "We are here to give our clients the best product possible. It's to our advantage to work closely with them and help them to sound as good as possible because it can only reflect well on us. We help teach beginners how to function correctly in a studio setting while showing them how they can have a good time at the same time. Beginners are usually scared to death of the process and, at that level, our chief function becomes to relieve them of their apprehensiveness. That's the only way they can let loose and work to their fullest potential."

There are many factors which attract established acts to choose to record in 8 track studios. "The key word here is convenience," explains Mountain Sound owner and studio manager Larry Cardino. "Our studio is right here in the area and artists know



Studio guitarist John Cannova in the M.S. playing room

that they can get professional quality product here instead of traveling to New York or even Los Angeles to do the same things we are capable of doing." Picking up the same train of thought, Fichera adds, "The thing is, they come here; they're getting a good price and a good sound... and most importantly, it feels right to them. They feel comfortable playing here and that's what counts in the long run, because music is based on a feeling and the end result will reflect all of this."

Bill Goodwin is certainly not in a minority by opting to record on 8 track. He states, "It's my own particular preference, but I find more and more producers are utilizing 8 track recording for even their most viable products. For example, many notable producers in jazz and rock work here and produce commercial recordings. Scott Jarrett's demo was recorded here; the same one that resulted in his ultimately signing a contract with Arista records and being produced by Dave Grusin and Larry Rosen. And needless to say, Phil [Woods] has recorded many projects out here and just this past year we were nominated for a Grammy for a David Frishberg album recorded at Mountain Sound."

As Goodwin explains, 8 track is not geared only towards jazz recordings. Mountain Sound has seen substantial recent activity in the recording of rock, pop and country oriented product, both as demos and commercial recordings. Also, 8 track is extensively utilized by the advertising market as the perfect vehicle for radio and television jingle and music bed recording, on national or regional levels.

If the experience of Mountain Sound is any indication, it is easy to see why 8 track recording is so attractive to producers, recording engineers, and artists. It can be utilized by various different branches of the media and is a viable format for recording all different kinds of music. Overall, it's economic, educational, professional, convenient and obviously not the dinosaur many erroneously believe it to be. ■

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a look inside Guy's garage

by Q. Bryce

When you hear that a recording studio is located "at home in my garage," it usually conjures up visions of tangled cords, a card table console and four track demos. When the studio is located in a small town near nowhere, the vision can become a nightmare.

But concealed amongst a bunch of casual-looking tract homes in the college town (Brigham Young University) of Provo, Utah, lies Rosewood Recording Company, one of Utah's premier recording facilities. Combining just the right amounts of management and recording techniques, along with loads of personality, Guy and Kristen Randle have turned the "home audio nightmare" into a musician's and producer's dream.

What started in 1977, as a means for Guy to produce his own demos, has become a full-fledged 24 track studio. Rosewood now boasts works appearing on major labels, network and PBS television, motion picture soundtracks, HBO, Showtime and MTV, along with numerous independently released regional albums - and all at the ridiculously low rate of \$35 an hour. Guy and Kristen have discovered that a small town studio is not destined to do jingles for Fred's bank for all eternity.

Starting out with a modest investment and shooting for a market you think you can fill is the smart way to go, Guy says. "You can either grow as the market grows or not advance at all."

Guy explains that because "over the years our equipment hasn't been anything to write home about, the most important goal has been giving the client the best possible sound at the lowest possible prices."

Just recently this philosophy rang true when a single recorded at Rosewood appeared on *Billboard* magazine's "Pick of the Week" list. Recording time for the single, including mixdown: less than \$500.

Stan Bronson, producer of the tune, titled "Without You," says the Nashville firm that ended up distributing it "commented on it being a great sound and I told him that we had recorded it at a studio in Provo. He just chuckled and said, 'I'm glad to hear things like this coming out of places besides Nashville. These guys sit back here and think they're the only ones who can do it.'"

What enables Rosewood to "do it," and do it at a low cost, can pret-



ty much be summed up in one word: Guy. "You pretty much get me," he says with one hand at the board and opposite arm filled with Cammon, his 16 month old son. One thing that turns Guy off is when he hears people talk about other studios' "razzle dazzle equipment. 'Cause it's not the equipment, but how you use it. Someone can be a nerd with a Studer just as well as he could with a TEAC. TEAC equipment had been the mainstay of our studio until we graduated to MCI, but the sound quality is still basically the same."

One reason for Rosewood's high quality sound is that Guy feels it's important to grow with your studio. "I've heard an awful lot of junk come out of expensive studios from engineers who didn't seem to know what they were doing."

With an initial investment of \$7,000 for a TEAC setup, Guy's ability as an engineer has increased along with Rosewood's list of inboard and outboard equipment. So at any one point in time, the studio and Guy were old friends.

First it was buying the baby grand piano instead of renting it, then a few more microphones. After some time, Rosewood invested in a TEAC 16 channel board, and as time went on better microphones and more outboard effects were added. Months later, a 16 track machine (TEAC again) was purchased as Rosewood moved from downtown to the garage. In late 1981 they bought a 24 channel Tangent board, and in early 1983 moved up to a 24 track MCI recorder.

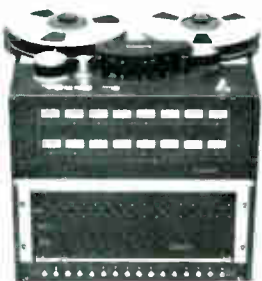
What's so amazing about this gradual buildup is it was pretty much bought with cash up front. The only loans Rosewood has taken out have been to finance the purchase of the 9' Baldwin grand and a loan for part of the MCI track machine, which has since been paid off. Wise money management like this has kept Rosewood afloat when other studios, up to their necks in debt, would have gone under.

Guy feels the "sound of the finished product" at Rosewood would cost two to three times as much in a city such as Los Angeles. "I've heard stuff come out of a \$125 per hour studio that sounded like grit."

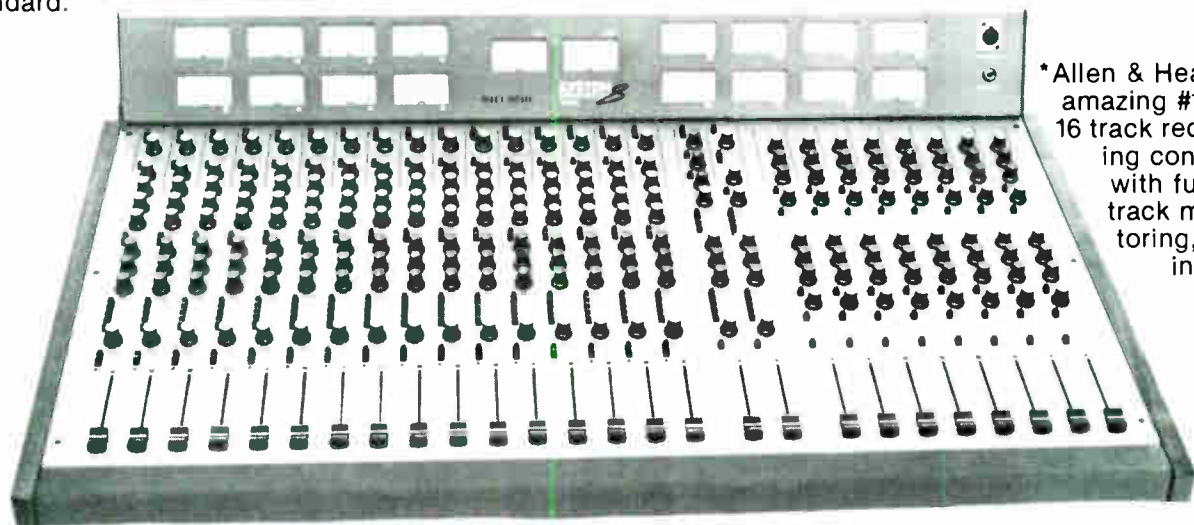
Although Rosewood has never advertised out-of-state, it has a few word-of-mouth people who come in from the West Coast to record. "You have to be realistic," Guy emphasizes, "In Smalltown, USA, you either have to

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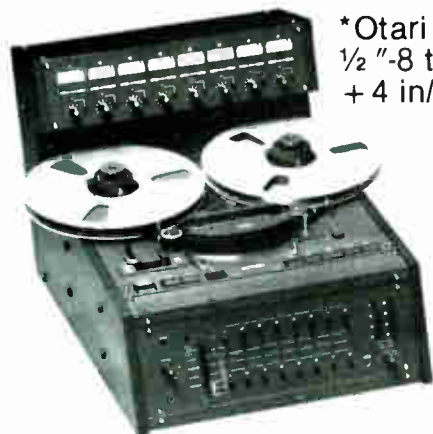


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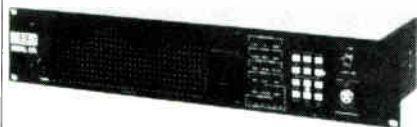
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offer something you can't get in the city, or something you can get for a lot less money." Rosewood offers a bit of both.

"We just have a few people who like us well enough to come from out-of-state," he admits modestly.

One such out-of-stater is Sam Harrison, a producer/director for SamFilm of Carmel, California. Harrison came to Rosewood in September of last year because, "I knew we could get the music done the way I wanted it done - get it done right. Guy's setup is good, his sound is good, he's very talented, trustworthy." The project was a theme song for a television show but SamFilm has since turned it into a rock video, now scheduled for airplay on HBO, Showtime and MTV. The cost of recording the song, including musicians, was well under a thousand dollars.

Harrison admits the cost is lower in the long run but cites "reliability" as his reason for returning to Rosewood time after time.

Rosewood has made high quality at low prices its specialty, and the studio being in the garage plays an important role in keeping the prices down and the customers happy. After three years downtown, Guy and Kristen decided to move "in-house" because of the appealing low cost. "It would cost a couple hundred dollars a month to add on to the garage whereas outside rent would be a minimum of \$500 a month," Kristen explains.

"At our last place in town," Guys continues, "we were paying a receptionist who didn't know much more about the business than booking time." Moving home has allowed Kristen to become a more active part of the business.

Although some clients think Kristen is just "the voice on the phone," she is much more than that. She handles all the accounting and is basically Guy's business partner. It works well for the Randles.

But having the studio in the garage isn't all bright and beamy. Guy says the biggest problem with the studio being connected to the house is that the

distinction between work and home life becomes blurred. People calling at 7:30 a.m. on a Saturday morning to get a cassette dub isn't exactly Guy's idea of being on the cutting edge of the recording industry. At the top of Kristen's list of annoyances is noise leakage into the house, with people walking through the back door and peering through the windows running a close second.

Noise leakage to the outside, Kristen assures, "is definitely not a problem. One kid on a Big Wheel makes more noise in the neighborhood than an entire rhythm section."

Because Rosewood is basically a one-man studio, located in a residential area, Guy and Kristen have imposed a 10 p.m. session curfew, which seems to have worked fairly well since moving into the garage 2½ years ago. "It's not so much a problem with noise leakage as it is with people coming and going, and Guy getting a decent amount of sleep," Kristen states.

She goes on to explain one other pain of having the studio connected to the house. "People tend to be rude and kind of stupid in the business world. When you move your business home you transfer some of that rudeness and stupidity into your home."

Running a 24 track recording facility in your garage and maintaining a professional, creative atmosphere is a difficult challenge, but Guy and Kristen seem to be doing well, rolling with the punches, taking the good with the bad.

So it's a hot summer day, you're in a Hawaiian shirt, shorts and sandals. You're sitting in the producer's chair next to Guy mixing down some tracks when you suddenly feel something warm and moist at your feet. You look down and to your amazement see Emerson, the studio dog, giving your feet a thorough licking. At this point you can either run straight out the back door, over the fence and into the Provo River, or you can, as most do, accept this as Emerson's official gesture signaling your adoption into the Rosewood family.

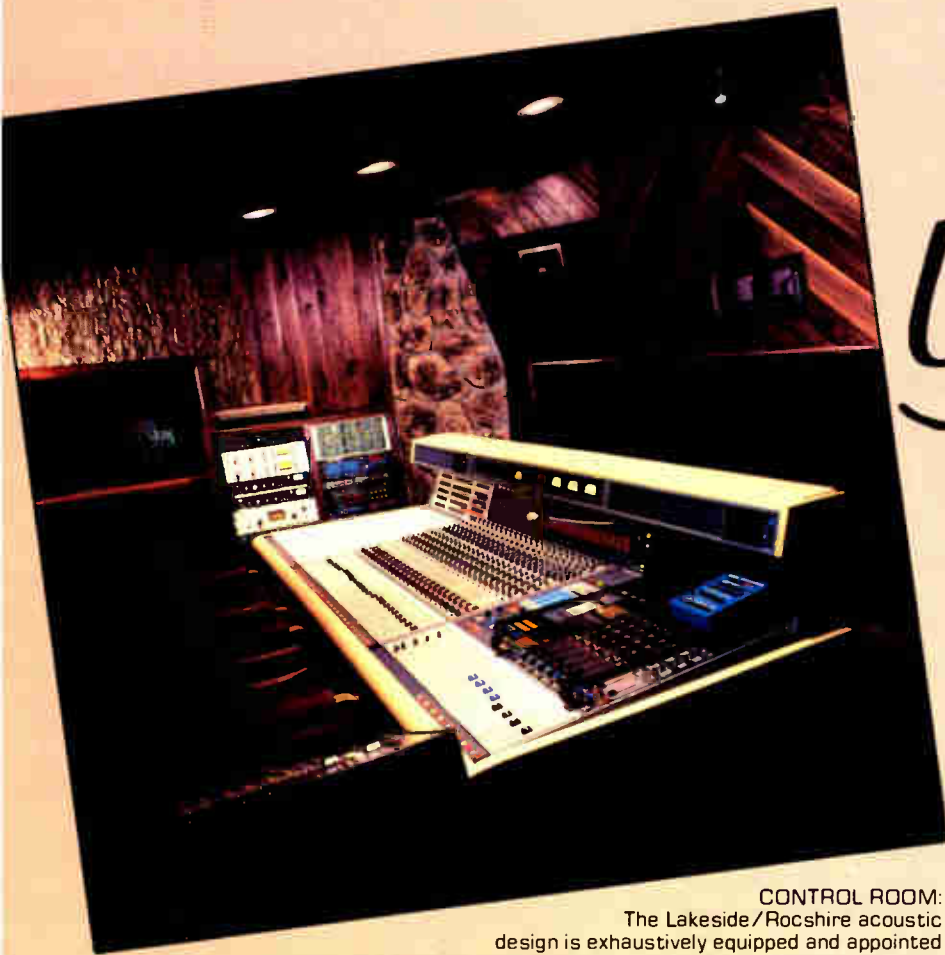


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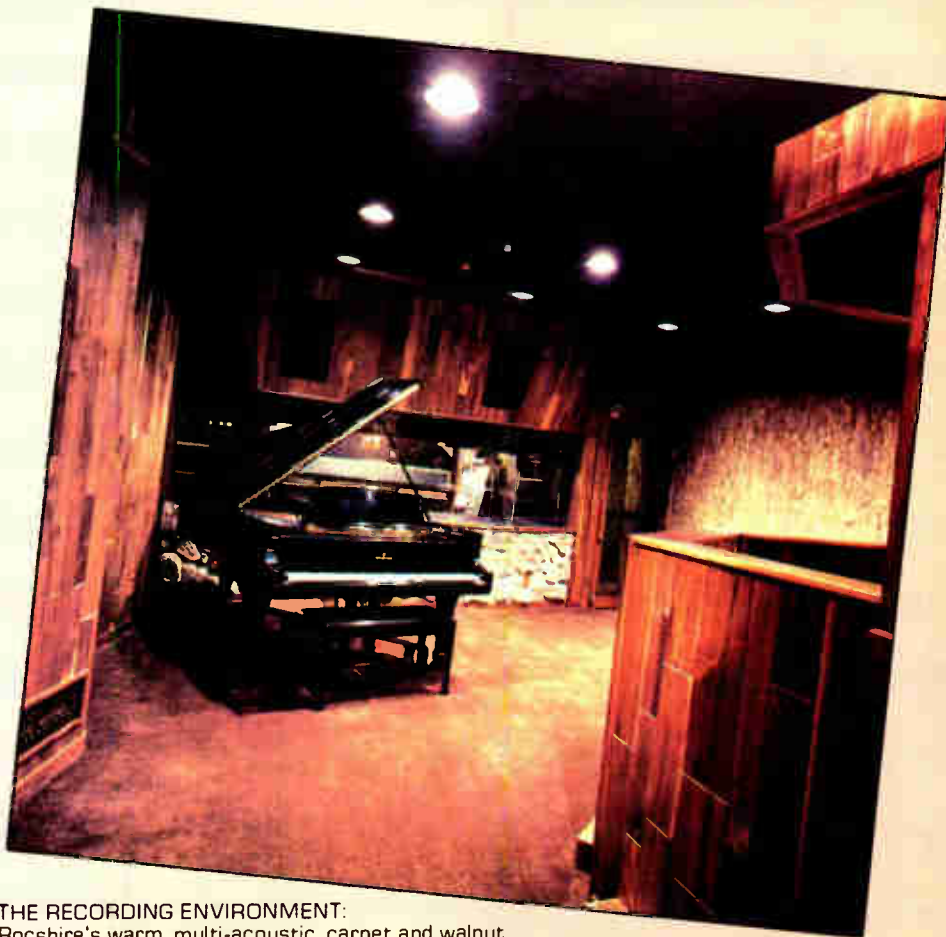
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—from page 57, *Women's Guide*
video engineer. She started her career as an audio engineer and cameraperson for the Long Island Public television network. She was the only woman employed in that capacity during the two years she worked there. When she went to Metromedia (Channel 5) in New York City, she was one of 11 female engineers in a group totalling 96. Her advice is to be up front in your dealings with people, know your stuff, and don't play head games with male counterparts.

• • •

CONCLUSIONS

- **Join your professional organizations.** This may be NABET (National Association of Broadcast Employees and Technicians), IBEW (International Brotherhood of Electrical Workers), or any other comparable group in your area. This will enable you to keep in touch with what's happening in the industry, possible job leads, and most important, it shows you know how the game is played.
- **Don't rule out road work.** This is actually one of the best ways a woman can learn music, sound, how to work under pressure, and how to

cope in a predominately male environment. Admittedly, the road is one of the last strongholds of unadulterated male chauvinism, and many bands, sound companies, and shows won't hire women in this capacity. A lot of them are also monetarily unwilling to pay for the extra hotel room they feel a woman would require. Both Holly Peterson and Judy Elliott-Brown felt that a woman should be willing to share a room (though not necessarily anything else) and take the job.

- **Get involved with a band.** Go into the clubs with them and do their sound, and get it on tape as an example of your work. This can now be used to get yourself a job as a house sound person in a club. Gail Knopfler, a public relations consultant and former floor manager for The Other End in New York City, says that this is the best way to document your experience if you are just starting out. She also makes the point that there is very little sex prejudice in an informal small club atmosphere.
- **Look the part.** If you're interviewing for a studio or sound company that gets a lot of work recording corporate meetings and industrial shows, showing up for the interview in leather pantyhose and a mohawk hairdo prob-

ably won't get you the job. Knopfler, Joanne Georgie, and Howard Stein, who are all in the position to hire, stress that one should dress comfortably and suitably.

- **Get the credentials you need.** No one is going to hire you just because you're a woman. Morris Brownstein, president of Announcers Training School, says that while a lot of companies and networks have a quota to fill, a woman still must possess the credentials the job requires. He feels that a woman starting out should take any job that's offered her, become a cog in that particular wheel, and learn all she can before moving on.
- **Learn how to network effectively with your male colleagues.** Shelley Newman, an independent TV producer in Boston points out that who you know in your field can be just as important as what you know, since so many job leads are learned by word of mouth. Hanging out with the few other women in the business might be great for moral support and companionship, but it doesn't seem at this point in time to spawn jobs. Find out who the local movers and shakers are and get to know them. Yes, they're probably all men. And yes, you might have to act like one of the boys... but do it like a lady! ■

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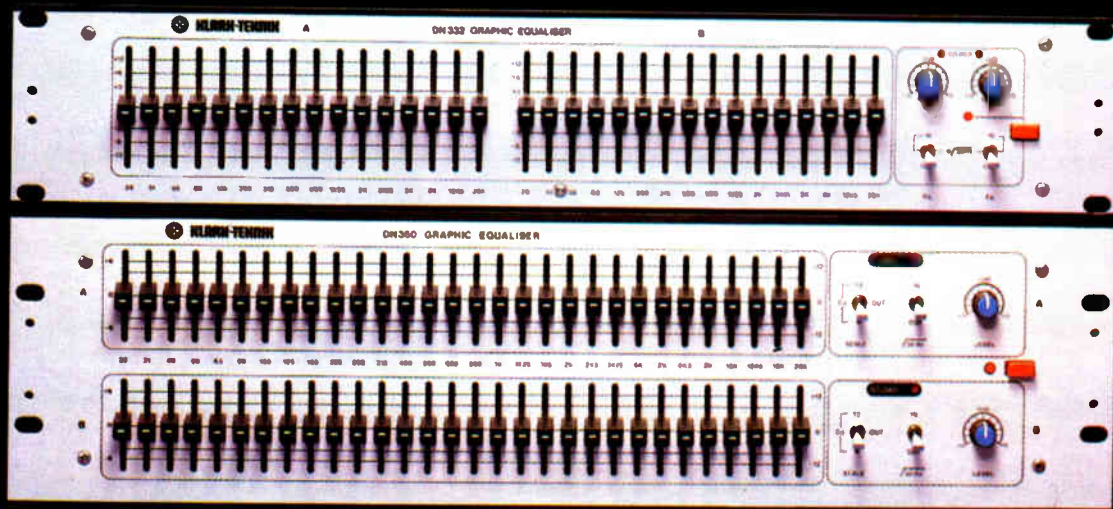
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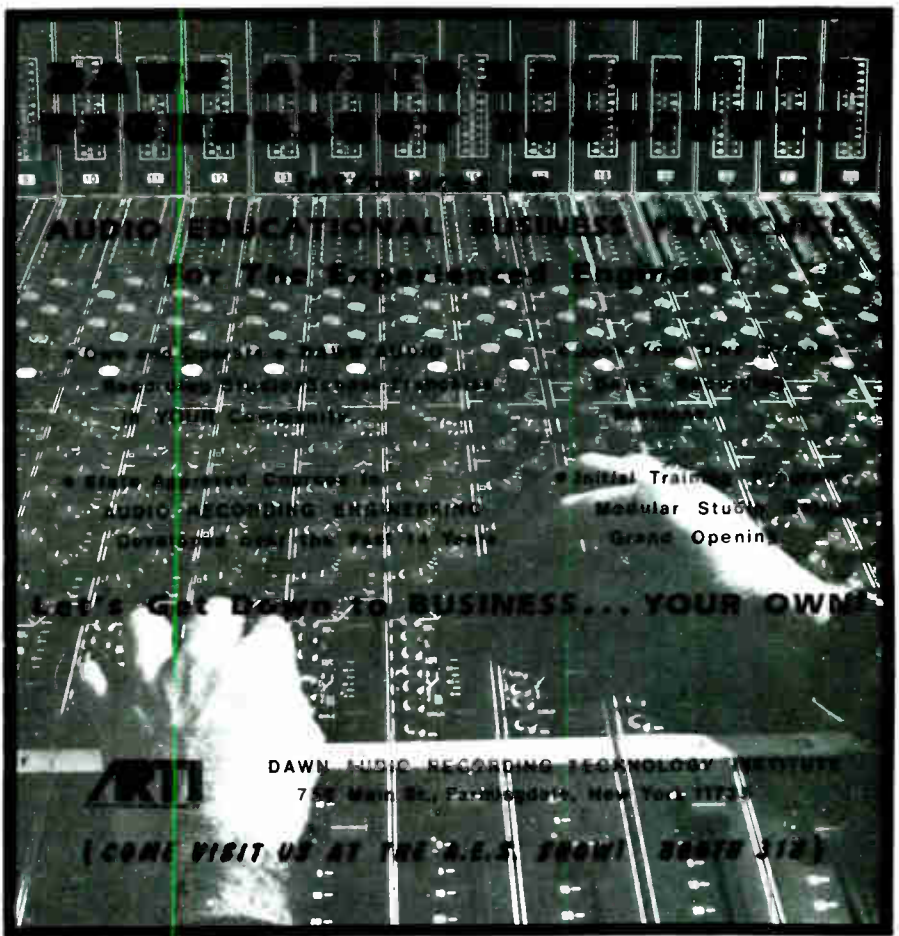
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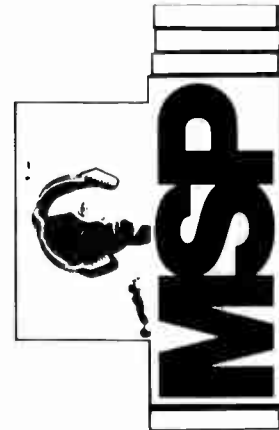
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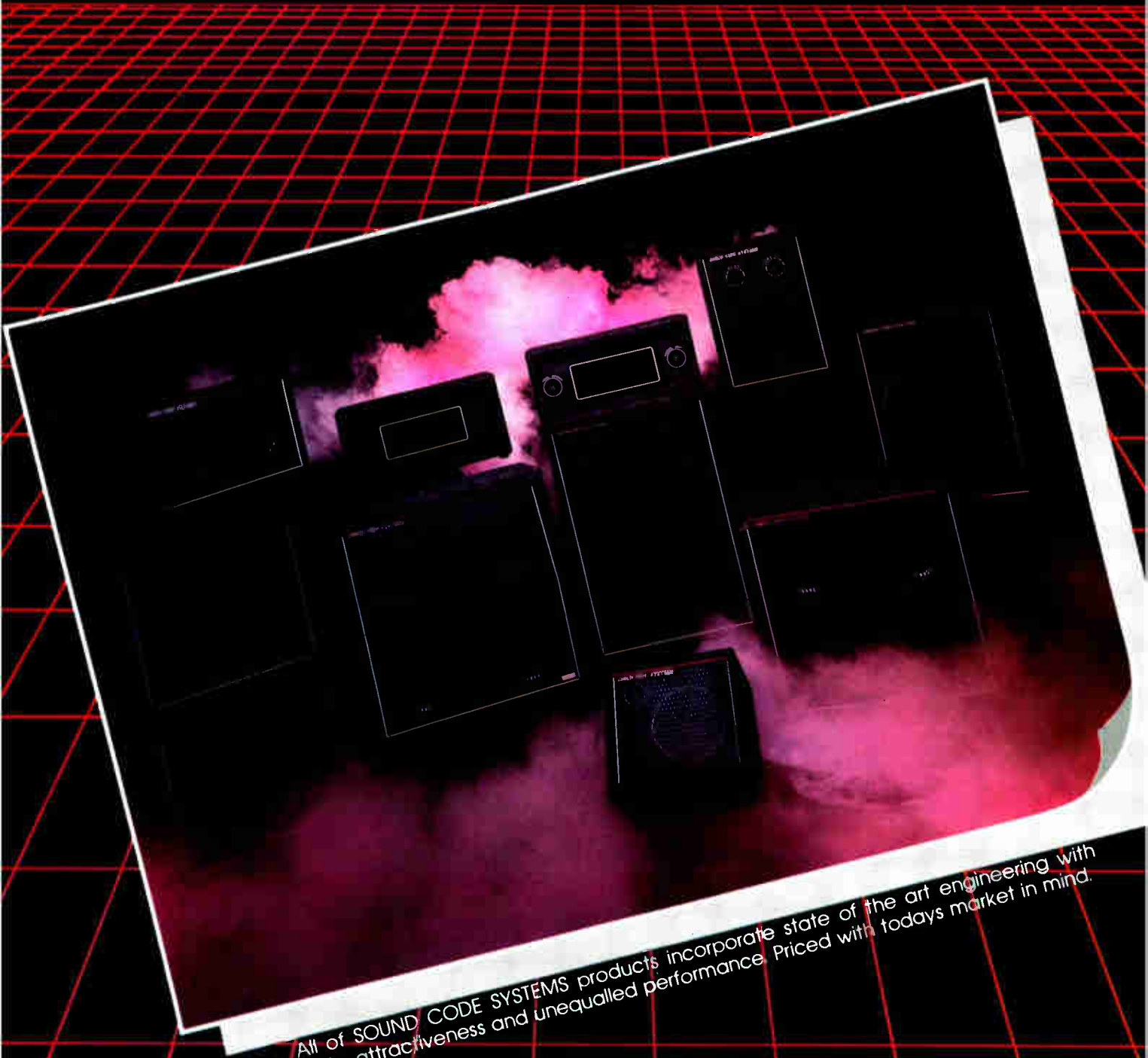
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SOUND ON STAGE



BOWIE TOUR

Pre-production at Las Colinas

by Bruce Nixon

Let's *Dance* had just reached the stores. David Bowie arrived in Dallas in early May to begin three weeks of rehearsals before embarking on a tour scheduled to last eight months and cross at least three continents.

By the time Bowie actually appeared in Dallas, tour pre-production had already been underway for almost six weeks. For Showco, the Dallas-based sound company doing the tour, Bowie presented some unusual problems, but the advance work required to put David Bowie on the road proved to be fairly typical in other respects, a pretty good case study in pre-production for a major rock tour. Bowie was easier than some and harder than others. Bowie and his current band rehearsed in a 15-month-old, state-of-the-art soundstage on the sprawling Las Colinas complex immediately northwest of the city; when he turned up at Las Colinas, approximately 60% of the equipment he'd be using throughout the tour was set up and waiting for him.

"If a band tours often, it's easy because you know what they want and need," explained Showco sound department manager Dormy Kretzschmar. "Bowie hasn't toured in years. Then, too, it's Bowie, and the band is built around him, a new band every time he goes out. It's real hard, 'cause they don't know everything they want

in advance. Things change almost daily during the rehearsals.

"The things that made preparations difficult were Bowie doesn't have a regular band, he doesn't tour often, and he doesn't have his own production man," Kretzschmar added. "These are the unknowns that have to be worked out. You take bands like Genesis or The Beach Boys, or any other act that tours every year with the same people. These three things are known. Certainly, there are changes that have to be made from tour to tour, when the technology is updated or the band requests something new, but it's a lot easier."

Pre-production begins as soon as a tour is announced and sound companies are able to bid for it. Showco has done the last four Bowie tours, so the company did have an inside track on things. The steps that must be completed prior to rehearsal go, rather simply, like this:

The basic cost of the tour is determined from a tentative itinerary, figured from the size of the venues, how much gear and how much personnel will be required, methods of transport, mileage, customs fees, etc. Showco maintains detailed files on venues all over the world and sometimes makes suggestions regarding the

band's itinerary. A performer such as Bowie also relies on the sound company to do the job a personal production person would do, and to supply sound engineers for the tour.

Rehearsal time and space is booked.

The stage is set up at the Showco warehouse and given a test run before it's moved to the rehearsal hall.

The Las Colinas soundstage was loaded with 26 pairs of Showco "arena system" gear, a total of 52 cabinets that handled about 39,000 watts of PA, along with the monitor system and the basic collection of effects that are used on most tours — an AMS digital reverb, Harmonizer, Roland echo, a pair of dbx 900 racks, a Lexicon Super Prime Time. Also, this was the first time Showco had used any of 10 recently purchased Harrison mixing boards; the two which would be employed for the PA and monitor systems arrived four days after rehearsals began and were installed overnight.

Rehearsals required a sizable staff as well. There was a five-member sound crew, and one or two of Showco's top mixers came around almost daily to act as helpers and consultants. Lighting required another five or six people, and four more looked after the set. In a provisional operations office set up at Las Colinas three more people were working out the tour

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An exterior view of the Las Colinas soundstage facility in the Dallas Communications Complex

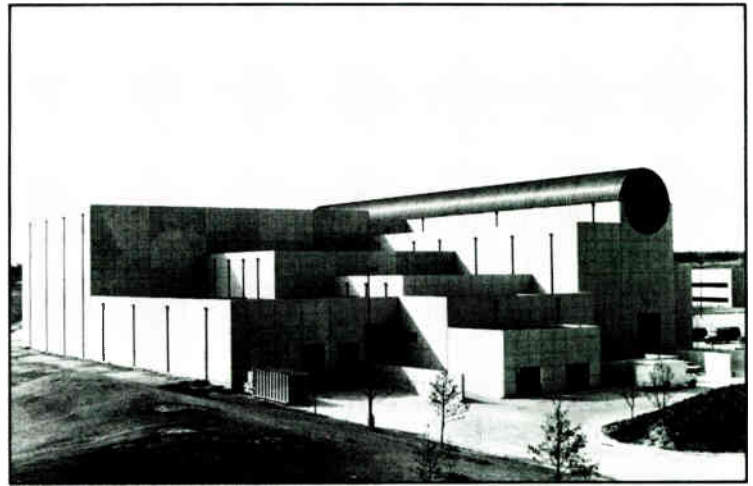


PHOTO: MARK SCHOTTE

logistics. Add to that Bowie's choreographer, stage manager, five band roadies, and the Las Colinas kitchen staff.

"Bowie is such a perfectionist," Kretzschmar said. "He kept trying different things and sending out for more effects. He'd bring in his studio producers and they'd listen to our person mix, and that proved to be a lot of help. But it *was* a hard show to mix. There are lots of cues and a lot of people on stage, a lot of solos and a lot of effects."

Jhe band rehearsed each day by section, generally at a relaxed pace. The horn section arrived in the morning, followed by the backup vocalists and the rhythm section. When the separate rehearsals were completed, the sections rehearsed together before Bowie himself appeared in the late afternoon or early evening to work with the band. Reference tapes were made at each rehearsal and the following day, after listening to the tapes, Bowie or other band members would request changes in the mix. Paul McCartney, Kretzschmar recalled, rehearsed the same way for his last several American tours.

"They'd hear something from the night before that needed changing," said Showco operations director Gary Carnes. "They might come back and say, 'Well, everything sounded good last night but . . . It could be the sound of a high hat or something in the keyboards.'"

Kretzschmar added: "The drummer has to hear what he wants to hear, and the keyboard player has to hear the drummer and vice versa. It goes back and forth between everybody in the band, and certain musicians absolutely have to hear particular things, and that can vary from song to song. So you really have to figure out your cue sheets. You can't

go into a tour and just do it. It'd take eight shows or more to get it together."

At the beginning of the rehearsals, about 80% of the tour itinerary was complete. As information came in, new gear was added as it was required. When the band left, the PA had grown from 52 to 72 cabinets, and had increased in wattage from 38,000 to 54,000. Other small details had been taken care of, as well, from changeovers in several of the monitor cabinets to new paint jobs on the mike stands so they'd match the color scheme of the set.

Showco personnel definitely benefitted from the company's proximity to the Las Colinas soundstage. This is a new facility—it opened in late spring, '82—with three soundstages of varying size, built for film and video work. However, after Stevie Wonder used the soundstage to rehearse before a Dallas stadium show in June 1982, word got around that it was a good rock rehearsal room; Kiss used it, as well, followed by Bowie and then Robert Plant in August. "If it hadn't been down the street, all the work for the Bowie tour would have been a pain in the butt," Kretzschmar remarked. "Anything you can do to make things go smoother and easier is a big plus." Kretzschmar compared Las Colinas to a pair of English facilities that have been used by Led Zepelin, Thin Lizzy, Pink Floyd and other bands — Shepperton Studios, outside London, and the Bray studios, near Windsor, both designed for film work, and both considerably older and less well-equipped than the Dallas soundstage.

"When we left Las Colinas," Kretzschmar added, "we were as close as we thought we could get to what the show should be. But even accounts we know well, like Z.Z. Top, can change something in the middle of a tour. Musicians are always asking, 'What if we do this? What if we do

that?' They call us, and unless the request is really outrageous, we try to comply with it. We have it down to a science, yes, but it's still rock and roll. A lot of stuff comes up."

And yet, these long daily rehearsals are only part of the entire tour pre-production.

In the operations office set up at Las Colinas for the duration of the rehearsals, a small staff manned telephones as they arranged all of the necessary logistics for moving the tour from place to place.

"The phones go crazy," Kretzschmar said. "You can't get more immediate than that. Bowie takes a break, his road manager runs up to okay some stuff and ask questions, and then he's back making plans."

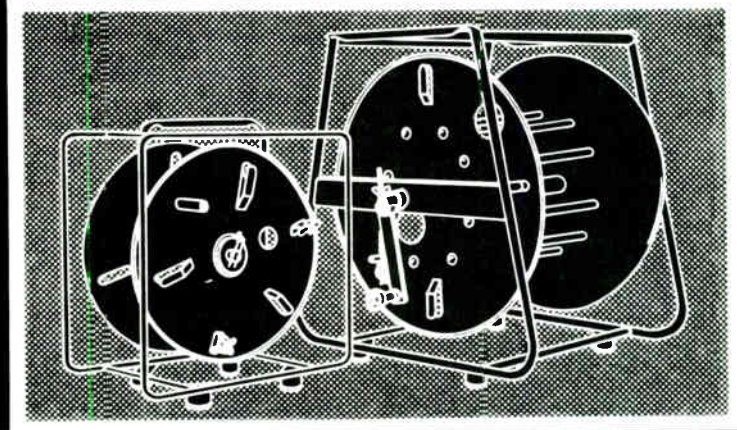
Operations makes all of the airline and hotel reservations, and all of the arrangements for transportation of band members, full crew and equipment; one person does nothing but airline and hotel reservations, while another prepares rooming lists. They also make arrangements to purchase materials—plywood, for instance, or electrical equipment, from site to site—while accountants back in the Showco offices figure all the costs and pay advance bills. In the case of the Bowie tour, this process was complicated by the fact that the band would be crossing a number of borders during the European leg and currency exchanges would have to be made from country to country. Meanwhile, blueprinters at Showco prepare schematics of the stage setup which would be sent to all of the halls and promoters along the tour. An accountant also travels with the band, collecting money and paying bills along the way.

A

few changes appeared after Bowie left for Europe. One of the biggest came after the singer returned briefly to the United States to appear at the US Festival in California. He liked the delay towers at the huge outdoor festival so much that he requested some for his own tour and they were quickly shipped from Dallas to Europe.

"The details are just endless," Kretzschmar said. "And while we were doing all of these things with David Bowie, we also were doing nine other tours. You can't just drop everything and concentrate on one person. But once we're out of Las Colinas and on the road, whheeeeew, we can relax a little in the office."

"Now the tour's just like a morning lake," Carnes added. "Very, very smooth."



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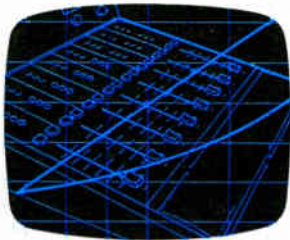
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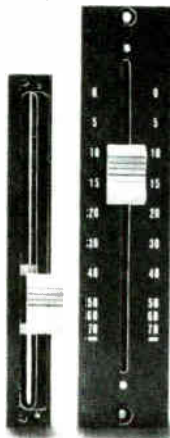
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—from page 5, Feedback

reach production of their new compact digital cassette recorders that not only offer pre-recorded product with economy and digital silence but also will be able to record? Is this foreseeable competition the underlying reason for such speed?

Sheffield Lab has been accused of having a vested interest in the phonograph record. You're damn right we do. We have an even bigger vested interest in the truth and our lifelong commitment to music. Many of you are in this industry for the same reason. All manufacturers have a vested interest in their products and the magazines have a vested interest in their advertisers, in preserving the credibility of their writers and, one would hope, in the objectivity of their reporting. Certainly the manufacturers of the CD have an enormous vested interest — a fact not noticed in the Wall Street Journal.

A strong motivating force to this large push is the widespread feeling that the CD is the needed new tool to spur on our flagging industry — to bring new customers into our retail stores and to increase business. There is merit to this argument but there is a greater need for the high fidelity industry to maintain faith with its customers by accurately reflecting the pros and cons of a new technology so that when the consumer does buy the device of his choice he will find its performance will agree, both initially and with time, with his expectations.

And what are his expectations? Phillips' slogan is "Perfect Sound, Forever." I defy you to make a more grandiose statement. What is the integrity of a company that resorts to such hype? Is this ultimately good for the credibility of our industry? And if it is good for business, is it good for your business? Will your carefully conceived amplifier really sound better than some mass produced version on a CD player? Will your high resolution, precise imaging loudspeaker please you from a CD source and justify the years of work and research invested? If you make something related to the playback of a phonograph record, well... there are no words.

The CD will initially be good for retail business. But whose retail business? Many are being introduced in department stores and, since they all sound the same (thank you, reviewers), expect to see them discounted at the high volume, boxes-to-the-ceiling merchandiser. High fidelity stores that offer service and good listening environments, and that have traditionally presented your products to the public, will be eaten alive.

This letter is being sent to the presidents of companies that have established a reputation for producing the finest audio components in the world. Realistically, the CD system is in its infancy with only a few thousand devices available in the United States in contrast to over 100 million devices for disk playback and over 60 million cassette recorders. The CD will appeal to the man who has to have the newest of everything and less so to the audiophile who is already skeptical of the merits of digital recording. As the price drops, it is supposed to appeal to everyone. Eventually the unsatisfying reality of CD will be perceived by the user of high fidelity equipment, but this will be a long process. I don't believe you can afford to let exaggerated claims saturate the media with no counter view being expressed.

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The British press is known to be of a critical nature, with a history of comparing the sonic merits of similar components. In their magazines you will find critical evaluation that shows real disappointment with the CD as compared to the LP, even when the master tape was digital. Most importantly, a dialogue has been initiated and data has been presented that has caused them to question much about the present day digital technology.

As president of your company you are interviewable, quotable and command great respect and credibility. Although your company possesses a wealth of technical talent and equipment that could certainly pinpoint the poor performance areas of the CD, it might be ultimately more meaningful to merely state that you find the CD to have poor sonic characteristics. The ear has always been the final judge in audio. Many of your companies have spent substantial dollars in the audio magazines, and you would be welcomed with open arms should you desire to present opinions divergent with those being printed.

For me, personally, all digital attempts thus far have been a failure. I simply cannot enjoy music that has been digitally processed, and the enjoyment of music in the home is the sole reason we have a high fidelity industry. I support analog recording because it works. It is a time-proven process that contains musical information which is accessible to all and which has a resolution that allows the listener to continually discover hidden nuances as he improves the abilities of his home playback system.

The silence on the CD is not golden. A high musical price is being paid for that one virtue, but not as high a price as you might pay by your silence. It's been said that, "A journey of thousand miles starts with a single step." I've taken mine.

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Fred Piegonski
Public Information Officer
Los Angeles City College, CA

Dear Fred,

Sorry about the oversight. We would like to encourage any other recording schools who were omitted to contact us, so they can be included in our next listing.

Correction:

In our July forum on "Recording Arts Education", the article incorrectly referred to Richard R. Ranta as Dean of the Institute of Audio Research in New York City. Dean Ranta actually heads up the College of Communication and Fine Arts at Memphis State University. Our apologies for the confusion.

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The **S**ongwriter

Music **P**ublishing

by **Jeffrey L. Graubart**

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Should I be my own music publisher? The talented songwriter, fearing that he will be making a mistake in failing to utilize an established music publisher to administer his musical creations, often asks this question. Of course, there is no easy answer. Certainly, using the service of a professional has its advantages, but do the disadvantages outweigh the advantages? This must be decided by individuals on their own, by weighing various factors unique to their own goals and desires.

A songwriter-performer, without any desire to delve into the business part of the music business, may choose another person or firm to administer his musical works. This gives the creator more time to devote to creation and

performing. Even if this choice is easily made, should the chosen administrator be an "established" music publisher (who will customarily charge the creator 50% or more for his services) or should the creator choose another (such as his manager, attorney, accountant, or other professional administrator) to undertake the task, for a charge to the creator usually no greater than 15% and often less than that? It should be noted that many of the established companies do accept catalogues solely for administration for fees ranging from 15 to 25%. However, among the uninitiated, the "pros" demand (and receive) ownership shares equal to 50% and more of individual songs and catalogues.

Why does the publisher potentially receive even more than 50% of the gross income from the composer's composition when the songwriter has been advised by the publisher, traditionally, that they are entering into an arrangement calling for an equal income split? The primary reason is that

the discussion between them is usually in terms of equality, but the written agreement submitted thereafter almost invariably provides equality with respect to the split of income from mechanical royalties and synchronization royalties, but not with respect to printed music.

Although the typical publisher receives 35¢ from its sheet music licensee (20% of \$1.75, the retail price of sheet music), it usually agrees to pay the creator only 5¢ or 6¢. The payment of 7¢ to 10¢ by the publisher to the writer is a major victory to the creator. When questioned with respect to this practice, various legitimate publishers have defended it on the logically inadequate grounds that: (1) they never said they would be the writer's partner, or (2) it is traditionally part of the publishers' "built-in profit structure." (It should be noted that the agreements presented to songwriter-

ers in the 1940s provided for a payment of 5¢ to the writer for piano copies, and the same rate was contained in the majority of songwriters' agreements presented to writers during the 1970s, although the retail price of sheet music since the 1940s has multiplied several times.)

There are many factors to be considered by the creator in making his choice. The creator has to decide whether he wants the services customarily provided by the music publisher or, in the alternative, the services of the other administrator. The other administrator chosen by the creator almost always provides his or her services for a period as long or as short as requested by the creator, while the "established" music publisher invariably insists on controlling the compositions for as long as permissible under the U.S. copyright law. Potentially this control can last the life of the creator plus fifty years.

Utilizing the services of an administrator, the creator usually contracts only on a year-to-year basis and does not, therefore, face the loss of control of his or her compositions. Why then should the creator choose the music publisher to administrate?

The publishers have been accused of no longer providing the crea-

tive, promotional, and marketing functions for which they were once famous. They have also been charged with maintaining a function that has become heavily administrative and clerical only: the same functions now performed by others for a fraction of the charge and a fraction of the required contractual time. It has been said that the publishers have become largely service entities, conduits for the procession of income and paper transactions and that they do not promote as they used to, do not advertise as they used to, and do not employ field representatives as they used to, because these promotional functions have been taken over by the record companies. If all of this is true, the creator's choice is clear: to employ his manager, attorney, accountant, or other agent to process the income and paper transactions and, in so doing, become his own publishing company.

W

hat do the music publishers say in their own defense? They, of course, paint a dissimilar picture. They argue that they provide an important and creative role in discovering and encouraging new talent. This encouragement can take the form of advances, annual guarantees or

living allowances to the composer or lyricist to permit him to develop his art. An astute publisher also offers the availability of creative directors, producers, editors, and experts on the publisher's staff and the conducting of workshops for new writers. Further, the publishers point out that they have an important promotional role in making demonstration records to showcase the creator's songs. In doing so, they work to get not only the initial recording but the maximum number of additional recordings of each song (which, for example, may turn out to be impossible for certain "hard rock" songs but much more likely with MOR tunes like *Yesterday* or *Bridge Over Troubled Waters*).

The offer of a substantial cash advance may be the major factor causing some new songwriters to contract with an established publisher. Another reason may be the possibility of the publisher obtaining an additional prize unavailable from the mere administrator: a recording contract.

Once established as a recording artist, the songwriter finds less reason to maintain his relationship with the publisher in that the creator no longer needs the publisher to find a vehicle to bring the creator's songs to the public, as the artist-performer has his own vehicle. This factor, more than

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anything else, is the reason publishers have been willing in recent years to modify the portion of the income they traditionally split with the creator. They have been offering to slice the pie in such a way that the writer or composer ends up with more than the so-called "writer's share" (traditionally described as 50% of the pie but actually substantially less because of the disadvantageous provisions uniformly inserted in the agreement between the parties by the publisher, as discussed above, which give the writer only a small fraction of the monies received from the sale of the printed music, and, in addition, exact substantial additional amounts "off the top" for collection agents and "general overhead"). The remainder or "publisher's share" can today be split between the publisher and the writer, but this is usually done only upon the writer's strong insistence for such a split. This arrangement for splitting of the publisher's share has become known as a "co-publishing" or "split-publishing" deal.

From time to time, the established music publishers are charged with being nothing more than agents for a stable of writers. If so, the tailoring of the publishers' compensation by way of the split-publishing deal does cause them to be compensated more closely

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to an agent's commission than was done previously. However, the agent's term hardly ever exceeds a period of seven years, while the publishers continue to demand terms of 35 years or more.

What about the fairness in permitting music publishers to retain creators' songs for long periods of time, without an obligation to achieve some level of success with respect to each composition? One remedy, permitted by some (but certainly not all) of the major publishers, is to insert, in their agreements with writers, a clause stating that unless a composition is recorded and commercially released (through customary industry channels), or used in a motion picture or TV show, or some variation thereof, the publisher must return the composition, and all rights granted by the writer, within a certain period of time (usually two years). Other major publishers refuse to allow such right of reversion, saying that they will never be sure when the right time will come to exploit the particular song.

Although United States courts have not generally delved into the issue of fairness of agreements between the music publisher and the songwriter (primarily on the basis that it would be unwarranted interference with freedom of contract if they were to relieve an adult party from a bad bargain), the English courts have done so in the landmark case of *A. Schroeder Music Publishing Company Limited v. Tony Macaulay* (1974) 3 All E.R. 616. There, the young songwriter plaintiff (Macaulay) sought to repudiate the contract he had with the defendant music publisher and was successful in doing so in the trial court, in the Court of Appeal, and again in the House of Lords (equivalent to the U.S. Supreme Court).

Macaulay had signed a contract with the defendant, a worldwide organization of music publishers, by which the composer agreed to assign to the publisher all of the copyrights in his existing work and in future works composed during the subsequent 5 year period. For that, defendant publishers agreed to pay the plaintiff an advance equivalent of about \$100. Subsequent advances of the same amount were due each time the previous advance was recouped by defendant publishers from the royalties due plaintiff. As is quite common in these agreements, there was no express obligation by the defendants to exploit any composition of the plaintiff.

The plaintiff contended that the agreement was oppressive, an unreasonable restraint of trade (because of his inability to deal with his compositions for a 5 year period except with the

defendant) and therefore void as being against public policy. At each level, the court agreed. The House of Lords, in affirming the judgment of the trial court which had declared the agreement to be void, made the following observations:

1. If the publisher is not bound with a "positive undertaking" to exploit a composer's works, it would be an unreasonable restraint of trade to tie the composer "... for this period of years so that his work will be sterilized and he can earn nothing from his abilities as a composer if the publisher chooses not to publish."

2. Had the composer had the right to recover his compositions after a reasonable time of inactivity by the publisher, the agreement would not be against public policy.

3. Because the contract was not negotiated between the parties, but instead the plaintiff was offered a "take it or leave it" agreement by a party with superior bargaining power, the agreement was oppressive and did not satisfy the test of fairness, i.e. whether the restrictions are both reasonably necessary for the protection of the legitimate interests of the publisher and commensurate with the benefits secured to the songwriter.

A week later, another English court, hearing a case involving Fleetwood Mac's original manager, who also had a publishing agreement with members of the group (*Clifford Davis Management Ltd. v. WEA Records, Ltd.* (1975) All E.R. 237), refused to grant the manager an injunction against distribution of Fleetwood Mac records in England that embodied compositions apparently subject to his prior publishing agreement. The court, referring to "standard" clauses in the agreement, called them "amazing provisions" and cited the precedent of the *Macaulay* case as the authority for its refusal.

American law has its deep roots in English law. Whether American courts will adopt the logic of *Schroeder v. Macaulay*, and create the revolution in the U.S. music publishing industry which is already underway in that industry in England, remains to be seen. It is clear, however, that today's creators have more choices open to them than their counterparts of twenty years ago and before. It is therefore incumbent upon the creator to weigh intelligently his choice of publisher versus administrator before making a hasty, unformed and irrevocable decision he may later regret. ■

Jeffrey L. Graubart is a member of the State Bars of California and New York and is a founding member of the San Francisco chapter of the National Academy of Recording Arts and Sciences.



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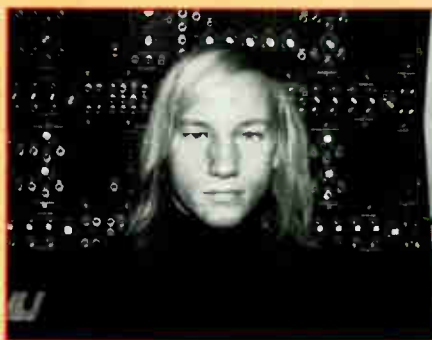
by Ken Pohlmann

Part 13

AN HISTORICAL PERSPECTIVE

KEN POHLMANN is an Assistant Professor of Music and Program Director of Music Engineering at the University of Miami in Coral Gables, Florida. He holds Bachelor and Master degrees in Electrical Engineering from the University of Illinois. He has designed and constructed several real-time computer music

systems, aural laboratory testing devices, and microprocessor systems. He works independently as an electronics and acoustics consultant, recording engineer, and technical writer. However, his greatest interest is in obtaining large-displacement motorcycles and driving them too fast for complete control.

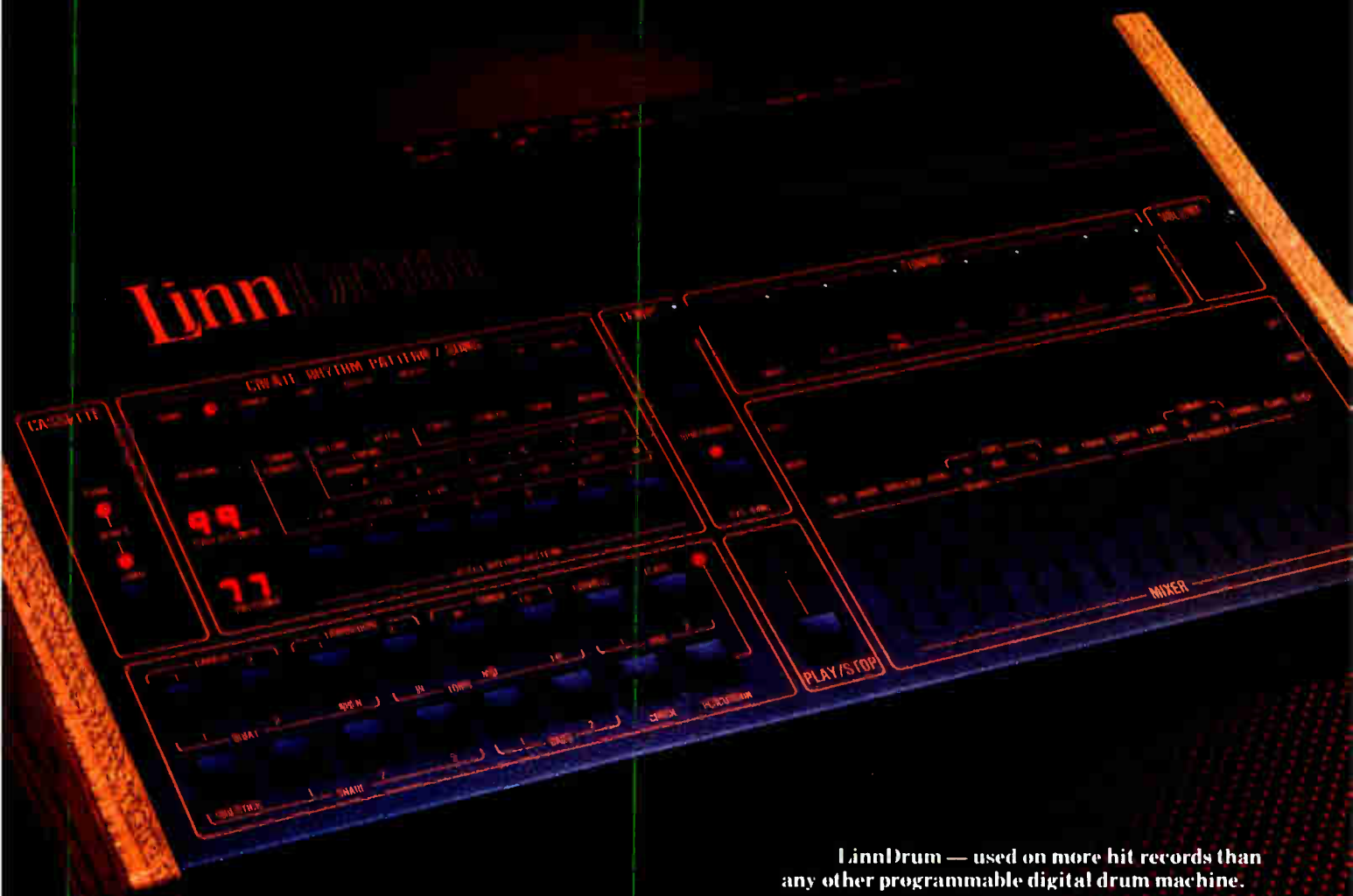


The telegraphic repeater was one of Thomas Edison's early inventions. It used a paraffin-coated paper tape to store and repeat high speed telegraphic messages. An incoming message was recorded by a stylus attached to the telegraphic arm by embossing the Morse code dots and dashes into the tape drawn past the stylus. To repeat the message, the tape was drawn through a transmitting device where another stylus responded to the coded indentations and activated a sending telegraph.

One day, while attempting to improve the devices' operation, Edison pulled a coded tape through the transmitter at a much higher speed, and he observed "a light, musical, rhythmic sound, resembling human talk heard indistinctly." He wondered if the repeater could be modified to store sound, instead of the electrical code. He connected a carbon telephone diaphragm in place of the input telegraphic arm and spoke into the mouthpiece. Upon playback, he discovered that the tape had indeed preserved the vibrations of his voice. The year was 1877. The 30 year old inventor had fathered the science of audio recording. After the first public demonstration of the phonograph he was praised for being a "wizard" and a "magician"; newspapers called his cylindrical phonograph "the greatest invention of the age," in an age of great inventions.

But that was just the beginning. Edison soon designed improved machines using grooved cylinders of wax, chalk, and tinfoil. In 1893 Emile Berliner invented a disk format, the heat of competition was on, and in 1928 Edison conceded defeat for his cylinder. The process of technical invention, modification, and obsolescence was under way. Succeeding years saw the development of 78, 45 and 33 $\frac{1}{3}$ rpm disks, LPs and singles, wire and magnetic tape recorders, reel, cartridge and cassette formats, the change

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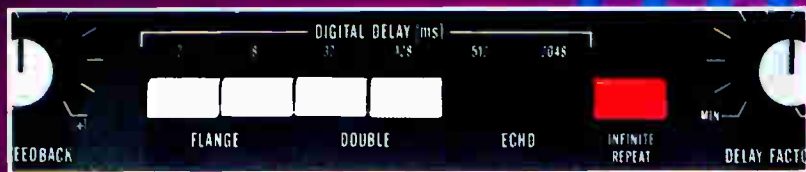
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CONTENTS

1 • 9 • 8 • 4



84

AMPLIFIERS

Power amplifiers and preamplifiers

90

AUTOMATION AND CONTROL SYSTEMS

Console automation, SMPTE synchronizers, remote controllers, locators, editing and time code systems.

94

MICROPHONES AND PICKUPS

Microphones, pickups, transducers, and wireless mikes.

99

MIXING CONSOLES

Powered mixers, consoles for recording, monitoring and sound reinforcement.

106

MUSIC PRODUCTS

Instruments, pedals, drum machines, music software, and accessories.

110

SIGNAL PROCESSING DEVICES

Delay lines, reverberators, echo units, limiters, equalizers, outboard gear and audio effects devices.

118

SPEAKERS

Studio and stage monitors, main speakers, horns, drivers, and fixed installation loudspeakers.

124

TAPE AND RECORDING DEVICES

Multitrack and mastering recorders, cassette decks, blank tape, digital processors, and duplication systems.

128

OTHER EQUIPMENT

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N

EW PRODUCTS AMPLIFIERS

1 . 9 . 8 . 4



POWER JUMBO 1000
Alagatronics Inc.

ALAGATRONICS INC.
141 Fifth Avenue, New York, NY 10010
(212) 473-0515

Product Name: POWER JUMBO 1000
Contact: Frank Dinges, President

Product Description & Applications: The Jumbo 1000 is an extremely powerful stereo amplifier which can deliver 1 kw continuous power in its mono bridging mode. This high power amp offers both high reliability and rugged construction with 2 large 1 kva power supply, 2 toroidal transformers, 2 heavy duty papst fans for forced cooling, double active and passive protection systems built in active sensing circuit for analysis of the safe operation area and protection of the output transistors, passive fast fuses for speaker protection. Finally the tremendous Jumbo's power output will feed 90 volt lines without the need of a transformer.

Basic Specifications & Suggested List Price: Frequency response ($\pm 0, 1$ dB) 20 Hz/20 kHz. Rated output: 500w/4 ohms RMS per channel, 300w/8 ohms Mono bridge power 1kw/8 ohms Total THD 0.09% Signal/noise ratio 100 dBA Input sensitivity 0 dBm Dimensions 483 x 178 x 420 mm. Shipping weight: 39 kg. List price: \$1,885

ASHLY AUDIO
100 Fernwood Ave., Rochester, NY 14621
(800) 828-6308, (716) 544-5191

Product Name: FET-500 POWER AMPLIFIER
Contact: Gregory A. Green, Sales/Marketing Manager
Date Product Introduced: June 1983

Product Description & Applications: Ashly has announced the release of a new amplifier, the FET-500. The new amplifier shares most characteristics and features with the FET 200 introduced a year ago. As with the FET 200, superb audio quality and extreme ruggedness were primary design goals. MOS FET devices in the output stage provide a unique combination of sonic excellence and extreme reliability by eliminating second breakdown, thermal runaway, and storage time.

Basic Specifications & Suggested List Price: 250 watts per channel into 8 ohms, 400 watts/ch at 4 ohms, 800 watts 8 ohms bridged. Slew rate: 50V/microsecond. IM distortion SMPTE 007% CCIF 002%. IHF 05% Bandwidth 100 kHz. Rise time 2 micro seconds. Inputs are bridging active balanced with both 1/4 inch and XLR type connectors. Power levels are indicated by a two column, three color LED display. List price: \$995

AUDIO + DESIGN
(Audio + Design Recording, Inc.)
P.O. Box 786, Bremerton, WA 98310
(206) 275-5009, 275-5010
Product Name: AMPAK 8
Contact: Kathleen Mallory
Date Product Introduced: May 1983

Product Description & Applications: A compact and robust professional amplifier designed to take a line level signal and drive any 8 ohm speaker. Ideal for use on remote recordings/broadcasts where monitoring by speaker and equipment space is of prime concern. Small enough to be fastened to the rear of most speaker cabinets. The Ampak 8 can also be used as a talkback amplifier, or to drive several headphones. Other applications include monitoring in audio/visual, theatre control rooms, broadcast transmitters/sites, and maintenance areas.

Basic Specifications & Suggested List Price: Input: Max +26 dBm. Input impedance 10k ohm (balancing transformers optional). Sensitivity 5 watts output for 0 dBm input. Output 8 watts RMS into 8 ohms (output protected against open circuit, short circuit and overload). Frequency response +0 dB -1 dB 20 Hz to 30 kHz. Noise: Better than 100 dB below 8 watts, 20 Hz to 20 kHz bandpass. Distortion: Better than 0.05% at 1 kHz at all levels. Dimensions 205mm x 105mm x 45mm. Power consumption at max drive: 15VA. Price: \$140.

BANNER
P.O. Drawer 1803, Shelby, NC 21850
(704) 487-7012

Product Name: BANNER MOSFET 900 AUDIO POWER AMPLIFIER

Contact: John Dellinger, President
Date Product Introduced: Prototype shown in late '82 - Production March 1983

Product Description and Applications: The Banner MOSFET 900 is a high power dual channel amplifier which can deliver 900 watts into an 8 ohm load mono-bridged. It has unique metering and limiter circuits which can be user adjusted over a wide range. The limiters can be varied from soft to hard limiting and may be tied together (stereo tracking) to prevent image shift. All controls including circuit breakers are front panel located. MOSFET circuitry assures high reliability and immunity from thermal instability.

Basic Specifications and Suggested List Price: 300 watts per side into 8 ohms, 450 watts per side into 4 ohms, 900 watts mono-bridged into 8 ohms. Balanced inputs. Meters. User adjustable limiters. Suggested list price: \$1,250.

BGW
13130 S. Yukon Ave., Hawthorne, CA 90250
(213) 973-8090

Product Name: MODEL 8000
Contact: Irwin Laskey, Director of Sales, Marketing
Date Product Introduced: August 1983

Product Description & Applications: First professional amplifier to employ ultra case output transistors, tremendous transistor safe operating area available. Fail safe DC electronics speaker protection. New circuit design with removable heat sink modules for each channel. Front panel status display for each channel. 2 ohm operation with power output of more than one kilowatt.

Basic Specifications & Suggested List Price: Provisions for new BGW input circuit module to include electronic crossover. Subsonic filter, balanced input circuit and transformer isolated inputs also available, new styling, featuring selective anodized front panel with handles. 225 watts per channel. At 8 ohm load 350 watts/ch. At 4 ohms load 600 watts single channel. At 2 ohms THD 10% at rated output. Intermodulation distortion less than 0.5% at rated output. 8 ohms Hum & noise 110 dB below rated output. 8 ohms Slew rate 20v per microsecond. Damping factor 500. Input impedance greater than 15k ohm.

BRYSTON
57 Westmore Drive, Rexdale, Ontario, Canada M9V3Y6
BRYSTON VERMONT LTD.

RFD #4 Berlin, Montpelier, VT 05602
Product Name: BRYSTON MODEL 2B
Contact: Brian Russell (Canada), John Russell (USA)
Date Product Introduced: May 1983

Product Description & Applications: The new 2B is our 50 watt amplifier in one rack space. Left or right channels can be removed for easy replacement in the unlikely event of failure. The new 2B has increased cooling and the same excellent specifications as the previous 2B. Can be used for cue foldback monitoring and

other applications.
Basic Specifications & Suggested List Price: 50 watts. 0.01% IM and THD. Dual power supplies. Overload indicators. Front gain controls. Headphone jack option.

BRYSTON LTD.
57 Westmore Dr., Rexdale, Ontario, Canada M9V 3Y6
(416) 746-1800

Product Name: BRYSTON AMPLIFIERS
Contact: Brian W. Russell
Date Product Introduced: April 83
Product Description & Applications: 270, 370, 470 - all amplifiers are monaural power distribution amplifiers with a 70 volt line transformer built in. They are 50, 100 and 200 watts respectively. Built to Bryston's very high standards of sound quality and reliability.

Basic Specifications & Suggested List Price: All amplifiers are covered with the following specs: IM distortion less than 0.01% from 10 mw to rated output. Output regulation is less than 1 dB from no load to full load. Will deliver full output to any phase angle. Regulated power supplies to all voltage gain stages.



PM-1.5 MAGNETIC FIELD POWER AMP
Carver Corporation

CARVER CORPORATION
14304 N.E. 193rd Place (P.O. Box 664),
Woodinville, WA 98072
(206) 483-1202

Product Name: CARVER PM-1.5 MAGNETIC FIELD POWER AMPLIFIER

Contact: D.H. Carver, Executive Vice President
Date Product Introduced: June 1983
Product Description & Applications: Low feedback, high headroom - power amplifier has audiophile quality sound combined with the ruggedness, reliability and design features required by the most demanding sound reinforcement professionals. Very powerful, yet lightweight, compact and cool running. Designed for very high power audio applications such as recording studios, touring systems and engineered sound.

Basic Specifications & Suggested List Price: Power 8 ohms, 450 watts/channel. 20 Hz - 20 kHz both channels driven with no more than 0.1% total harmonic distortion. 4 ohms 600 watts/channel RMS. 20 Hz - 20 kHz both channels driven with no more than 0.1% total harmonic distortion. Dimensions: 19" wide, 3 1/2" high, 10-1/2 x 16" deep. Weight: 21 lbs.

CM LABS
8000 Madison Pike, Madison, AL 35758
(205) 772-9626
Product Name: CM 915 POWER AMPLIFIER
Contact: Colin Evans, Vice President, CM Labs
Date Product Introduced: January 1983

20 reasons why the QSC Model 1400 should cost more. And why it doesn't.

Until now, designing a premium professional amplifier was seemingly a set procedure. All that was needed to introduce a new product was a new feature, a hot new component, more power, or perhaps some complicated circuit gimmickry designed to impress others with "technical superiority."

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But we at QSC decided that you deserved more than that.

So we went back to square one, taking a hard look at professional amplifier design and construction basics. We found a lot of room for improvement. Time and technology had changed things. Approaches that had been taken for granted

for years were out of date. They needed re-evaluation... and a breath of fresh air.

With that in mind, we designed Series One. A line of amps that include a host of features (including many advancements gained from our revolutionary Series Three amplifiers) and the finest in high quality/high performance components. We examined existing construction and assembly methods and re-engineered them to be much more efficient.

The result is almost unbelievable. Take the Model 1400 for example. It's equal to or better than any premium power amp on the market in terms of features, performance, reliability, or quality of components. In terms of price, it could command a comparable price tag. But the same rethinking that made the Model 1400 technologically superior also made it less expensive. How much less? Like we said, it's almost unbelievable: only \$698.00*.

In all modesty, we feel that we've created a whole new price-class of premium power amplifiers. A look at the features we've outlined here will give you some indication of the technology that makes the QSC Model 1400 uniquely superior. Ironically, many are the same features that make it so affordable.

To find out more about the 1400, see your QSC Audio Products dealer. After all, can you afford not to?

1. Power

A hefty 200 watts per channel @ 8 ohms, 300 watts per channel @ 4 ohms, 20-20kHz, both channels driven.

2. Lightweight, Compact Size

Advanced design reduces weight to a mere 27 lbs.

3. Flow-Through Cooling

High-turbulence heatsink thermally coupled to faceplate dramatically reduces weight. Two-speed fan with back-to-front airflow also helps keep rack cool.

4. Case-Grounded Output Transistors

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High speed, low-noise, and low-distortion op-amp designed explicitly for high-performance audio.

7. High-Density, Low ESR Filter Capacitors

The very latest in advanced foil technology, reduces size and weight while improving performance.

8. FR-4 Fiberglass PCB's

High quality circuit boards.

9. Single Piece 14-Gauge Steel Chassis with Integral Rack Mounts

Thicker than normal for extra strength, no welds to crack or screws to loosen.

10. Full Complementary Output Circuit

For optimum performance and power.

11. Independent DC and Sub-Audio Speaker Protection

Circuit design inherently protects speaker from DC or sub-audio

surges due to output failure. Acts independently on each channel.

12. Dual Power Supplies

Split power transformer with separate rectifiers and filters. Provides better channel separation and improved reliability.

13. Patented Output Averaging™ Short-Circuit Protection

Provides superior short circuit protection without the audio degradation found in VI limiting.

14. Thumpless Turn-On, Turn-Off

Input muting relay provides turn-on delay and instant turn-off to protect sensitive drivers and speakers.

15. Active Balanced Inputs

For superior audio performance while reducing cable-induced hum.

COMPREHENSIVE INTERFACE PANEL

16. Octal Input Socket

Accepts active and passive input modules such as comp/limiters, crossovers, and transformers.

17. ¼ RTS, XLR, and Barrier Inputs

No need for adapters.

18. Mono-Bridging and Input Programming Switches

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19. Optional 70-Volt Output Transformers

Mount right on the back for use in distributed systems.

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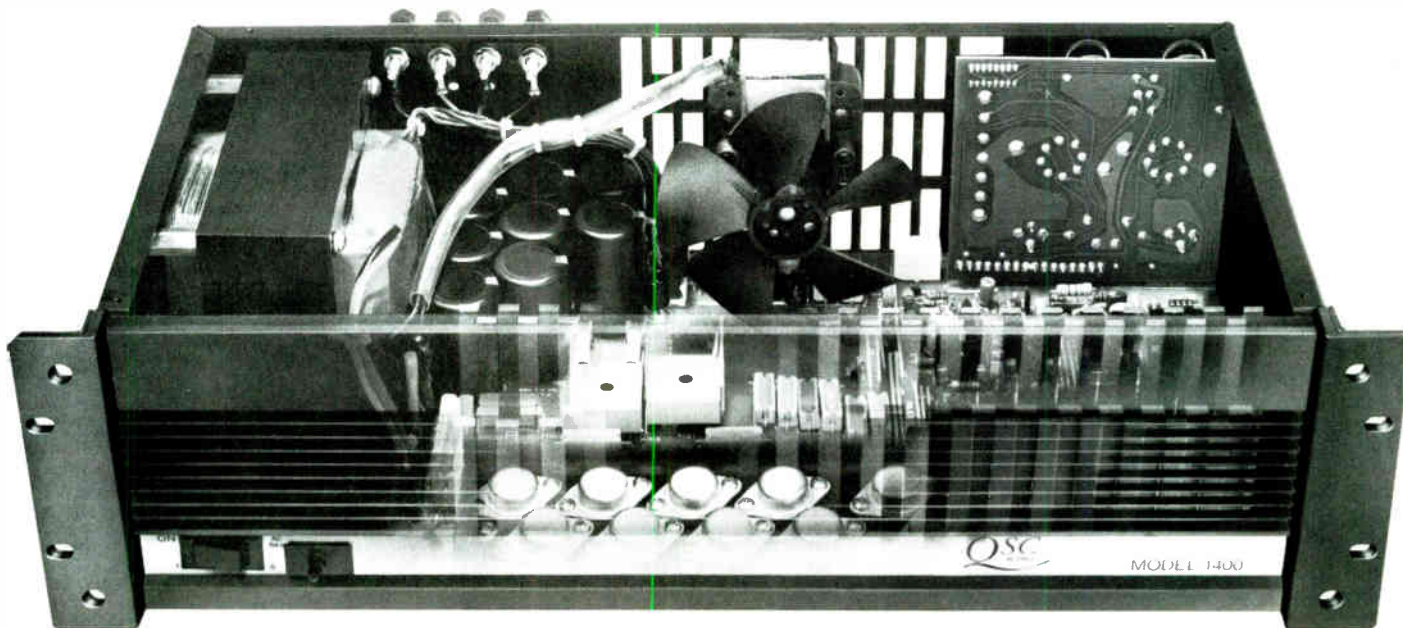
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Product Description & Applications: The CM915 Professional Power Amplifier features full complementary direct coupled output circuitry, flowthrough convection cooling system 11-position detent volume controls, bridged mono switching, five color-coded LED indicators for power output levels, and speaker protection via front-mounted professional circuit breakers. An additional set of LEDs signal possible overtemp conditions before sonic degradation or amplifier damage can take place. A multi-tap mains transformer is standard.

Basic Specifications & Suggested List Price: Power output 150 watts RMS into 8 ohms 450 watts RMS into 8 ohms bridged. 1M distortion less than 0.1% up to rated power. Frequency response ± 1 dB 20 Hz to 20 kHz at full power, ± 0.25 dB 5 Hz to 130 kHz at 10 watts. Slew rate greater than 40V micro sec. Damping better than 500 at 8 ohms. Price \$750.

CM LABS

8000 Madison Pike, Madison, AL 35758
(205) 772-9626

Product Name: CM 925 POWER AMPLIFIER

Contact: Colin Evans, Vice President, CM Labs

Date Product Introduced: January 1983

Product Description & Applications: The CM 925 Power Amplifier is designed for the most demanding professional applications. Features include a full complementary direct coupled output circuitry, 11-position detent volume controls, DC offset protection, silent switch-on, LED indicators for protection/operate modes, 10 color-coded LEDs for power output level display, and speaker protection via front-mounted professional circuit breakers. An additional set of LEDs signals possible overtemp conditions before sonic degradation or amplifier damage can take place.

Basic Specifications & Suggested List Price: Power output 250 watts RMS into 8 ohms, 800 watts RMS into 8 ohms bridged. 1M distortion less than 0.1% up to rated power. Frequency response ± 0.1 dB from 20 Hz to 20 kHz at full power, ± 0.25 dB 5 Hz to 130 kHz at 10 watts. Slew rate greater than 40V micro sec. Damping better than 500 at 8 ohms. Price \$995.

CREST AUDIO

150 Florence Ave., Hawthorne, NJ 07506
(201) 423-1300

Product Name: CREST AUDIO PROFESSIONAL POWER AMPLIFIER MODEL 4000/4001

Contact: John V. Lee, President

Date Product Introduced: June 1983

NEW PRODUCTS

AMPLIFIERS

1 . 9 . 8 . 4

Product Description & Applications: Crest Audio professional power amplifiers are designed for the most critical sonic applications with the highest levels of roadability. They feature very large, safe operating area output stages with the ability to drive very reactive speaker loads to extremely high power levels. They also incorporate dual power supplies to minimize crosstalk, back-to-front tunnel forced air cooling for maximum space efficiency per watt output, and sophisticated protection circuitry to ensure long-term reliability.



MODEL 4000/4001 PROFESSIONAL POWER AMPLIFIER
Crest Audio

Basic Specifications & Suggested List Price: Power output (per channel): 8 ohms Stereo: 300 watts, THD 0.6%, 330 watts, 1 kHz at clip. 4 ohms stereo: 500 watts, THD 1%, 560 watts, 1 kHz at clip. 2 ohms stereo: 700 watts, THD 1%, 900 watts, 1 kHz at clip. Frequency response: 0 dB 30 Hz to 10 kHz, -2 dB 20 Hz to 20 kHz, -3 dB 100 kHz balanced input bypass. Crosstalk: -55 dB at 20 kHz, -85 dB at 1 kHz. Intermodulation distortion: less than 0.4%. Damping factor: 800:1 20 Hz to 1 kHz. Rise time: 2 microseconds. Slew rate: 60 volts per microsecond. Input sensitivity: 1.25 volts for 300 watts. Voltage gain: 40 \pm 1% at 32 dB \pm 1 dB. Suggested list: Model 4000 (with VU meters) \$1,439. Model 4001 \$1,299.



MODEL 3000/3001 PROFESSIONAL POWER AMPLIFIER
Crest Audio

CREST AUDIO

150 Florence Ave., Hawthorne, NJ 07506
(201) 423-1300

Product Name: CREST AUDIO PROFESSIONAL POWER AMPLIFIER MODEL 3000/3001

Contact: John V. Lee, President

Date Product Introduced: June 1983

Product Description & Applications: Crest Audio professional power amplifiers are designed for the most critical sonic applications with the highest levels of roadability. They feature very large, safe operating area output stages with the ability to drive very reactive speaker loads to extremely high power levels. They also incorporate dual power supplies to minimize crosstalk, back-to-front tunnel forced air cooling for maximum space efficiency per watt output, and sophisticated protection circuitry to ensure long-term reliability.

Basic Specifications & Suggested List Price: Power output (per channel) 8 ohms stereo: 200 watts, THD 0.6%, 250 watts, 1 kHz at clip. 4 ohms stereo: 350 watts, THD 1%, 430 watts, 1 kHz at clip. 2 ohms stereo: 550 watts, THD 1%, 650 watts, 1 kHz at clip. Frequency response: 0 dB 30 Hz to 10 kHz, -2 dB 20 Hz to 20 kHz, -3 dB 100 kHz balanced input bypass. Crosstalk: -55 dB at 20 kHz, -85 dB at 1 kHz. Intermodulation distortion: less than 0.4%. Damping factor: 800:1 20 Hz to 1 kHz. Rise time: 2 microseconds. Slew rate: 55 volts per microsecond. Input sensitivity: 1 volt for 200 watts. Voltage gain: 40 \pm 1% at 32 dB \pm 1 dB. Suggested list: model 3000 (with VU meters) \$999, model 3001 \$859.

EDCOR

DIVISION OF PRODUCT ASSURANCE CORPORATION
16782 Hale Ave., Irvine, CA 92714
(714) 556-2740, (800) 854-0259

Product Name: MIXER AMPLIFIERS AND POWER AMPLIFIERS

Contact: Larry Weston, President

Date Product Introduced: Models January 1983

Product Description & Applications: Industrial sound installations using mixer or power amplifiers. Three models of mixer amplifiers 35, 65, 125 watts with 6 modular inputs. Three models of power amplifiers 50, 100, 150 watts with one modular input. Both models have 4, 8, and 16 ohm and 25 & 70 volt line outputs.

Basic Specifications & Suggested List Price: Heavy duty power applications. Frequency response 1 dB 40-12,000 Hz. THD less than 1%. Power ratings conservative and will operate down to 85 volts input voltage, with low distortion. MA 35T \$270, MA 65T \$393, MA 125T \$480, PA 50T \$315, PA 100T \$382.50, PA 150T \$457.50.

EDCOR

DIVISION OF PRODUCT ASSURANCE CORPORATION
16782 Hale Ave., Irvine, CA 92714
(714) 556-2740, (800) 854-0259

Product Name: HA 100 & HA 400 HEADPHONE AMPLIFIERS

Contact: Larry Weston, President

Date Product Introduced: HA 400 May 1983; HA 100 December 1982

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The Dallas Recording Scene has been turning professional's heads nationwide. We're proud to be a new component in the advancing "Third Coast" industry.

**I-35 at Beltline Road
Suite 200
Carrollton, Texas 75006**

(214) 242-4283



Circle #073 on Reader Service Card

Product Description & Applications: HA 100 - eight channel headphone amplifier with individual stereo amps. For each channel. Unbalanced and balanced line inputs. HA 400 - four channel headphone amplifier with individual stereo amps. For each channel. Unbalanced line inputs and magnetic stereo cartridge input.

Basic Specifications & Suggested List Price: Frequency response: 20-20,000 Hz 1/4 dB. Distortion less than 0.1% THD. Units have stereo balance control and individual volume on each channel. Stereo/mono switch and input sensitivity control. Price: HA 100 \$322.50; HA 400 \$215.



FENDER POWER AMPLIFIERS
Fender Musical Instruments

FENDER MUSICAL INSTRUMENTS, PROFESSIONAL
SOUND PRODUCTS DIVISION
1300 E. Valencia Drive, Fullerton, CA 92631
(714) 879-8080

Product Name: FENDER POWER AMPLIFIERS

Contact: Steve Woolley, Marketing Director

Date Product Introduced: October 1983

Product Description & Applications: Two dual-channel units, the 2244 with 440w/channel (0.05% THD), and the 2224 with 240w/channel (both at 4 ohms). Both feature forced air cooling with extremely efficient air flow heat exchangers. These amps deliver maximum power even into 2 ohm loads in musical applications. Electronically balanced transformerless bridging inputs exhibit low noise and high speed. A mode switch selects stereo, mono or bridging mono which allows the 2244 to develop 84 volts RMS (880 watts) into 8 ohms. Inputs have parallel in/out XLR-type connectors. A 12 dB/octave high-pass filter may be switched in at 20 or 40 Hz. Front panel offers a multi-segment LED display with level in dB, clip, thermal and standby indicators. Suggested retails are \$1,150 for the 2244 and \$795 for the 2224.

MODULAR AUDIO PRODUCTS

50 Orville Drive, Bohemia, NY 11716
(516) 567-9620

Product Name: EUROPAC AUDIO SYSTEMS

Contact: John Visser, Audio Product Manager

Date Product Introduced: April 1983

Product Description & Applications: A new series of professional audio products utilizing the standard European DIN frame. All printed circuit boards are of uniform size 100 mm x 160 mm and pin assignments make all units interchangeable without failures. Products are of professional quality and specifications.

Basic Specifications & Suggested List Price: Frame, 5 1/4" high #4950; Audio Distribution Amplifier #4824; Line/Summing Amplifier #4046; Monitor Module #4061; VU Meter Module #4062; Power Supply ±25 volt, 2A #2100; Door, hinged #4950.01; Single card mounting bracket #4951

NORTHAM MARKETING CORP.

303 Williams St., Suite 113, Huntsville, AL 35801
USA: 1-800-428-4022; International: 212-564-4207;

Telex: 237078 BERNIS UR

Product Name: TIMES ONE

Contact: Sam Riveman, Promotion & Technical, Brahm Segal, Design & Marketing

Date Product Introduced: January 1983

Product Description & Applications: Times One uses video amplifier technology to deliver super fast, super reliable, super clean sound. Class A amplifier drives a Class AB1 output stage using radio frequency methods. Stable into all capacitive and inductive loads 20 Hz to 100 kHz. Extremely small storage time "unmasks" sound. Many gold and silver records produced with it in monitoring since 1981. Designed for night club, portable indoor and outdoor, broadcast, studio, and aviation environments.

Basic Specifications & Suggested List Price: Precise stereo imaging and depth; drastic improvement in clarity. Slew rate: 130 volts per microsecond. Damping: 1000, 20 Hz to 5 kHz. Phase shift 6° at 20 kHz. Dual mono construction.

(continued on next page)



INTELLIGENT WATTAGE.



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

Both the CS-400™ and CS-800™ feature our crossover network configuration that provides totally modular crossover selection. With our optional PL crossover modules, the musician/soundman can pre-select optimized crossover points with built-in equalization. Bi-amping, even tri-amping, becomes as easy as plugging into the system.

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

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

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

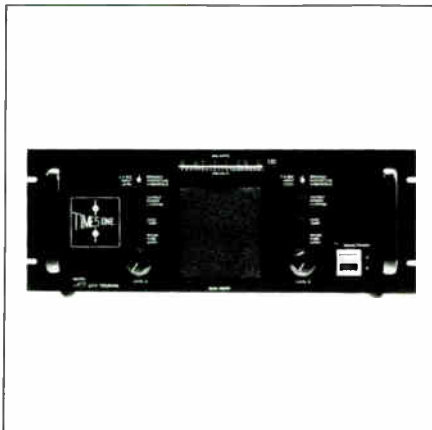
Get smart and check out the "intelligent" wattage your authorized Peavey Dealer has to offer.



PEAVEY ELECTRONICS CORPORATION
711 A Street / Meridian, MS 39301 / U.S.A.

Circle #074 on Reader Service Card

Studio models	8 ohm watts per channel	4 ohm watts per channel	2 ohm watts per channel	Price \$
RF400	200	400	400	1599
RF200	100	200	200	999
RF100	50	100	—	499
Touring models				
RF601	400	600	600	1600
RF401	200	400	400	1375
RF201	100	200	200	899
RF101	50	100	—	499
Musician's models				
RF402	200	360	—	999
RF202	100	150	—	780



TIMES ONE AMPLIFIER
Northam Marketing Corp.

OVERHEIM ELECTRONICS, INC.
2250 S. Barrington Ave., Los Angeles, CA 90064
(213) 473-6574

Product Name: MODEL 700 PROFESSIONAL STEREO POWER AMPLIFIER

Contact: Huss Jones, VP Marketing

Date Product Introduced: June 1983

Product Description & Applications: Oberheim Electronics Inc., announces the addition of the Model 700 stereo power amplifier to its line of professional electronic musical instruments and peripherals. Designed to provide accurate reproduction of all musical sources, the Model 700 is the perfect choice for the demanding role of live keyboard and PA amplification. The Model 700 has been extensively tested for reliability under exceedingly adverse conditions. The full output of one channel was fed directly into the other channel's input without damage to the input circuitry. Both channels were driven to clipping in other tests, with all sorts of loads from shorts to open circuits with no damage to the unit.

Basic Specifications & Suggested List Price: USA retail price \$895. Specs: 250 watts/channel into 8 ohms, 450 watts/channel into 4 ohms (RMS both channels driven). THD: 1% 20 Hz to 20 kHz at full rated output. Power bandwidth: 10 Hz to 40 kHz. Hum and noise: 104 dB below rated output.

PEAK AUDIO INCORPORATED
3107 Bedlington Place, Holland, PA 18966
(215) 860-0303

Product Name: PERFECTIONIST TURNTABLE PREAMPLIFIER

Contact: Michael L. Sirkis, President

Date Product Introduced: April 1983

Product Description & Applications: The Perfectionist Turntable Preamplifier was designed for critical studio and broadcast applications. It incorporates a low noise instrumentation input amplifier allowing the cartridge to operate as a balanced source. In addition, passive equalization is used to eliminate cartridge equalizer interaction and to reduce distortion. A current boosted output stage provides +27 dBm into 600 ohms and an external power supply keeps noise producing transformers and line cords away from low noise circuitry.

Basic Specifications & Suggested List Price: Frequency response: 40 Hz to 20 kHz \pm 25 dB. Distortion: (0.06% THD) 40 Hz to 20 kHz at +27 dBm into 600 ohms. Distortion: 0.06%IM (SMPTTE) at +27 dBm into 600 ohms. Noise: 86 dB reference 10 mv at 1 kHz with 600 ohm input termination. CMRR: 100 dB at 60 Hz. Max. input level: 320 mv at 1 kHz. 1.7 volts at 20 kHz. Suggested list price: \$429.

RANE CORPORATION
6510-D 216th SW, Mountlake Terrace, WA 98043
(206) 774-7309

Product Name: MA 6 MULTICHANNEL AMPLIFIER

Contact: Larry Winter, VP Marketing

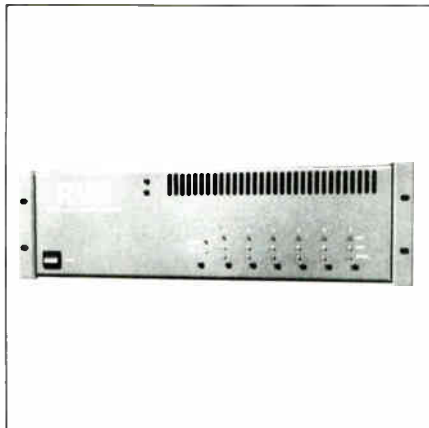
Date Product Introduced: February 1983

Product Description & Applications: The MA 6 contains six

NEW PRODUCTS

AMPLIFIERS

1 . 9 . 8 . 4



MA 6 MULTICHANNEL AMPLIFIER
Rane Corporation

separate channels, each delivering 100 WRMS into 8 ohms, 1560 WRMS into 4 ohms, with all six channels driven simultaneously. Built-in auto bridging yields 300 WRMS into 8 ohms from each pair of channels, and built-in limiters provide an additional 15 dB headroom before clipping for driver protection and a 4 dB increase in continuous SPL. The MA 6 is designed as a monitor amplifier, stereo hi-amplifier, stereo tri-amplifier or zone amplifier. **Basic Specifications & Suggested List Price:** The MA 6 is housed in a 5 1/4" H x 19" W x 11 1/2" deep all-steel EIA rack mount chassis, fan-cooled, output relay protected, electronically V-D protected, 3.3 kW power supply. Suggested list price: \$1,199.

SESCOM, INC.

1111 Las Vegas Blvd. North, Las Vegas, NV 89101-1197
(702) 384-0993

Product Name: SESCOM AMPLIFIER

Contact: Franklin J. Miller

Date Product Introduced: July 1983

Product Description & Applications: Sescocom has introduced its model ADA 1 four channel audio distribution amplifier. It is packaged in an attractive 1 1/4" rack mount enclosure. The ADA 1 is designed as a four channel line level distribution amplifier, or as four individual line amplifiers. The common input feed is balanced bridging. A set of unbalanced inputs are also provided by way of four 1/4" phone jacks which interrupt the corresponding line amplifier and all higher number amplifiers from the common feed.

Basic Specifications & Suggested List Price: Suggested list price: \$195. Maximum input level: +18 dBV. Gain: 0 to +30 dB. Noise: 101 dB below rated output. Frequency response: \pm 15 dB 20-20,000 Hz. Distortion: less than 2% at 20 Hz, maximum rated output, output 600 ohms transformer balanced. Output level: +18 dBm.

SESCOM, INC.

1111 Las Vegas Blvd. North, Las Vegas, NV 89101-1197
(702) 384-0993

Product Name: SESCOM AMPLIFIER

Contact: Franklin J. Miller

Date Product Introduced: July 1983

Product Description & Applications: Sescocom has introduced its model SH 1 stereo power amplifier. It is packaged in a convenient 1 1/4" rack mount enclosure and is designed to provide an economical means to power small control room monitors. Used in conjunction with Sescocom's SHB-1 headphone junction box, the SH 1 may also be used for powering multiple headphones. The unit features a power output capability at 8 ohms of 20 watts per channel (both channels driven) with less than 0.1% at 1 kHz for maximum rated output.

Basic Specifications & Suggested List Price: Suggested list price: \$160. Input sensitivity: 25V for rated output. Noise: -94 dB below rated output. Bandwidth: 100 kHz at -3 dB. Rise time: 10 microseconds (10% 90%). Frequency response: \pm dB 20-20,000 Hz.

SOLID STATE MICRO TECHNOLOGY FOR MUSIC, INC.
2076B Walsh Ave., Santa Clara, CA 95050

(408) 727-0917, Telex 171189

Product Name: SSM 2013 VCA

Contact: Sales Dept.

Date Product Introduced: February 1983

Product Description & Applications: The SSM 2013 is a low cost, high performance antiloop voltage controlled amplifier with full class A performance. The integrated circuit has a 97 dB signal to noise figure at 0.01 THD. The current inputs and outputs make possible wide bandwidth, easy signal summing and minimum external component count. Inherently low control feedthrough and 2nd harmonic distortion make trimming unnecessary for most applications. In addition, the 2013 has more than 12 dB of headroom at the rated specifications and can be configured to give up to 41 dB of gain. Finally, the 2013 contains a mute circuit which allows one to override the dB volume control and to turn the device off or on at a controlled rate. The device is in a 14 pin DIP package.

SOLID STATE MICRO TECHNOLOGY FOR MUSIC, INC.

2076 B Walsh Ave., Santa Clara, CA 95050

(408) 727-0917, telex 171189

Product Name: SSM 2015 MICROPHONE PREAMPLIFIER

Contact: Sales Dept.

Date Product Introduced: February 1983

Product Description & Applications: The SSM 2015 is an ultra low noise audio preamplifier particularly suited to microphone preamplification. Gains from 10 to 2000 can be selected with external resistors and external compensation ensures that bandwidth is not degraded at high gains. True differential inputs with high common mode rejection provide easy interfacing to floatation transducers such as balanced microphone outputs as well as single ended devices. The very low voltage noise performance (1.3 nV/Hz) is enhanced by a programmable input stage which allows overall noise to be optimized for source impedances up to 4k ohms. The integrated circuit is in a 14 pin DIP package.

SUNDHOLM ELECTRONICS

P.O. Box 1471, Lake Oswego, OR 97034

(503) 635-9373

Product Name: MODEL 6000/3000 POWER AMPLIFIER

Contact: Conrad Sundholm, President

Product Description & Applications: The Sundholm 6000 is a compact dual channel amplifier designed for monitoring and PA applications where high quality and stable high power output are required. The 6000 features discrete differential design with a low noise FET dual differential cascade input stage, complete digitally controlled amplifier and speaker protection without relays, silent turn on/turn off, 5 1/4" rack space with forced air cooling, complete stability at 850 watts into 2 ohm loads, peak limiter allows full output without clipping. Identical features and performance available with lower power in 1 1/4" rack space, model 3000.

Basic Specifications & Suggested List Price: Power output: both channels driven 20 Hz to 20 kHz, 850w/2 ohm, 700w/4 ohm, 450w/8 ohm. Mono-bridge mode 750w/16 ohm, 1250w/8 ohm, 1900w/4 ohm (limited by 20 A line current). Frequency response: +0 dB - (-3 dB) 20 Hz to 40 kHz. THD at full power: 20 Hz to 20 kHz less than 0.1% at 8 ohm, 0.2% at 4 ohm, IMD less than 0.1%. Hum and noise: 100 dB below full output (unweighted). 10 segment true % power indicator, thermal and short circuit status indicators. \$1,995.

SUNN MUSICAL EQUIPMENT COMPANY

19350 S.W. 89th Ave., Tualatin, OR 97062

(503) 692-4650

Product Name: SPL 6800

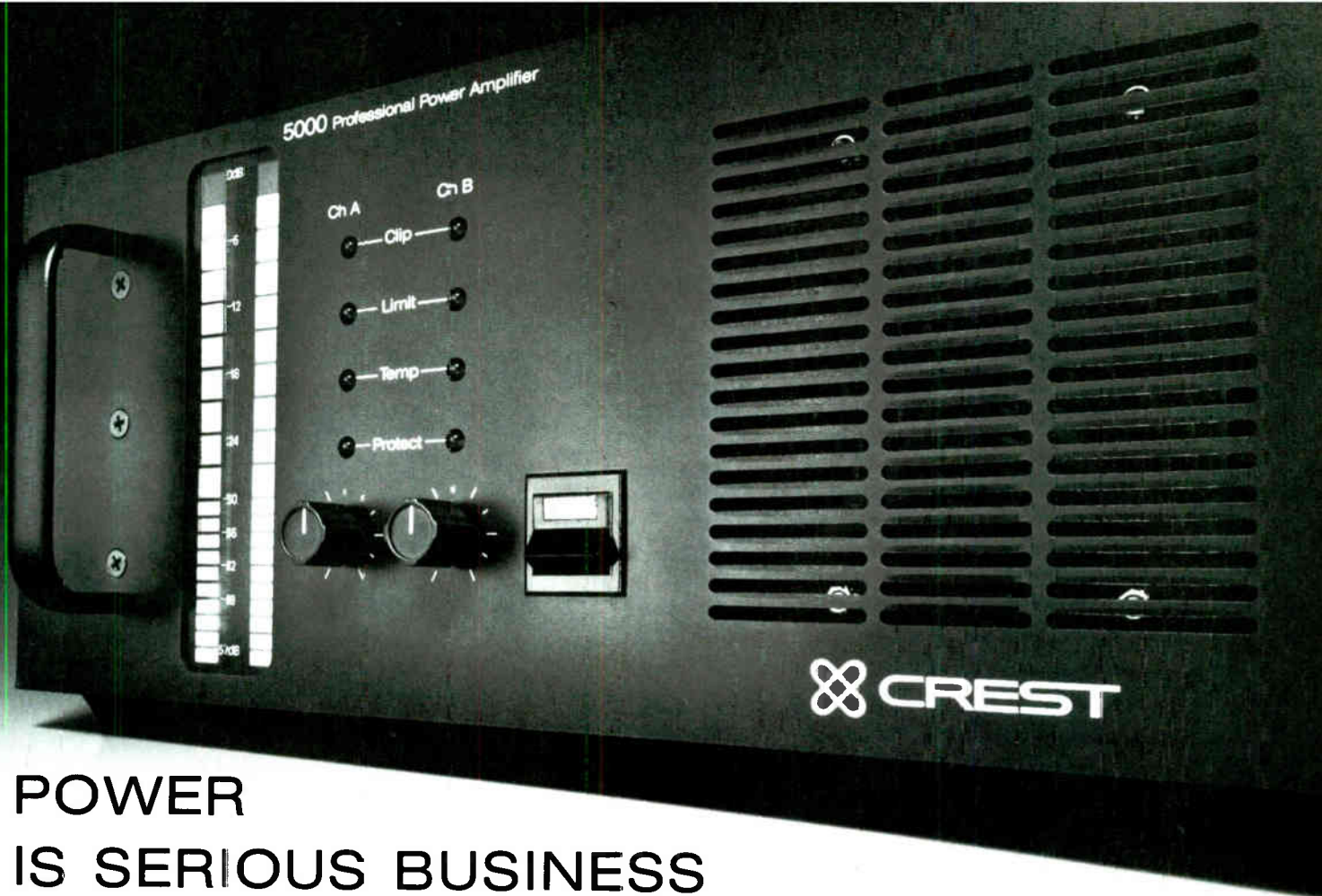
Contact: Terry B. White, Marketing

Date Product Introduced: June 1983

Product Description & Applications: The new Sunn SPL 6800 dual channel power amplifier features modern digital control blended with exceptional reliability and performance in a high powered commercial amplifier. The SPL 6800 is designed to endure the most demanding industrial and portable applications while maintaining speaker safety and sonic clarity. In addition, Sunn has included extensive patching and accessory features that allow easy access and versatility in hooking up the system. Each channel's octal accessory connector allows the user to reconfigure the amplifier with a targa transformer, muting or to select passive or active crossovers, subsonic filters, or DC coupling as needed for each application.

Basic Specifications & Suggested List Price: Dual 8 ohms 275w RMS, 4 ohms 400w RMS, 2 ohms 600w RMS. Mono bridge, 16 ohms 400w RMS, 8 ohms 800w RMS, 4 ohms 1200w program. Frequency response: \pm 25 dB 20 Hz to 20 kHz, -3 dB 5 Hz to 80 kHz. Total harmonic distortion: less than 0.5% at 4 ohms 400w. Intermodulation distortion: less than 0.5% at 4 ohms 400w. Signal to noise ratio: -105 dB from 400w. Speaker protection: auto-subscribe channel without notice. Price: \$1,299.

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CLASSIFIEDS
WORK!**



POWER IS SERIOUS BUSINESS

It's easy for manufacturers to talk about impressive power ratings. But if power is achieved by sacrificing reliability and distortion levels, what use is it?

Crest provides power without compromise. Our measurements meet FTC regulations which subject power amplifiers to enormous stress test conditions. The Crest Model 5000 amplifier FTC rates into 2 ohms at 800 watts a side, both channels driven, but has a total of 5600 watts of output transistor capability. Conservative use of power transistors and massive heatsinking delivers . . . power without compromise.

Independent dual power supplies with oversized semi-toroidal transformers and high rated capacitors provide that extra current to minimize channel

crosstalk, and handle large transients and quick level changes.

With balanced inputs, external circuit breakers, speaker protection, and "turn-on thump" delay standard, Crest provides all of the necessary features for the real world.

The result . . . sonic superiority, reliability, rugged construction, and power output levels well within the safe, cool operating area of the amplifier.

With a range of seven models, from the 35 watt Model 1001 to the 350 watt Model 5001 (FTC 8 ohm specs), Crest will fill your amplification requirements.

For complete technical specifications, see your Crest Audio professional dealer or write to us.

Power is serious business.

 **CREST AUDIO**

150 Florence Ave., Hawthorne, NJ 07506, USA 201-423-1300 — Tel#x 136571.

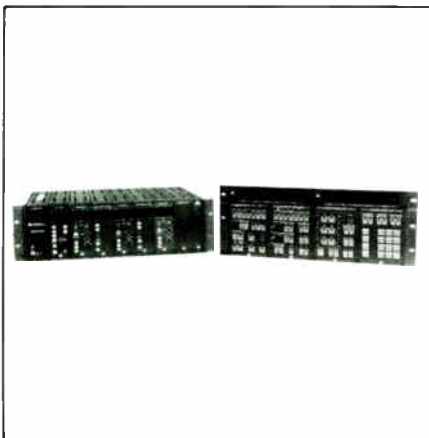
Circle #075 on Reader Service Card

World Radio History

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EW PRODUCTS AUTOMATION AND CONTROL SYSTEMS

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SYSTEM 2600 REMOTE CONTROL PANELS
Adams•Smith

ADAMS•SMITH

34 Tower St., Hudson, MA 01749
(617) 562-3801

Product Name: SYSTEM 2600 REMOTE CONTROL PANELS FOR TV AUDIO EDITING

Contact: H.E. Adams, Vice President

Date Product Introduced: Summer 1983

Product Description & Applications: Four new remote control panels—master, slave, event/edit and data entry—and two new companion modules can be used with existing system 2600 tape synchronizer and time code reader modules to form a variety of TV sound editing systems. The systems are used to produce a master audio track from the original recording, with the addition of effects, music and dialogue. Operations such as cueing, looping, replaying, offset trimming and precision record in/out control are possible.

Basic Specifications & Suggested List Price: All panels available individually. Size: remote control panels 5¼" high x 4¼" wide x 3" deep. Remote display panels 1¾" high x 8½" wide x 3" deep. Features: communication with tape synchronizers over coax cable, dynamic tape phase adjustment, six 0.3 ms accuracy event outputs for record or other control, 100-address scratch pad memory, data preservation through power down, single keystroke commands, extensive visual monitoring.

AUDIO + DESIGN

(Audio + Design Recording Inc.)
P.O. Box 786, Bremerton, WA 98310
(206) 275-5009; 275-5010

Product Name: PORTABLE SMPTE TIME CODE READER AND REGENERATOR

Contact: Kathleen Mallory

Date Product Introduced: June 1983

Product Description & Applications: Reads SMPTE or EBU time codes over speed variation of ±25% of nominal running speed. Facilities include drop frame indicator, hold display switch, display user bit switch, 8-digit LCD display (illuminated). The unit may be powered via internal batteries or via an AC adaptor.

Basic Specifications & Suggested List Price: AC or battery (4 internal AA size) powered. Input: RCA phono; sensitivity -20 dBm to +20 dBm. Output: RCA phono; reconstituted time code at 3v p-p. Construction: molded plastic case. Dimensions: 137 x 45 mm with 190 mm depth excluding rear connectors. Price \$395.

AUDIO KINETICS

4721 Laurel Canyon Blvd., N. Hollywood, CA 91607
(213) 980-5717 or
TOLL FREE outside California (800) 423-3666
Product Name: Q.SOFT OPTION 64

Contact: Rodney Pearson, Director of Sales

Date Product Introduced: June 1983

Product Description & Applications: This new operating software may be installed in any Q Lock 3 10 Synchronizer to allow users to customize operating procedures for specific applications. Option 64 more than doubles the memory capacity of the Q Lock, making possible the combination of both ADR (Automatic Dialogue Replacement) and SFX (Sound Effects Assembly) programs. The operator may now select either of these special operating procedures or a standard program directly from the Q.Lock controller.

Basic Specifications & Suggested List Price: Q Soft Option Software has eight "Menu Pages," each allowing eight options, thereby allowing the user to select or de-select up to 64 optional operating routines.



SHADOW II
The BTX Corporation

THE BTX CORPORATION

75 Wiggins Ave., Bedford, MA 01730
(617) 275-1420

Product Name: SHADOW II

Contact: Michael L. Sipsey, VP, Marketing

Date Product Introduced: April 1983

Product Description & Applications: The Shadow II is a fully intelligent SMPTE/EBU Edit Code Synchronizer System for audio, video and film transports. The system provides production and post-production facilities with complete control and synchronization of multiple transports simultaneously in all modes of operation. The Shadow II Command Console permits remote control of all transport functions while displaying master or slave time code, indicating the presence of drop frame code or displaying stored locations and offsets to 1/100th frames.

Basic Specifications & Suggested List Price: ±50 microsecond synchronization accuracy. ±0.5 microsecond synchronization resolution. Lock-up time typically 2 - 5 seconds from stop. Time code read speed range of 1/50 to 25x speed. Normal lock-up rate of +30 frames/sec. or -15 frames/sec. selectable. Slow lock at 18 subframes/sec. or 15 frames/sec. selectable, capstan override range, ½ play speed to twice play speed. Command console: 34 function keys and 10-digit LED display. Time code, video sync, and 60 Hz tone utilized interchangeably in "Sync" mode. 24 hour offset in 1/100th frame increments provided in play modes. Interfaces available to over 50 audio and/or video transports. An RS-232 interface standard. Prices range from \$6,000 to \$9,500, depending on configuration.

THE BTX CORPORATION

75 Wiggins Ave., Bedford, MA 01730
(617) 275-1420

Product Name: CYpher - TIME CODE SYSTEM

Contact: Michael L. Sipsey, VP, Marketing

Date Product Introduced: Latest family member introduced April 1983

Product Description & Applications: The BTX Cypher family of intelligent, modular time code systems can simultaneously read, generate and character insert SMPTE, EBU and film code, both longitudinal and vertical interval. The base unit, Model 6000, is intended for applications that call for economical control of time code from an external device such as a mixing console or computer system. The Model 6100 features a full operator control panel with dual display. The modular design of both units allows easy upgrading of component boards such as VITC or a frame accurate event controller.

Basic Specifications & Suggested List Price: Reads longitudinal time code from 1/50th to 70 times play speed. Reads VITC from still frame to wind speeds. Built-in time-of-day clock. Adjustable time code display of status, character size and position. Two 8-digit LED displays. VITC to longitudinal conversion. Ten time code memories available. Time code synthesis from tachometer pulse facilitated. Reclocked time code output available in jam mode. Forced jam feature as well as reverse jam sync ability. Reader to generator transfer of time code and/or user bits. Three time code/user bit video displays with window and field identification. Prices range from \$1,950 to \$8,200, depending on configuration.



CYpher - TIME CODE SYSTEM
The BTX Corporation



SOFTOUCH
The BTX Corporation

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

FAST

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

EFFICIENT

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

If you want good duplicates start with a great original

The new Telex 6120



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

EASY AUTOMATED OPERATION

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

EXPANDABLE

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

QUALITY TRADITION

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



TELEX COMMUNICATIONS, INC.

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Best time to contact _____

Phone No. _____ MIX 10-83

TUBE ELECTRONICS

There is a growing body of professionals who appreciate the significant difference between tube and transistor circuits. The renaissance of tube mikes and their unique tonality is an example of the benefits that tube circuits offers. For the last three years we have worked to create a tube amplifier that has no output transformer. The OTL AMPLIFIER, and output transformerless tube amplifier, has some unique virtues. Once you remove the output transformer you remove the significant limitation on the performance of the amplifier circuit. The OTL AMPLIFIER² has a bandwidth of 200,000hz and slew rate of 33 volts per microsecond. Here for the first time is an amplifier that has the unique tonal qualities only possible with tubes and the speed, transient response, and power of a transistor amplifier. There are 5 models of OTL AMPLIFIERS, from 25 watt to 250 watt per channel mono amplifier including one model that has two 5000 watt regulated power supplies. If we have piqued your curiosity, then we will satisfy it by sending you a 72 page book entitled, "Understanding Tube Electronics", which is not only a complete description of all our products, but a compendium of technical papers on tube circuits and a primer which explains their operation. The book is free as long as you pay the \$1.25 postage. Write Harvey Rosenberg, President, New York Audio Laboratories, Inc., 33 North Riverside Avenue, Croton-on-Hudson, New York 10520.

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 <p>CONNECTORS AND MICROPHONE CABLES</p>	 <p>BLANK-LOADED AUDIO CASSETTES</p>
 <p>TAPES & CASSETTES from AMPEX MAXELL AGFA TDK BASF 3M</p>	 <p>EMPTY REELS AND BOXES</p>
 <p>NAB BROADCAST CARTRIDGES</p>	 <p>CASSETTE BOXES, LABELS, ALBUMS</p>
 <p>ACCESSORIES</p>	

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NEW PRODUCTS

AUTOMATION AND CONTROL SYSTEMS

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THE BTX CORPORATION
75 Wiggins Ave., Bedford, MA 01730
(617) 275-1420

Product Name: SOFTOUCH

Contact: Michael I. Sipey, VP, Marketing

Date Product Introduced: April 1983

Product Description & Applications: Softouch is a multi-transport editing system which provides a truly cost-effective solution for applications such as audio sweetening, sound effects assembly effects edits and automatic dialog replacement. Softouch is a total system based on the latest advances in microprocessor technology incorporating the company's Shadow II Synchronizer and Cypher Time Code products. Softouch directly controls up to four audio/video transports, plus additional transports in chase mode as well as other specialty equipment requiring triggering via time code controlled contact closures.

Basic Specifications & Suggested List Price: Direct control of up to four audio/video transports. Control of additional transports in chase mode. Sixteen Solitkeys with 500 instruction memory reduce repetitive routines to a single keystroke. Separate record assigns for each transport plus master record enable. Full wild machine control including Autolocation. One hundred loop memory. Two 8-digit time code displays. Alpha-numeric display for command entry and response. Battery backup standard. Prices range from \$6,500 to \$31,000, depending on configuration.

ECCO INCORPORATED

1601 E. Chestnut Ave., Santa Ana, CA 92801
(714) 835-6000

Product Name: PTG-560 PORTABLE TIME CODE GENERATOR

Contact: George Swetland, Manager, Video Products Marketing

Date Product Introduced: February 1983

Product Description & Applications: Precision miniature longitudinal time code generator designed specifically for portable use in Electronic Field Production (EFP) and Electronic News Gathering (ENG). The unit is compact, weighing only one pound and mounts easily to popular video tape recorders. Its rugged design is capable of withstanding tough field production conditions while power consumption is so low that a single standard 9 volt alkaline battery provides over 1000 hours of typical operation. Synchronized to either an internal crystal oscillator or incoming composite video, the PTG 560 supplies continuous serial time code in hours, minutes, seconds and frames and SMPTE/EBU numerical user bit date from panel switches.

Suggested List Price: Suggested end user price \$1,895

ECCO INCORPORATED

1601 E. Chestnut Ave., Santa Ana, CA 92801
(714) 835-6000

Product Name: INTELLIGENT VIDEO EDITING SYSTEM (IVES™)

Contact: George Swetland, Manager, Video Products Marketing

Date Product Introduced: February 1983

Product Description & Applications: A complete SMPTE time code video tape editing system designed as a self-contained package to provide turnkey post-production capabilities. Performs precision single source/single-record SMPTE time code or control track editing as well as all the necessary pre- and post-edit functions. Offers a number of standard features: single rotary control knob controls seven different functions; one button command that performs a direct dub from the play VTR to the record VTR or vice versa; a one-button command that automatically stripes the record tape with continuous SMPTE time code; control track pulses and video black. Broadcast, ENG and corporate video applications.

Suggested List Price: Suggested end user price \$6,950 each

GEORGE MASSENBURG LABS - GML, INC.
2323 Corinth Ave., West Los Angeles, CA 90064
(213) 479-7471

Product Name: GML AUTOMATION SYSTEM

Contact: C. J. Flynn

Date Product Introduced: 1983

Product Description & Applications: Ultra high accuracy moving fader automation system controlled by recording engineer by standard movements of the tape recorder. Fader movements are first stored completely in RAM rather than mechanical storage medium to vastly improve speed and accuracy. System is able to

control 128 channels by 16 functions including faders, switches, EQ and aux sends.

Basic Specifications & Suggested List Price: Clock rate 4 times frame rate (8.33 ms for 30 frame) (10 ms for 25 frame). Total accuracy 2% linear (25 dB between 0 and -40 dB). Locate time less than 2 secs with nominal list sizes. 20 Megabyte hard disk storage, 500 kilobytes RAM, 14 vertical inches of rack space.

OTARI CORPORATION

2 Davis St., Belmont, CA 94002
(415) 592-8311

Product Name: CB-116 AUTOLOCATOR

Contact: John Carey, Marketing Manager

Date Product Introduced: April 1983

Product Description & Applications: The CB-116 is a powerful, microprocessor-based auto-locator which is used by the following Otari recorders: Mark III/2, Mark III/4, and Mark III/8. The auto-locator will work with all new recorders by Otari (5050 Mark III Series) and most existing machines in the field.

Basic Specifications & Suggested List Price: The new Auto locator features 6 "one-button-storage" cue location memories, "one-button" search to any cue locations, repeat mode for continuous rehearsal between any two cue locations. Play and Park plays to any selected cue location and stops, head and tail guard points stop tape from winding past selected points at head and tail selection, automatic cue offset recalculates all cue locations when local time display is reset, time settings may be entered in Cue or Guard point memories, foot switch punch-in provision. Price \$695.

QUAD/EIGHT ELECTRONICS

11929 Voss St., North Hollywood, CA 91605
(213) 764-1516

Product Name: COMPUMIX IV

Contact: William E. Windsor, Senior VP

Date Product Introduced: October 1983

Product Description & Applications: Compumix IV is a new automation system for film re-recording consoles and other large mixing systems. Using 16 bit processing with an 80M byte Winchester hard disk, 1024 real time automated functions can be accommodated. Pre-set histories permit cursor editing, trimming previously entered values. Entry and display is via software controlled plasma switch/display panels.

Basic Specifications & Suggested List Price: 16 bit 68000 based computer system. Price depends upon interface complexity. Custom software and interface for each console.

QUAD/EIGHT ELECTRONICS

11929 Voss St., North Hollywood, CA 91605
(213) 764-1516

Product Name: 248 CONSOLE SYSTEM VCA FADER MODULES

Contact: William E. Windsor, Senior Vice President

Date Product Introduced: April 1983

Product Description & Applications: The new 248 console system VCA fader modules provide grouping of fader controls, and also positional solo and group muting functions. Eight group masters can be assigned through thumbwheel switches on each fader. Faders can be programmed to become the master of other faders to the left of the master. Also available are provisions for remote control DC lines in addition to group control for interfacing to remote controllers or switching/editorial systems.

Basic Specifications & Suggested List Price: 32017 mono input fader/VCA: \$300. 32018 stereo input fader/VCA: \$400. 32019 dual subgroup module \$250.

SOUND WORKSHOP PROFESSIONAL AUDIO PRODUCTS, INC.

1324 Motor Parkway, Hauppauge, NY 11788
(516) 582-6210

Product Name: ARMS AUTOMATION RETRO-FIT PACKAGE

Contact: Emi Handke, Sales Manager

Date Product Introduced: August 1983

Product Description & Applications: The ARMS Retro-fit package takes Sound Workshop's proven console control/automation system and adapts it for retro-fit into all consoles with removable fader areas. Fader modules are available to match existing console size and graphics. Features include in-place Solo, "Super-Group" Input Subgrouping, Grand Master, Solo-Dim, and ARMS Automation with independent Mute-Write.

Basic Specifications & Suggested List Price: System records automation data on 2 tracks of multi-track tape. DISKMIX may be added for full disk based automation. Basic pricing 40 channel system \$19,500. DISKMIX Disk Storage: \$19,900. NOTE: ARMS pricing may vary depending on installation requirements.

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EW PRODUCTS

MICROPHONES AND PICKUPS

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AKG ACOUSTICS

77 Selleck St., Stamford, CT 06902
(203) 348-2121

Product Name: "THE TUBE"

Contact: Peter Wellkoff, National Sales Manager
Date Product Introduced: June 1983

Product Description & Applications: "The Tube," a large diaphragm condenser microphone, utilizes hand-selected 6072 tubes and includes a remote power unit ("N-Tube") containing operating voltages, nine position polar pattern selector and a three-position bass roll-off switch. Also included is an (on the microphone) three-position attenuator, H-15T shock mount, W-42T windscreens, MK-TUBE cable, all packed in a professional flight case.

Basic Specifications & Suggested List Price: The frequency response of "THE TUBE" microphone is 20 Hz - 20 kHz \pm 2 dB, with an electrical impedance of 200 ohms, sensitivity of -60 dB (sensitivity may be increased by 10 dB with a switch on the PC board), maximum SPL of 128 dB, and THD of 1%. Pro User Net \$1,700.



HI-ENERGY MIKING SYSTEM
Aquarian Accessories

AQUARIAN ACCESSORIES

1140 N. Tustin Ave., Anaheim, CA 92807
(714) 632-0230

Product Name: HI-ENERGY MIKING SYSTEM

Contact: Roy Burns, Vice President of Marketing
Date Product Introduced: June 1983 (NAMM Show)

Product Description & Applications: The ultimate in sound reinforcement for drums and percussion. Designed to handle the extremely high sound pressure levels of percussion without overloading. Shock-proof clamps eliminate the need for clumsy, noisy and expensive boom stands. Dynamic range extender and power supply guarantees a hot, clean signal at the board. No need to drill holes or re-make the drum set. Perfect mike position every time.

Basic Specifications & Suggested List Price: AMS 160 condenser mike allows for closeup mixing with no distortion. New technology dynamic range extender increases the amount of sound pressure level each mike can handle without overloading. No padding of the mike is needed. The dynamic range extender and mikes have been matched and balanced to junction as a single system for optimum results.

AUDIO ENGINEERING ASSOCIATES

1029 N. Allen Ave., Pasadena, CA 91104
(213) 798-9127

Product Name: COLES 4038

Contact: Richard Knoppow, Technical Sales
Date Product Introduced: October 1983 - introduction into the USA

Product Description & Applications: We are the exclusive distributor of the Coles 4038, a large bidirectional ribbon microphone which produces warm sound without loss of highs. Designed by the BBC for use throughout its radio and television studios, the 4038 features high output, low self-noise, excellent hum shielding and immunity to response changes caused by loading.

Basic Specifications & Suggested List Price: Smooth frequency response: 30 to 15,000 Hz. Very uniform polar response. High output (-55 dBm/10 dynes/cm²). Low self noise (-22 dBA). Low hum pickup (-145 dBm/001 gauss for 50 Hz). Low distortion, less than 1% for 125 dB SPL at 100 Hz. Price \$495.



COLES 4038 RIBBON MICROPHONE
Audio Engineering Associates

AUDIO-TECHNICA U.S., INC.

1221 Commerce Drive, Stow, OH 44224
(216) 686-2600

Product Name: ATM63

Contact: Bob Herrold, Product Manager
Date Product Introduced: January 1983

Product Description & Applications: The ATM63 was created for discriminating vocal instrument applications. The ATM63 features extended high end response, excellent shock mounting against mechanical noise and all metal construction. The 250 ohm output impedance is compatible with all low impedance inputs. A multiple layer windscreen is surprisingly effective against breath and wind noise but a foam windscreen is provided for use when necessary. The unit is also supplied with professional stand clamp and protective vinyl carrying case.

Basic Specifications & Suggested List Price: Element: dynamic. Pattern: super-cardioid. Sensitivity: -56 dBm. Impedance: 250 ohms. Weight: 9 oz. The ATM63 is competitively priced.

BEYER DYNAMIC, INC.

5-05 Burns Ave., Hicksville, NY 11801
(516) 935-8000

Product Name: MC 734 VOCAL CONDENSER MICROPHONE

Contact: Paul Murphy, General Manager
Date Product Introduced: July 1983

Product Description & Applications: A vocal condenser mike designed specifically for use on stage and in the studio. The cardioid characteristic eliminates feedback noises without tightening up the angle of speech. Pop and hiss noises are suppressed and it is insensitive to handling noises. The MC 734 is equipped with a 3-step filter with cutoff frequency of 200 Hz and 80 Hz.

Basic Specifications & Suggested List Price: The frequency response of this microphone is extremely flat (20 Hz - 18 kHz). The MC 734 is capable of handling very high sound pressure level, 138 dB (1 kHz distortion less than or equal to 0.5%), open

circuit voltage @ 1 kHz, 5 mV/Pa. Signal to noise ratio: 69 dB. Nominal impedance: 150 ohms. Rated-load impedance: equal to or greater than 1000 ohms. Suggested professional net price: \$829.95.

BEYER DYNAMIC, INC.

5-05 Burns Ave., Hicksville, NY 11801
(516) 935-8000

Product Name: MC 736/MC 737 SHOTGUN CONDENSER MICROPHONE

Contact: Paul Murphy, General Manager
Date Product Introduced: July 1983

Product Description & Applications: The MC 736/MC 737 are shotgun condenser mikes especially suited for commentary purposes and speech and music recordings where the microphone cannot be located close to the source (e.g. theatres). These mikes are suitable for use on stage and for TV and film.

Basic Specifications & Suggested List Price: The MC 736 is a cardioid lobe and the MC 737 is a cardioid condenser mike. Frequency response: 40 Hz - 20 kHz, open circuit voltage at 1 kHz: 30 mV/Pa, nominal impedance: 150 ohms. Rated load impedance: greater than or equal to 1000 ohms. Maximum SPL at 1 kHz and distortion: equal to or less than 0.5% 123 dB, with pre-attenuation 135 dB. Signal to noise ratio: 74 dB. Suggested professional net prices: MC 736 \$774.95, MC 737: \$899.95.

BRUEL & KJAER INSTRUMENTS, INC.

185 Forest St., Marlborough, MA 01752
(617) 481-7000

Product Name: STUDIO MICROPHONES

Contact: John Bareham, Application Engineer
Date Product Introduced: February 1983

Product Description & Applications: Bruel & Kjaer has developed a range of four omni-directional condenser microphones specifically intended for professional studio use, sound reinforcement and broadcasting. Two basic designs are offered: 4003 and 4006 are acoustically identical, low noise (15 dBA) microphones which differ only in method of powering. 4004 and 4007 are also acoustically identical and are intended for applications requiring a very high level handling capability and extended frequency and phase response. 4006 and 4007 are powered from standard P48 Phantom system, 4003 and 4004 via the B & K power supply 2812.

Basic Specifications & Suggested List Price: Extremely low distortion and self-noise, very high dynamic range. All microphones delivered with individual calibration chart showing frequency response, self-noise, distortion and other important data. Prices: 4003 & 4004 - \$608, 4006 & 4007 - \$663; 2812 power supply \$945.

CROWN INTERNATIONAL

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

Product Name: PZM 180

Contact: D. McLaughlin, Marketing Services Manager
Date Product Introduced: October AES

Product Description & Applications: General purpose pressure zone microphone for the serious amateur and for semi-pro use. Self contained electronics operate on 12-48 volt phantom power or 1.5 volt battery. Applications: conferences, interviews, group discussion, home video productions, broadcast news and sports and music recordings.

Basic Specifications & Suggested List Price: Frequency response: 50 Hz - 16 kHz; hemispherical. Sensitivity: -70 dBV. Output: 150 ohms, balanced, 3-pin audio connector. Suggested retail price: \$169.

CROWN INTERNATIONAL

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

Product Name: PZM-12SP

Contact: D. McLaughlin, Marketing Services Manager
Date Product Introduced: October AES

Product Description & Applications: Studio-quality pressure zone microphone for recording, sound reinforcement, and broad-

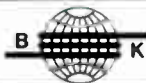
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Standard P 48 Phantom Power	Type 4006	Type 4007

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Brüel & Kjær Instruments, Inc.

185 Forest Street, Marlborough, Massachusetts 01752 · (617) 481-7000 · TWX: 498 0421

World Headquarters: Naerum, Denmark. Offices in 55 countries

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cast. Self-contained electronics operate on 12-48 volt phantom power.

Basic Specifications & Suggested List Price: Frequency response: 30 Hz - 20 kHz. Polar pattern: hemispherical. Sensitivity: -70dBV. Output: 150 ohms, balanced, 3-pin audio connector. Self noise: 20 dBA. Maximum SPL: 150 dB. Suggested retail price: \$249.

EDCOR, DIVISION OF PRODUCT ASSURANCE CORPORATION

16782 Hale Ave., Irvine, CA 92714
(714) 556-2740, (800) 854-0259

Product Name: WIRELESS MICROPHONE SYSTEMS, E-COM SERIES

Contact: Larry Weston, President

Date Product Introduced: May 1983

Product Description & Applications: High VHF wireless microphone system. Lavalier transmitter and hand held transmitter with a choice of a single channel or a switchable 3 channel receiver. Transmitters use 9V alkaline batteries. Receiver is 115 VAC or 12 volt DC operation.

Basic Specifications & Suggested List Price: Less than 2% THD, typical range 500 feet, frequency band 150-174MHz. Professional net price — lavalier transmitter: \$442.50; hand held transmitter: \$459; single channel receiver: \$515; multiple channel receiver: \$550.

FENDER MUSICAL INSTRUMENTS, PROFESSIONAL SOUND PRODUCTS DIVISION

1300 E. Valencia Drive, Fullerton, CA 92631
(714) 879-8080

Product Name: FENDER MICROPHONES

Contact: Steve Woolley, Marketing Director

Date Product Introduced: September 1983

Product Description & Applications: Fender introduces three series of microphones which boast an ability to withstand extremely high sound pressure levels without distorting. The D-Series mikes, dynamic cardioid mikes with characteristics carefully tailored to enhance vocals, comes in three models, offering unprecedented performance for \$70 to \$149. The P-Series mikes deliver wide, flat response and the accurate neutral sound of studio quality condenser mikes with the ruggedness of a dynamic. The P1 mike features switch-selectable response tailoring and undistorted 150+ dB capability at \$229. The P2 offers excellent performance using a long-life internal battery (\$99). The M-1 miniature condenser mike features a 150+ dB SPL capability and solves the difficult problem of miking acoustic instruments.

NEW PRODUCTS

MICROPHONES AND PICKUPS

1 • 9 • 8 • 4



FENDER MICROPHONES
Fender Musical Instruments

FOSTEX CORPORATION OF AMERICA, ELECTRO ACOUSTIC DIVISION
15431 Blackburn Ave., Norwalk, CA 90650
(213) 921-1112

Product Name: M505 VOCAL DYNAMIC MICROPHONE

Contact: Ted R. Telesky, National Sales Manager, Electro Acoustic Division

Date Product Introduced: June 1983

Product Description & Applications: The M505 vocal microphone is the first of a new series of dynamic microphones from

Fostex. The M505 features a very smooth response, yet offers the presence to cut through noisy environments. The controlled cardioid pattern helps reduce feedback and gets more usable output. Special attention has been paid to reduce handling and cord noise. The M505 is available in gray or black. A special 3-layer wind screen reduces pop and, together with an internal waterproof screen, prevents moisture buildup during prolonged use.

Basic Specifications & Suggested List Price: Pattern: cardioid (VNI-directional) response: 80 Hz - 15 kHz. Impedance: 250 ohms. Output level: -56 dB, output balanced XLR. Suggested list price: \$139.



M505 VOCAL DYNAMIC MICROPHONE
Fostex Corporation of America

GOTHAM AUDIO CORPORATION
741 Washington St., New York, NY 10014
(212) 741-7411

Product Name: NEUMANN TLM 170 MICROPHONE

Contact: Richard O. Hamm, Vice President

Date Product Introduced: May 1983

Product Description & Applications: The TLM 170 is a switchable pattern microphone with a large, double membrane capsule and active output stage which eliminates the usual transformer. The microphone will operate from both P-48 and P-24 phantom powering systems. The highly linear amplifier achieves a dynamic range greater than 120 dB relative to the A-weighted self-noise level of 14 dB. This is an increase of over 6 dB when compared to present day microphones. The complete elimination of the audio output transformer results in a totally distortion-free impulse response of the amplifier with correct phase over the entire audio range.

Basic Specifications & Suggested List Price: Five directional patterns. Source impedance: 150 ohms, equivalent loudness level due to inherent noise: 14 dBA, maximum SPL for less than 0.5% THD: 140 dB (without pre-attenuation). Total dynamic range of the microphone amplifier: 126 dB. Price is \$1,198.

H.M. ELECTRONICS, INC.
6151 Fairmount Ave., San Diego, CA 92120
(619) 280-6050

Product Name: SYSTEM 58

Contact: J.F. Kenyon, Asst. Sales Manager

Date Product Introduced: October 1983

Product Description & Applications: The System 58 is a wireless handheld microphone. It is an expansion of our successful System 85, introduced in the fall of 1982. This new system incorporates a Shure SM58 (or optional Beyer M-500) head with our new Dynamic Expansion II compander circuitry. This is the smallest SM-58 wireless microphone in the world using a standard 9 volt battery. This system sounds identical to a hard-wired SM58 microphone.

Basic Specifications & Suggested List Price: Dynamic range: 115 dB. Frequency response: 50 Hz - 15 kHz. Handheld size: 9.35 inches x 1.2 inches. Weight: 15 oz. incl. battery. Max. SPL: 134 dB with SM58 element.

KEITH MONKS AUDIO (USA) INC.
P.O. Box 1069, Palatine, IL 60078
1-800-KMALUSA

Product Name: C-DUCER

Contact: Glenn Mullis, Executive Vice President

Date Product Introduced: April 1983

Product Description & Applications: C-Ducer is a flexible tape microphone, less than 1 mm thick, which solves many of the common problems facing users of conventional microphones with acoustic instruments. C-Ducer boasts a frequency response far surpassing human hearing. Other advantages include a completely natural acoustic sound, excellent separation between instruments, high immunity to feedback, exceptionally fast transient response and ultra low noise. The flexible tape can be used on acoustic instruments from guitar to piano, especially including drums.

Basic Specifications & Suggested List Price: Frequency response: 10 Hz - 100 kHz, ± 3 dB. Output impedance: 5k ohms.

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and 600 ohms balanced Power 24 28 VDC phantom or A C adaptor. Size 0.9 mm thick, 16 mm wide, length dependent upon instrument. Rejection ratio: vibration signal with respect to airborne acoustic level typically 38 dB. Prices vary with instrument, e.g. guitar \$198 incl. electronics

NADY SYSTEMS INC.

1145 65th St., Oakland, CA 94608
(415) 652-2411

Product Name: NADY 49 HT HANDHELD WIRELESS MIKE SYSTEM

Contact: Steve Caraway Advertising Director
Date Product Introduced: July 1983

Product Description & Applications: The Nady 49 HT hand held microphone system offers pro audio quality in the most advanced 49 mHz hand held microphone system available today. The Nady 49 HT features an Audio Technica PR60 mike element and no unsightly dangling antenna wire. All transmitting elements are contained within the actual microphone itself.

Basic Specifications & Suggested List Price: Nady's 49 HT boasts 3 channel capabilities and is the only 49 mHz system on the market that can make that claim. Suggested list \$275

SENNHEISER ELECTRONIC CORPORATION (NY)

10 West 37th St., New York, NY 10018
(212) 239-0190

Product Name: MKE 212.3 BOUNDARY MICROPHONE

Contact: Tony Tudisco, National Sales Manager

Product Description & Applications: In response to consumer demand, Sennheiser has produced a boundary microphone, the MKE 212.3 as an addition to its modular electret-condenser system. Configured as a sturdy 185mm x 165mm x 10mm (7 1/8" x 6 1/2" x 3/8") black anodized aluminum plate, the MKE 212 has a number of unique features, among them: flush-mounted, upward facing capsule with 0.5mm aperture and 4.5mm diameter diaphragm to ensure flat frequency response regardless of angle of incidence; high mass base plate plus compliant rubber feet create an effective shock mount to reduce low-frequency structure-borne noise (rumble, foot falls, etc.)

Basic Specifications & Suggested List Price: The MKE 212.3 provides high sensitivity and low (21 dB-A) self noise. When used with the K3u powering module from the Sennheiser electret system, the MKE 212.3 has a sensitivity of 3 mV/Pa (-49.5 dBm) and operates from either an internal 5.6V mercury battery or from phantom power. Output is balanced, low impedance, and uses a standard 3 pin XLR-type professional audio connector. List \$499

SENNHEISER ELECTRONIC CORPORATION (NY)

10 West 37th St., New York, NY 10018
(212) 239-0190

Product Name: MKE-2 MINIATURE ELECTRET LAVALIER

Contact: Tony Tudisco, National Sales Manager

Product Description & Applications: The MKE 2 is the answer to the increasing demand for a smaller and less conspicuous lavalier microphone. Its exceedingly small size (approx. 0.2" in diameter and approx. 0.43" in length), matte black finish and multitude of options provide the video, motion picture and theatrical professions with a choice of inconspicuous or concealed placement possibilities. The MKE 2 is provided with a miniature tie clip to secure it onto ties, lapels, etc.; a dual mike tie clip for those needing double miking, and in the case of the costumes, a clothing attachment can be used or the MKE 2 can be sewn into place placed in a buttonhole or taped to the wearer's skin.

Basic Specifications & Suggested List Price: The MKE 2 is available in several versions, all employing stranded-steel cable for extended durability. The MKE 2 PT (\$202) with cable ending in stripped and tinned leads for connections to various wireless microphone transmitters. The MKE 2.3 (\$242) with connector for attachment to the K3u powering module (part of Sennheiser's modular electret system). The MKE-2.6 (\$164) with in-line battery supply with on/off switch and cable terminating in a 3.5mm diameter mini-plug.

SHADOW OF AMERICA ELECTRONICS INC.

22-42 Jackson Ave., Long Island City, NY 11101
(212) 392-2114

Product Name: SHADOW PICKUPS

Contact: Herbert N. Hagel, Marketing Director

Date Product Introduced: June 1983

Product Description & Applications: Shadow 930. Recording bridge pickup system for 5 string banjo mounted in wood bridge with volume control, vario-impedance frequency response control, 12 foot cable and strain relief for natural banjo sound (\$89.95). Shadow 940. Recording bridge pickup system for violin mounted in wood bridge with volume control, vario-impedance frequency response control, 12 foot cable and strain relief. Wood bridge can be replaced without damage to pickup (\$89.95). Shadow 950. Recording bridge pickup system for acoustic bass mounted in wood bridge with volume control, vario-impedance frequency response control, 12 foot cable and strain relief. Wood bridge can be replaced without damage to pickup (\$99.95).

SRO
P.O. Box 1250, Gallatin, TN 37066
(615) 452-0083

NEW PRODUCTS

MICROPHONES AND PICKUPS

1 . 9 . 8 . 4

Product Name: SRO MICROPHONES

Contact: Sales Department

Date Product Introduced: June 1983

Product Description & Applications: Five dynamic microphones and a line of matching transformers that combine high quality with an affordable price. Some designed primarily for vocal use, others as an instrument mike. All come completely wired and equipped with a table holder and case.

Basic Specifications & Suggested List Price: Prices range from \$84 to \$146

TELEX COMMUNICATIONS, INC.

9600 Aldrich Ave. S., Minneapolis, MN 55420
(612) 884-4051

Product Name: TELEX WIRELESS MICROPHONE SYSTEMS

Contact: Don Meren

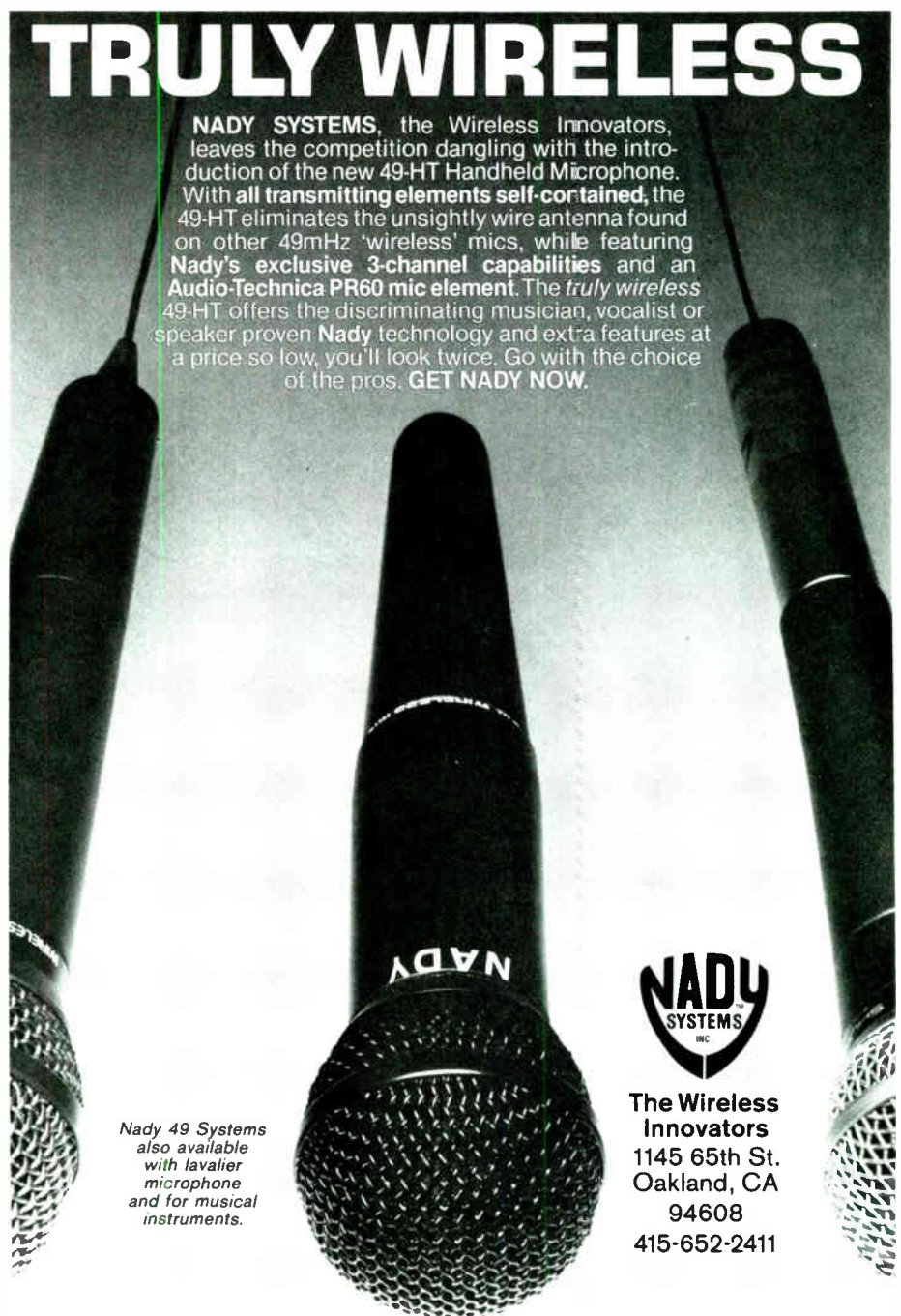
Product Description & Applications: Wireless microphones system. VHF band 150-176 mHz. Diversity reception receiver, belt-pack and hand-held transmitter microphones.

Basic Specifications & Suggested List Price: Wireless mike systems from \$1,310

If you like the interviews in Mix Magazine, you'll love them in Mix Video! See page 173.

TRULY WIRELESS

NADY SYSTEMS, the Wireless Innovators, leaves the competition dangling with the introduction of the new 49-HT Handheld Microphone. With all transmitting elements self-contained, the 49-HT eliminates the unsightly wire antenna found on other 49mHz 'wireless' mics, while featuring Nady's exclusive 3-channel capabilities and an Audio-Technica PR60 mic element. The truly wireless 49-HT offers the discriminating musician, vocalist or speaker proven Nady technology and extra features at a price so low, you'll look twice. Go with the choice of the pros. **GET NADY NOW.**



Nady 49 Systems also available with lavalier microphone and for musical instruments.



The Wireless Innovators
1145 65th St.
Oakland, CA
94608
415-652-2411

THIS IS THE CONSOLE



The challenge to console manufacturers of the eighties is to design new mixing systems that match the dynamic range, distortion specs, and frequency response now possible on digital magnetic tape. AUDIOARTS/WHEATSTONE has taken this challenge and designed the 8X Recording and Production Console. Today, through careful engineering, the technical performance of the 8X is approaching all possible theoretical limits, resulting in the smoothest, most transparent console we have ever built.

Today, studio clients are demanding greater complexity in audio processing for their work; features like three-band sweepable EQ, 24-track monitoring, mixdown subgrouping and stereo monitoring enable the creative engineer to meet those demands.

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LAKE SYSTEMS Newton, MA	(617) 244-6881
AUDIO ARCHITECTS Nashville, TN	(615) 320-0463
PROFESSIONAL AUDIO Burbank, CA	(213) 843-6320
CONN AUDIO/VIDEO Satellite Beach, FL	(305) 773-2433
SOUND GENESIS San Francisco, CA	(415) 285-8900
AUDIO ASSOCIATES Oklahoma City, OK	(405) 840-3636
PEIRCE-PHELPS, INC. Philadelphia, PA	(215) 879-7236

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N

EW PRODUCTS

MIXING CONSOLES

1 . 9 . 8 . 4



POWER MPA-801 STEREO MIXER
Alagatronics, Inc.

ALAGATRONICS, INC.
141 Fifth Ave., New York, NY 10010
(212) 473-0515
Product Name: POWER MPA-801 STEREO MIXER
Contact: Frank Dinges, President

Product Description & Applications: The MPA-801 is in a class of its own with a distinguished design. Features include 3 stereo phono/microphone inputs. Four selectable stereo line inputs. Two balanced DJ mike inputs, with dedicated bass/treble EQ and talkover system. Stereo master group features 3-band equalization. Recorder output is less DJ microphones allowing for uninterrupted tapes. Full inserts are standard. Unique level display monitors mix point, not the output, to prevent overmodulation and loss of feedback at critical summing points.

Basic Specifications & Suggested List Price: Mic 3 MV 200/600 ohms Phono 2.5 MV 47k Line 300 MV 22k Insert 0 dBm 600/47k Rec out -10 dBm 22k Main out 0 dBm 600 ohms Program equalizer 15 dB boost or cut at 100 Hz 1 kHz 10 kHz Microphone equalizer 15 dB boost or cut at 100 Hz 10 kHz Note: record out and insert out are post EQ pre-talkover! Neither of these outputs will contain any information from mike 1 or mike 2. Full mix information may be summed from the wipers of the balance control. List price \$675



POWER MPK-601 STEREO MIXER
Alagatronics Inc.

ALAGATRONICS INC.
141 Fifth Ave., New York, NY 10010
(212) 473-0515
Product Name: POWER MPK-601 STEREO MIXER
Contact: Frank Dinges, President

Product Description & Applications: The MPA-601 designed to be used with FEP-204 to provide full 4 band control for experienced music DJs. Features include 3 stereo phono/microphone inputs, 4 selectable stereo line inputs. Two balanced DJ mike inputs. Full inserts are standard. Unique level display monitors mix point, not the output, to prevent overmodulation and loss of feedback at critical summing points. The MPA 601 is an ideal mixer where space is a prime consideration.

Basic Specifications & Suggested List Price: Phono input sensitivity 2.6 MV 47k ohms Dynamic headroom 30 dB Aux inputs sensitivity 300 MV, 20k ohms Frequency response (-0.5 dB) 20 Hz - 20 kHz (aux input) at nominal output level. Typical harmonic distortion 0.05% at normal output. Output level +4 dBm (1.22 volts) 8.5 volts max. List price \$685

ALLEN AND HEATH BRENELL
5 Connair Rd., Orange, CT 06477
(203) 795-3594

Product Name: SYSTEM 8
Contact: Charles Augustowski, National Sales Manager
Date Product Introduced: January 1983
Product Description & Applications: System 8 comprises four main mixers and an 8 input expander module. Model 164 is of 16-4-2 format, ideal for four track studio or PA applications. Where the requirement is for 8 outputs, Models 128 and 168 offer twelve and sixteen inputs respectively, while the top of the range 1616 includes full 16 track monitoring as standard, and is one of the most economical genuine 16 track mixers currently available. One important feature of the System 8 is the ability to cascade two or more mixers without sacrificing any inputs or outputs: rear panel sockets allow direct access to and from the monitor and remix groups, auxiliary sends, PFL system and the main output groups. This same facility enables the add-on 8 input expander module (EX8) to be used for increased input capacity.

Basic Specifications & Suggested List Price: Normal operating level +4 dBv or -8 dBv selectable. Internal headroom +18 dB. Maximum output level +21 dBv into 5k ohms or more, +18 dB into 600 ohms. Peak indicator warning 3 dB before clipping overload. Frequency response 20 Hz to 20k Hz ± 1 dB ref 1 kHz Equalization HF shelving ± 16 dB at 12k Hz or 8k Hz, LF shelving ± 12 dB at 120 Hz or 80k Hz, Mid Peak Dip ± 12 dB, 400 Hz sweepable to 6k Hz Distortion Mic input to output at +4dBv, 45 dB gain less than 0.05% THD 20 Hz to 20k Hz Line input to output, unity gain, maximum level Less than 0.1% THD 20 Hz to 20 kHz Retail prices \$1,990 to \$6,000, depending on the model.

AMEK SYSTEMS & CONTROLS LTD.
11540 Ventura Blvd., Studio City, CA 91604
(213) 508-9788

Product Name: AMEK-TAC 28x24x2
Product Description & Applications: Amek-Tac 28x24x2 Revolutionary desk starts out as 16x8x2 fully modular with expansion to 16 or 24 buss/monitoring. If larger main frame is purchased, a maximum 32x24x24x2 is achievable. 8 sends and one stereo send is standard on PA model. 8 sends on recording version. Various recording, PA, FB and broadcast modules are available.

Basic Specifications & Suggested List Price: Price specs are 16x8x2 - suggested at \$9,000, 28x24x24x2 \$18,000, 32x8x2 PA \$14,000

AUDIOARTS ENGINEERING
A Division of Wheatstone Corporation
5 Collins Rd., Bethany CT 06525
(203) 393-0887

Product Name: 8X/24X AUDIO RECORDING CONSOLES
Contact: Gary C. Snow, Consoles
Date Product Introduced: 1983
Product Description & Applications: This new console series from Audioarts Engineering offers features and performance

previously available only in larger track formats. 3 band sweepable EQ, mixdown subgrouping, stereo monitor sends, flexible send and return functions, pre and post fader, tape and group solo access, balanced inputs and outputs, built-in calibration oscillator, switchable phantom power, phase reverse, pad, HPF, peak clip LEDs. Construction is fully modular. The consoles are available in 8 and 24 buss versions, with 16, 24 or 32 input configurations.

Basic Specifications & Suggested List Price: Frequency response 20 Hz - 50 kHz, ± 1 dB (line), 20 Hz - 20 kHz, ± 1 dB (mike) THD 0.05% (line), 0.05% (mike), 20 kHz BW Noise less than -90 dBm (line), -129 EIN (mike), 20 kHz BW Dynamic range 110 dB (line), 100 dB (mike, typ) Prices range from \$13,500 (8X) and \$17,500 (24X)

AUDIO PROCESSING SYSTEMS INC.
90 Oak St., PO Box 8, Newton Upper Falls, MA 02164
(617) 965-1200

Product Name: MODEL 3000
Contact: Steve Crump, President
Product Description & Applications: The Model 3000 is a multi-track recording console. Its modular design permits future expansion and optional variations as the studio's needs grow. Each module is equipped with a four frequency band semi-parametric equalizer. Stereo output is available simultaneously while using the console in multi-track mode. Individual modules can be muted and muting can be programmed for grouping from the master module. All modules are automation and VCA ready. Output meters are multi-colored LEDs, time constants are selectable for VU or PPM ballistics. All signal switching is via solid state logic circuitry.

Basic Specifications & Suggested List Price: The equivalent pre-amp noise input is -128 dBv min. Mix buss noise output is -90 dB or better. Overall frequency response is +0, -1/2 dB 16 Hz to 20 kHz. Crosstalk at 1 kHz is at least -90 dB. Total system distortion is 0.1% at rated output. All inputs and outputs are transformerless and balanced to ground. Basic 24 x 24 List price is \$34,340 FOB factory.

AUDIOTRONIX CORP.
7552C St. Clair Ave., Mentor, OH 44060
(216) 942-7873

Product Name: 200 & 400 SERIES CONSOLES
Contact: Lloyd Ross, Jr.
Date Product Introduced: June 1983
Product Description & Applications: Audiotronix 200 and 400 Series eight and twelve channel powered mixing consoles for '84 offer graphic assign, power assign, dual integral plug-in power modules, slide pot design for graphic representation and ease of operation. Other features are three section EQ, mid-frequency select, reverb, channel patching, aux/pre-post, effects, monitor, pan, PFL, headphones select, LED metering, submaster grouping, dual seven and nine band equalizers.

Basic Specifications & Suggested List Price: Frequency response -1.5 dB, 20 Hz - 20 kHz THD less than 35% Power output 200 Series (dual 100 watt) - 4 ohms, 400 Series (dual 200 watt) - 4 ohms. Suggested list \$999 to \$1,599

AUDIOTRONIX CORP.
7552C St. Clair Ave., Mentor, OH 44060
(216) 942-7875

Product Name: 800 & 900 SERIES CONSOLES
Contact: Lloyd Ross, Jr.
Date Product Introduced: June 1983
Product Description & Applications: Audiotronix 800 and 900 Series twelve and sixteen channel mixing consoles for '84 highlight outstanding features such as highly accessible rear-panel connections, balanced inputs and outputs, high quality slide pot design for graphic representation and ease of operation, overload LEDs, low-noise circuit design, channel patching, three-section EQ/mid frequency selector, reverb, aux/pre-post, effects, monitor, pan, PFL, headphones select, LED metering, submaster grouping, mono and monitor out.

Basic Specifications & Suggested List Price: Frequency response -1.5 dB, 20 Hz - 20 kHz Distortion less than 1% THD and 1% IMD - 30 Hz to 30 kHz Signal to noise -70 dB 20 Hz - 20 kHz fader at 10, -85 dB 20 Hz - 20 kHz fader at 0 Crosstalk greater than -55 dB (1 kHz) Suggested list price \$899 to \$1,499

AUDITRONICS
3750 Old Getwell, Memphis, TN 38118
(901) 362-1350
Product Name 300 SERIES AUDIO PRODUCTION CONSOLE

Contact: Larry Lamoray, Marketing Manager
Date Product Introduced: April 1984
Product Description & Applications: Designed to fulfill the requirements of the modern broadcast production or teleproduction facility, the 300 Series is available in standard mainframe configurations of 4 to 32 inputs and with 4 or 8 multi-channel outputs. Includes mono and/or stereo inputs available with or without equalization, auto follow video capability, sub-mastering (stereo) or mono output and complete effects (talkback cue and monitoring facilities). Options and accessories include a comprehensive user-programmable logic system, VCA grouping signal processing equipment such as compressor/limiter, noise gates, high output utility amplifiers, clocks and timers and several meter variations. The console can be free-standing or provided for drop-in installation in a 19 inch standard equipment rack for mounting of peripheral equipment.
Basic Specifications & Suggested List Price: 24 x 4 x 2 with equalization features on all inputs: \$3,995; 24 x 8 x 2 with equalization features on all inputs: \$5,785.

BIAMP SYSTEMS INC
1100 S.W. 11th St., P.O. Box 728, Beaverton, OR 97075
(503) 641-6767

Product Name: BI/MIX 80 SERIES
Contact: Gail Martin, Marketing Director
Date Product Introduced: July 1984
Product Description & Applications: Biamps B. Mix 80 Series is an expandable mixing console system offering universal modular flexibility to meet all the requirements of live performance, studio and broadcast applications. Modular input outputs make possible easy reconfiguration to 16 to 40 inputs. Available with standard 8, 12, 16, 20 and 24 channels and in customized 32 and 40 channel versions. Full multi-track, live sound and commercial features.
Basic Specifications & Suggested List Price: Frequency response: -1.25 dB 20 Hz to 20 kHz THD: less than 0.02% @ 0 dBm 20 Hz to 20 kHz (1.0v rms) Slew rate: greater than 8v/mtr/sec; rise time limited; EFN: -1.9 dBm

CARVIN MFG
1155 Industrial Ave., Escondido, CA 92025
(619) 747-1710

Product Name: CARVIN MX-1688
Contact: Neal Taylor, Sales Manager
Date Product Introduced: October 1984
Product Description & Applications: The MX-1688 console is a professional 8 output recording console with separate 8 track returns, 4 buses w/ pre-post switching, 3 band sweepable parametric equalizer w/ high and low pass sweepable filters, separate 2 track mastering output, adjustable gain/mix/line switching, phantom power, 8 track return buss interconnect w/ selectable levels and pre-post sub-master switching and 2 effects return channels fully selectable. The board is 4 and -10 compatible w/ balanced inputs and outputs, better than 72 dB SN ratio, unweighted minimum level.
Basic Specifications & Suggested List Price: The console is suited for use in professional recording applications. It will be available in 16 and 24 channel mainframe. Mainframe is semi-modular. Carvin's consumer price is \$2,995.

CONNECTRONICS CORPORATION
652 Glenbrook Rd., Stamford, CT 06906
(203) 324-2889

Product Name: SECK PRODUCER
Contact: Richard J. Chivers, Vice President
Date Product Introduced: April 1983
Product Description & Applications: Designed to use in disc/post production fields, the Seck Producer has six input channels or stereo input channels on longthrow faders which can be switched to monitor inputs to phone inputs with HIAA equalization. Trim pots maintain the input levels. The remaining two inputs are for microphones and are routed through a "voiceover" circuit. This provides for the music inputs to be automatically reduced by up to 40 dB during the voiceover without other adjustments.
Basic Specifications & Suggested List Price: Four outputs are provided on two separate faders. Two in stereo and two in mono. Fade cueing to a 10 watt headphone amp is produced via illuminated logic controlled switching. Remote switching is standard both via large illuminated switches and on micro switches on the fader. Retail price: \$1,595.

THE CONSOLE CORP.
147 West 24th St., New York, NY 10011
(212) 741-0919

Product Name: 8x2 LOCATION MIXER
Contact: Sid Zimer
Product Description & Applications: A two track studio with a handle.
Basic Specifications & Suggested List Price: \$2,495

EDCOR
DIVISION OF PRODUCT ASSURANCE CORPORATION

NEW PRODUCTS

MIXING CONSOLES

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16782 Hale Ave., Irvine, CA 92714
(714) 556-2740 or (800) 854-0259
Product Name: INDUSTRIAL MIXERS
Contact: Larry Weston, President
Date Product Introduced: May 1983

Product Description & Applications: Five models of industrial mixers intended for sound installation applications. Mixers are mike level or line level, utility mixers, voice-rated mixers, programmable mixers and automatic mixers. Inputs are 4 or 8 inputs or standard jacks and mike or line level outputs.
Basic Specifications & Suggested List Price: Mixer specifications vary due to intended applications. However, all use low noise pumps and CMOS circuit logic. Prices vary from \$2,500 to \$4,200.



FENDER MIXING CONSOLES
Fender Musical Instruments

FENDER MUSICAL INSTRUMENTS, PROFESSIONAL SOUND PRODUCTS DIVISION
1300 E. Valencia Drive, Fullerton, CA 92631
(714) 879-8080

Product Name: FENDER MIXING CONSOLES
Contact: Steve Woolley, Marketing Director
Date Product Introduced: October 1983
Product Description & Applications: Fender mixing consoles are designed for permanent installations or touring setups using separate power amplifiers. They all include 48 volt phantom power, balanced differential input circuitry and signal present and peak LED indicators on every input channel. Models 4208, 4212 and 4216 are 8, 12, and 16 channel stereo mixers with features such as a signal insertion patch point on each input, four auxiliary inputs two with panning, dual monitor mix busses, a 2 watt/channel headphone amp and professional, +24 dBm transformer isolated line outputs. The top of the line 4216 adds a cue solo capability and switchable high pass filters on each channel. Suggested retail prices are \$995, \$1,195 and \$1,895.

FENDER MUSICAL INSTRUMENTS, PROFESSIONAL SOUND PRODUCTS DIVISION
1300 E. Valencia Drive, Fullerton, CA 92631
(714) 879-8080

Product Name: FENDER POWER MIXERS
Contact: Steve Woolley, Marketing Director
Date Product Introduced: October 1983
Product Description & Applications: Fender offers five models incorporating built-in amplifiers. All mixers include 48 volt phantom power to allow the use of studio-quality condenser microphones, balanced differential input circuitry, and signal present and peak LED indicators on every input channel to quickly pinpoint problems such as defective mike cables or improper gain settings. The leader model 3106 (\$895) is a 6-channel mono unit with 200 watt output, separate monitor and effects busses and a patchable 9-band graphic equalizer. The remaining four models are stereo units with two 200 watt power sections (patchable for stereo left/right, house monitor, etc.). Model 3206 (\$1,195) has six inputs, two independent monitor mix busses and two patchable graphic equalizers. Models 3208, 3212 and 3216 incorporate four graphics and 8, 12, and 16 inputs respectively and range from \$1,495 to \$2,095.



FENDER POWER MIXERS
Fender Musical Instruments

FURMAN SOUND, INC.
30 Rich St., Greenbrae, CA 94904
(415) 927-1225

Product Name: MM-SERIES LOW-PROFILE RACKMOUNT MIXERS

Contact: Diane Poole, Marketing Director
Date Product Introduced: Fall 1983
Product Description & Applications: MM series mixers have been designed to meet the needs of professionals in all segments of the audio industry: concert, video production, broadcast, commercial sound, etc. They are available in four major configurations: MM 4, 4x, high impedance; MM 4B, 4x, high and low impedance balanced; MM 8, stereo version of MM 4; MM 8B, stereo version of MM 4B. All units feature wide range inputs (mike to line level), switchable low cut filter on each input, effects send and return, soprano rated overload indicator, high output, headphone amplifier w/level control, aux input jacks w/level control, ground lift switch, balanced and unbalanced outputs (simultaneously available).

Basic Specifications & Suggested List Price: Preliminary. High Z inputs: 15k ohm impedance, -114 dbv equivalent input noise, +30 dbv max input. Aux inputs: 15k ohm impedance, -114 dbv equivalent input noise, +30 dbv max input. Low Z inputs: 600 ohm balanced, -122 dbv equivalent input noise, +3 dbv max input. Gain from aux inputs to output: +6 db max. Gain from high Z inputs to output: 5b db max. Gain from low Z inputs to output: 72 db max. Output Z out = 100 ohms, 17.4v RMS balanced into 25k ohms minimum. Distortion less than 0.5% 20 Hz to 20 kHz any input to output.

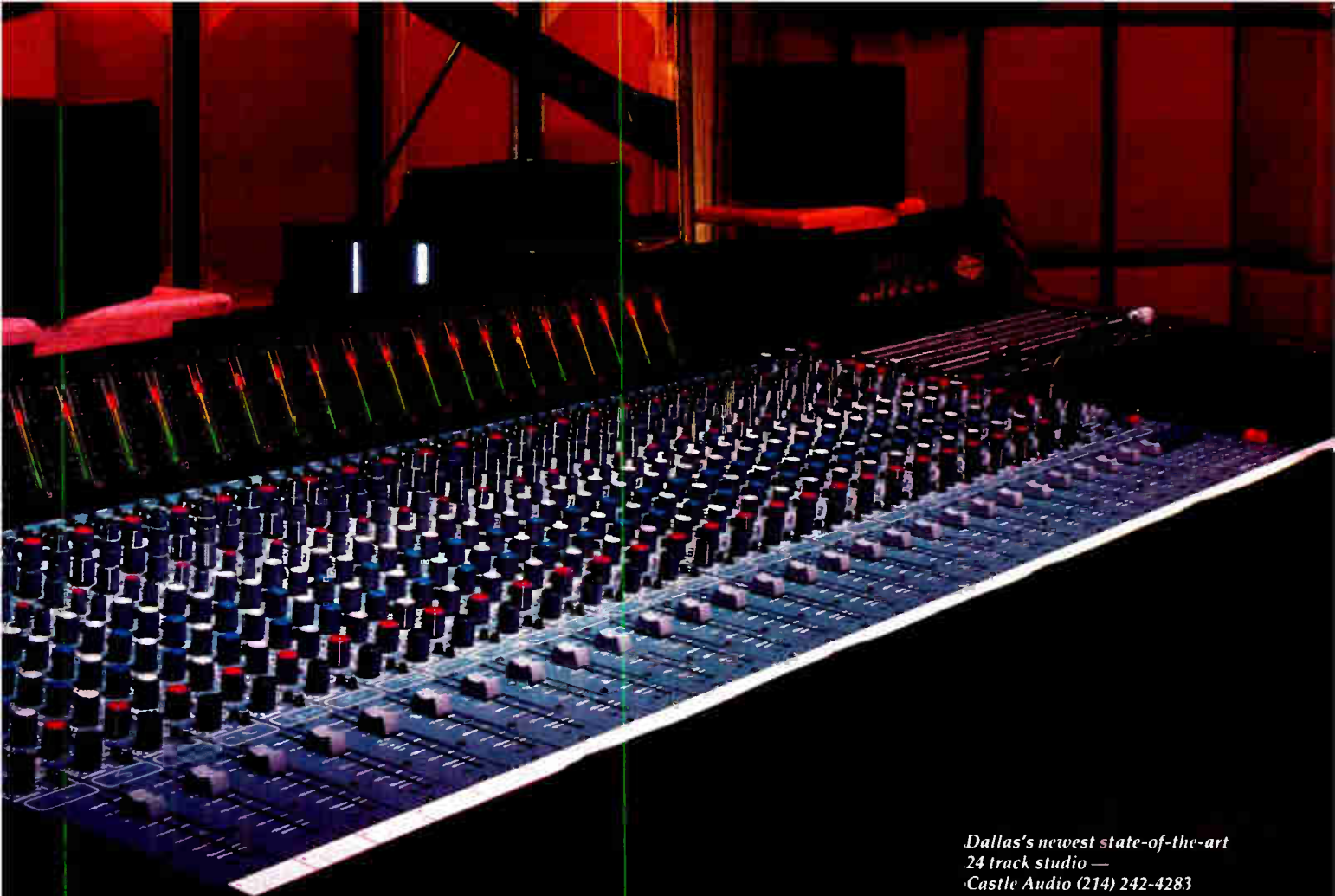
HILL AUDIO, INC.
231 Marquis Cir., Lilburn, GA 30247
(404) 923-3193

Product Name: J SERIES 3
Contact: Dave Ash, President
Date Product Introduced: April 1983
Product Description & Applications: A modular 8 buss console at home on the road or in the studio, 6 aux sends, 48v phantom power, phase reversal, 8 band EQ, all junction switches have status LEDs, 12 way LEDs on inputs, subs and masters, direct outs on inputs, monitor section, direct outs (2) on subs, patch points on inputs, subs and masters, independent live return section with 3 band EQ and 60 mm faders, built in comm indicator, system, fully regulated 19" remote power supply, P+G 104 mm conductive plastic faders.

Basic Specifications & Suggested List Price: Level max +24 dBm. Headroom: 48 dB input, 18 dB (other stages). Gain: -30 to +70 dB. Noise: -130 dB. Crosstalk: better than -70 dB. Midband THD: better than 0.008%. Wideband THD: better than 0.01%. IMD SMPTE: better than 0.01%. Frequency response: ±0.2 dB 5532 op amps throughout. Suggested list: \$6,402 to \$16,479.

HILL AUDIO, INC.
231 Marquis Cir., Lilburn, GA 30247
(404) 923-3193

Product Name: B SERIES 3
Contact: Dave Ash, President
Date Product Introduced: April 1983
Product Description & Applications: Fully comprehensive live or studio console available in a 4 or 8 buss format. Phase reversal, phantom power, 3 aux sends, 4 band EQ, VU meters, aluminum extrusion mainframe, direct outs on inputs and subs, patch on inputs, subs and master outs, stereo monitor, completely modular, 100 mm smooth action faders, independent live return section with 3 band EQ and 60 mm faders.
Basic Specifications & Suggested List Price: Level max +24 dBm. Gain: -20 dB to +60 dB. Noise: -126 dB. Crosstalk: better than -70 dB. Midband THD: better than 0.02%. Wideband THD: better than 0.04%. IMD SMPTE: better than 0.02%. 5532 op amps throughout. Suggested list: \$3,400 (16 4 2) to \$5,480 (24 8 2).



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24 track studio —
Castle Audio (214) 242-4283*

ANGELA

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When we created ANGELA we knew she had to have more than just good looks. We insisted she be the finest low-cost 24 track console in the world. For her to achieve this, we had to maintain total integrity in all aspects of her design and construction. We refused to give her inferior components like PC board patch bays, ribbon connectors or an inexpensive chassis that flexes. Instead, we built her with the same superior design and manufacturing techniques found in our M2500 and M3000 Super Consoles... and is ANGELA built! She has Mil-Spec Patch Bays, a Hard-Buss Mother

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

AMEK CONSOLES, Inc. U.S.A.
11540 Ventura Boulevard
Studio City, California 91604
(213) 508-9788

AMEK SYSTEMS & CONTROLS
Islington Mill James Street
Salford M3, 5HW, England
061-834-6747

STANDARD FEATURES:

- 28 Inputs, 24 Buss, 24 Monitoring
- 6 Sends, 6 Returns
- Advanced transformerless mic preamp very low noise, typically -130 dB
- Phantom power
- 4 Stereo Sub-groups
- Switchable PPM VU light meters
- 4 band EQ with 2 position 'Q' in 2 mids
- Separate control room and studio monitoring facilities
- Extra heavy duty toroidal power supply
- In place solo
- Fader reverse
- Monitor section can be used for 28 additional returns to stereo mix buss giving total of 62 returns in mixdown mode
- A one year parts and 6 month labor warranty

OPTIONAL FEATURES:

- Full VCA Automation
- Frame sizes up to 56 inputs
- Additional VU and Phase Meters
- Available in one piece "in line" or two piece "L" shaped chassis
- Separate 24 Track Monitor Mixer mounted in producer's desk

HILL AUDIO, INC.
231 Marquis Court, Lilburn, CA 30247
(404) 923-3193

Product Name: MONITOR SERIES 3

Contact: Dave Ash, President

Date Product Introduced: April 1983

Product Description & Applications: Live sound reinforcement, monitor mixer, video production mixer. The Hill Monitor Series 3 utilizes 60 mm smooth action faders on each input strip as sends. It is available as a 4, 6, 8 or 10 buss format. 4 band EQ on the inputs, 8 band EQ on the outputs, 12 way LED displays, modular, built-in communications system, fully regulated remote power supply. Transformer balanced outs, transformer isolated zero loss input stage.

Basic Specifications & Suggested List Price: 5532 op amps throughout, modular using ribbon cable. Gain - 30 to +70 dB. Noise: -132 dB. Crosstalk: -70 dB. Midband THD: better than 0.008%. Wideband THD: better than 0.01%. IMD SMPTE: better than 0.01%. Level max +24 dBm. Headroom 38 dB. Suggested list \$4,445 to \$9,884.

INTERFACE ELECTRONICS

6710 Adler, Houston, TX 77081
(713) 660-0100

Product Name: STAGE MONITOR MIXER MODEL 310

Contact: Louis Stevenson

Date Product Introduced: May 1983

Product Description & Applications: The Series 310 is modular and plug-in and is built in frame sections of 6 modules, can be assembled for 12 to 48 inputs. Makes 8 output mixes plus a side-fill pair with send and panpot. Transformerless input, four equalizers (2 tuneable, with wide/narrow switch), high and low cutoffs, live level LED indicators on each input and 10 level LED indicators on masters, solo to operator's monitor, master solo, return solo to listen to signal after processing slider masters, panic buttons, splitters everything needed for professional stage monitoring.

Basic Specifications & Suggested List Price: List price: \$5,350 for 12 input version.

JE-IL ELECTRONICS CORP.

Seoul, Korea
U.S. Distributor: Charles Lane Studios
7 Charles Lane, New York, NY 10014
(212) 242-1479

Product Name: STRAMP

Contact: Michael Lynch, Manager

NEW PRODUCTS

MIXING CONSOLES

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Date Product Introduced: February 1983

Product Description & Applications: Model MA8200B: 8 channel powered mixer features 8 microphone inputs with a stereo program output as well as a monitor output and effect send. Three band EQ per channel and graphic EQ on the stereo and monitor outputs are also provided. The built-in amplifier is fan cooled, relay protected, and delivers 150 watts RMS at 4 ohms per channel. The unit is rack mountable or an optional console kit is available.

Basic Specifications & Suggested List Price: Frequency response 20 Hz to 20 kHz, -2 dB THD less than 0.3%. Signal to noise ratio (input to output) -60 dB. Total available gain greater than 82 dB. Size 19"W x 14.9"D x 4.5"H. Weight 36.4 lbs. Suggested retail price \$995.

NEI

934 NE 25th Ave., Portland, OR 97232
(503) 232-4445

Product Name: 611P POWERED MIXER

Contact: Bud Garnson, President

Date Product Introduced: June 1983

Product Description & Applications: 611P contains one FTC rated 80 watt RMS (at 8 ohms) amplifier, switchable to mains or monitor sends. Each of differentially balanced input channels features monitor, reverb/effects sends, high and low EQ and channel gain control. 611P features a full octave, 10 band graphic equalizer on standard ISO centers connected to the main output but is externally patchable to the monitor send or any other external device.

Basic Specifications & Suggested List Price: Suggested list price \$749. Contains one FTC rated 80 WRMS (at 8 ohm) power amplifier. Overall THD typically less than 0.5%. Slew rate better than 32V per microsecond. Damping factor 100 or better. S/N 90 dB down from rated output. Preamp specs THD 0.18% at 1k at maximum output. S/N 78 dB down from 7.5 V RMS output, or -58 dB at 65 mv mike input. Crosstalk 64 dB.



DM 1650RM MIXING CONSOLE
Numark Electronics Corp.

NUMARK ELECTRONICS CORP.

503 Raritan Center, Edison, NJ 08837
(201) 225-3222

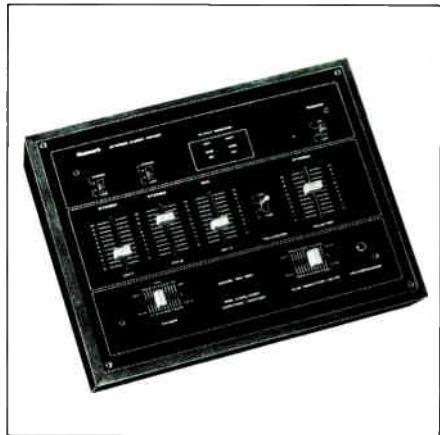
Product Name: DM 1650RM

Contact: Robert Kotovsky, Vice President, Sales

Date Product Introduced: March 1983

Product Description & Applications: Preamp/Mixer with built-in 6-band equalizer. Fits EIA standard 19" rack. Multi-color LED displays with automatic peak hold and reset. Four stereo phone/line inputs (Two switchable to mike inputs with low cut filters). All line, master, EQ, fade, cue and headphone level controls are slide type -14 dB talkover switch.

Basic Specifications & Suggested List Price: Rated output master and tape 0.775v HD at 3v output less than 0.5%, 0.25% at rated output. Input sensitivity mike 0.5 mv, phone 1.20 mv, line 70 mv. Frequency response mike, phone, line 20 Hz to 20 kHz. List \$279.95.



DM 550 MIXING CONSOLE
Numark Electronics Corp.

NUMARK ELECTRONICS CORP.

503 Raritan Center, Edison, NJ 08837
(201) 225-3222

Product Name: DM 550

Contact: Robert Kotovsky, Vice President, Sales

Date Product Introduced: March 1983

Product Description & Applications: Preamp/Mixer with two stereo phone/line inputs, one microphone input. All line, master, fade and cue controls are fast acting slide type -14 dB talkover switch. Two LED output indicators insure optimum output without overload.

Basic Specifications & Suggested List Price: Master and tape rated output is 0.775v HD at rated output 0.25%. At 4v output less than 0.5%. Input sensitivity: mike 0.5 mv, phono 2.5 mv, line 150 mv. Frequency response: mike, phono and line 20 Hz to 20 kHz. List \$119.95.

PULSAR LABORATORIES, INC.

3200 Gilchrist Rd., Mogadore, OH 44260
(216) 784-8022

Product Name: SERIES 80 & SERIES 40 MIXING CONSOLES

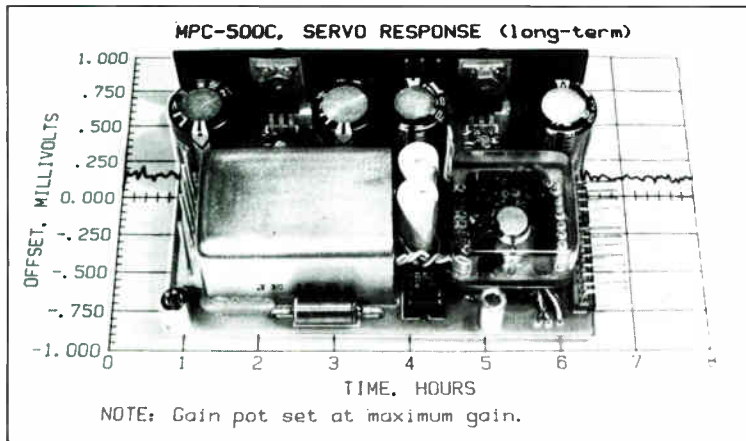
Contact: Gregory Carr

Date Product Introduced: January 1983

Product Description & Applications: Pulsar Labs is proud to introduce the 80 Series and 40 Series console line. All Pulsar consoles are totally modular and come in several mainframe sizes. Modular 4 ch. comp/limiters, EQs, reverb and other signal pro-

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THE HARDY CO. BOX AA631 EVANSTON, IL 60204 (312) 864-8060

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cessing devices can be inserted into any input. All consoles come standard with 4x4 or 8x8 matrix, LM394 input chips, 4 sends per ch. Access in and out on all modules, 5 band graphic or parametric EQ, stereo balanced line in, direct out, mute, high pass filter, phase switch, 48 volt phantom, talkback, priority cue system, 100 mm faders, solid oak frame with steel sub-frame. A complete line of 8 out and 12 out monitor consoles are also available.

Basic Specifications & Suggested List Price: Frequency response: ± 5 dB Crosstalk (odd-even pairs): -74 dB THD: $\pm 0.5\%$ External power supply (5/4x19), 110 volt or 220 volt E.I.N. equivalent input noise: -129 dBv Mike input to matrix out noise: -86 dBv Maximum mike gain: 101 dBv Max line gain: 86 dbv Output (balanced 600 ohm) $+20$ dBm, (unbalanced 10k) $+18$ dBm Pricing 16x4 \$5,263 retail, 28x8 - \$10,134 retail; 32x8 monitor - \$13,052 retail



SERIES 80 MIXING CONSOLE
Pulsar Laboratories, Inc.

RANE CORPORATION
6510-D 216th SW, Mountlake Terrace, WA 98043
(206) 774-7309
Product Name: MM 12 MONITOR MIXER
Contact: Larry Winter, Vice President, Marketing
Date Product Introduced: January 1983

NEW PRODUCTS

MIXING CONSOLES

1 · 9 · 8 · 4

Product Description & Applications: The MM 12 is an ultra compact rack-mountable monitor mixing console with 12 inputs and 6 separate outputs, to provide six custom mixes for on-stage monitoring or other applications. The MM 12 includes built-in mike splitter, three-way input EQ, two-stage parametric output EQ, send/receive loops and is fully expandable.

Basic Specifications & Suggested List Price: Measuring 19"W x 21"H x 2 1/2" deep, the MM 12 provides auto-balanced/unbalanced inputs, auto-unbalanced floating outputs, -120 dBm equiv input noise, RFI filters, overload LEDs and powerful headphone cue system. Suggested list price \$1,299



MM 12 MONITOR MIXER
Rane Corporation

SELA FILM PRODUCTS INC.
Stockholm, Sweden
Audio Services Corporation - U.S. Representative
4210 Lankershim Blvd., North Hollywood, CA 91602
(213) 980-9891

Product Name: SELA 2880-6F
Contact: Richard Topham Jr., Sales Manager
Date Product Introduced: January 1983
Product Description & Applications: The Sela 2880-6F Mixer is a portable mixer designed for high quality mono or stereo recording. This mixer is ideal for film or video post production sound. Its lightweight and battery powering also make it useful for location sound. Sela has long been associated with fine location mixers and the new 2880-6F represents sonic excellence in a portable package.

Basic Specifications & Suggested List Price: (6) mike inputs, (4) line inputs, (3) outputs plus foldback. Powered by 12 "D" cells. The mike inputs feature variable high pass bass, sweepable mid range, with dynamic, Phantom "T", and audio phase reverse. There is also a solo/PFL button on each input. Three line outputs have variable threshold limiters as well as input and output patch points. Extensive communication sends are also included. List price \$7,900.

SOUNDTRACS INC.
262a Eastern Pkwy., Farmingdale, NY 11735
(516) 249-3669

Product Name: 80 SERIES MODULAR MIXER
Contact: Bob Loring, National Sales Manager
Date Product Introduced: June 1983
Product Description & Applications: The Soundtracs 80 Series is a unique modular mixer with microprocessed routing, designed to fill markets that include pro sound, broadcast, film and video. By clever implementation of the microprocessor all input channels can be routed to as many sub groups as there are in the mixer, as well as the master. Modular in design, the mixer can be expanded to 36 I/O's.

Basic Specifications & Suggested List Price: Mike inputs electronically balanced, input impedance 7000 ohms, max input before clipping $+30$ dBm, gain range $+20$ to $+60$ dB slew rate 10v per microsecond. Line inputs electronically balanced, input impedance 10,000 ohms. Max input $+30$ dB before clipping. Lowpass filter, Butterworth -12 dB/octave. Frequency out 10 Hz to 500 or 200 Hz $\pm 5\%$ EQ four band HF 12 kHz, M1 500 Hz to 10 kHz M2 50 Hz to 1 kHz LF 50 Hz. Outputs, line and inject sends 50 ohms impedance, max. output $+20$ dBm. Inject returns Impedance 10k ohms make input $+22$ dBm. Fader range $+10$ to 00 attn 90 dB IM distortion less than 0.015%. Mix noise 28 in puts $+16$ tape returns unity gain. 74 dBm REF 20 kHz bandwidth.

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TELEX COMMUNICATIONS, INC.

9600 Aldrich Ave. Sq., Minneapolis, MN 55420 U.S.A.

Europe: Le Bonaparte—Office 711, Centre Affaires Paris-Nord, 93153 Le Blanc-Mesnil, France.

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SOUNDTRACS INC.
262a Eastern Pkwy., Farmingdale, NY 11735
(516) 249-3669

Product Name: THE SOUNDTRACS SYSTEM

Contact: Bob Lowig, National Sales Manager

Date Product Introduced: July 1983

Product Description & Applications: The Soundtracs System is a unique way to interface our house and stage monitor mixers via our multi-core snakes and stage box. With 3 simple connections the stage box, stage monitor mixer, and house mixer are linked together to make an unbeatable sound reinforcement team, eliminating mike splitters on stage, and up to 48 XLR connectors.

Basic Specifications & Suggested List Price: 16-4-2 inputs, electronically balanced level, mic 20 to 60 dBm, tape/line +10 to 30 dBm. Inserts +4 dBm, aux returns, +10 dBm. Output max +18 dBm, IMP 150 ohm EQ hi 10k Shelving mid sweepable 350 Hz to 8k ±15 dB Distortion less than 0.02%, noise -125 dBm crosstalk below 60 dB at 1 kHz \$3,236
16-6 Inputs same as 16-4-2s. Outputs same as above. Noise 122 dBm. Mix noise 16-ch at unity gain 78 dBm. Distortion less than 0.02% gain +76 dB balanced output +22 dBm balanced line Interlink 100' 56 way multi-core cable fitted with 90° 56 way male connectors. Stage box and boards fitted with female 56 way connector \$4,692

SOUND WORKSHOP PROFESSIONAL AUDIO PRODUCTS, INC.

1324 Motor Parkway, Hauppauge, NY 11788
(516) 582-6210

Product Name: SERIES 34 RECORDING/MIXING CONSOLE

Contact: Emil Hanake, Sales Manager

Date Product Introduced: August 1983

Product Description & Applications: The series 34 merges proven Sound Workshop designs with the latest in console technology. The functional design of the Series 34 allows its use in music recording and broadcast video production and post production. The "ARMS" voltage control computer system adds computer convenience and flexibility as well as automated mixing facilities.

Basic Specifications & Suggested List Price: Standard features include full transformerless design with both balanced inputs and outputs, clip level of +27 dBV on main outputs, 4-band EQs, new design low noise high-performance Mic-Pre, 3-color high resolution metering with peak and average modes, 24 discrete mix busses, 32 input rigid design mainframe, 6 aux send busses, full input channel metering in addition to main bus metering, optional stereo modules, optional video interface module for AFV editor control. Tentative pricing: 28x24 - \$29,000. With ARMS/VCA option \$36,900

NEW PRODUCTS

MIXING CONSOLES

1 . 9 . 8 . 4

SUNN MUSICAL EQUIPMENT COMPANY
19350 S.W. 89th Ave., Tualatin, OR 97062
(503) 692-4650

Product Name: 1220S

Contact: Terry R. White

Date Product Introduced: June 1983

Product Description & Applications: The 1220S integrated mixer amplifier contains two independent 200 watt power amplifiers, each of which has a 10-step LED output indicator and a peak LED to indicate clipping. The unit also features two 10 band fully combining graphic equalizers with individual +10 dBV and -20 dBV level indicating LEDs. Under normal conditions the signals fed to the graphics and power amplifiers are controlled by the Mode switch. In the left stereo position the EQs and power amplifiers are driven from the submaster 1 and 2 faders, which become the stereo output controls. In the right mono position the EQs and amplifiers are driven by the main and monitor faders as in a normal mono system. In addition, both the graphic equalizers and the power amplifiers can be separately re-patched to any other part of the system using the input/output jacks on the rear panel.

Suggested List Price: Price \$1,999

TASCAM (TEAC CORP.)

7733 Telegraph Rd., Montebello, CA 90640
(213) 726-0303

Product Name: TASCAM M-50

Contact: Bill Mohrhoff or Tay Hotta

Date Product Introduced: April 1983

Product Description & Applications: The Tascam M 50 is an advanced 12x8 console with multiple inputs per channel, reassignable submixes and complete monitoring capability. Two auxiliary stereo mixing systems can be used for performer cues, effects sends, remote feeds or stage monitor mixes. Stereo solo pre-ladder listen and A178 jack rear panel patch bay further expand the system's flexibility. Three band sweep-type parametric EQ is included on each input channel. The M 50 is designed for

rapid 4 or 8 track mixing in ad agencies, video post rooms, broadcast mixing, film assembly, and small audio studios or remote units.

Suggested List Price: \$3,500



TASCAM M-50 MIXING CONSOLE
Tascam (TEAC Corp.)



SERIES 70 VFM MIXING CONSOLE
Trident (USA) Inc.

TRIDENT (USA) INC.

652 Glenbrook Rd., Stamford, CN 06906
(203) 357-8337

Product Name: SERIES 70, & V F M. MIXING CONSOLES

Contact: Ken Bray, Vice President

Date Product Introduced: Series 70 May 1983 VFM Mark II March 1984

Product Description & Applications: Series 70 - fully modular console based on tri mix series but in true sixteen-buss studio version. The only 16-buss on the market in its price range. 308-point patch field. Producers desk. 24-track monitoring. VFM Mark II - newly improved version of budget-range mixers designed for PA, home studio, state monitor. Fully modular design, flexible input/output configurations. New modules available August. Eight-way monitor input and full sweep EQ option on input. Full 16-track monitoring also available.

Suggested List Price: Series 70 (28 16 24) \$21,700, 20 16/16 \$17,784. VFM Mark II 16/4/2 \$4,000, 16/8/2 \$4,500, 20 16 \$4,250

YORKVILLE SOUND LIMITED

80 Midwest Rd., Scarborough, Ontario, Canada M1P 4R2
(416) 751-8481

Product Name: AUDIOPRO 16-S

Contact: Mr. Mike Holman, Sales Manager

Date Product Introduced: January 1983

Product Description & Applications: A 16x21 stereo console with dual monitor and effects channels. Features include four band EQ with semi-parametric mids (150 Hz to 4 kHz) on all input and both monitor channels, input effects and monitor channel solos with "ON" LEDs, pre-solo input channel mutes with activity LEDs, total clip indication (chain post EQ effects send and return monitor buss input and post EQ signal and mains), monitor buss level (input gain) controls, dual effects-channel monitor sends. Applications: S/R and 2-track mixdown.

Basic Specifications & Suggested List Price: Frequency response 20 Hz to 30 kHz ±1 dB. Harmonic distortion less than 0.02% at +12 dB output. Maximum output level: +18 dBm (full EQ flat). Equivalent input noise: -125 dBV ref. 50 ohms input load. Channel crosstalk: -60 dB at 1 kHz. Input headroom: 60 dB. \$2,450 suggested retail.

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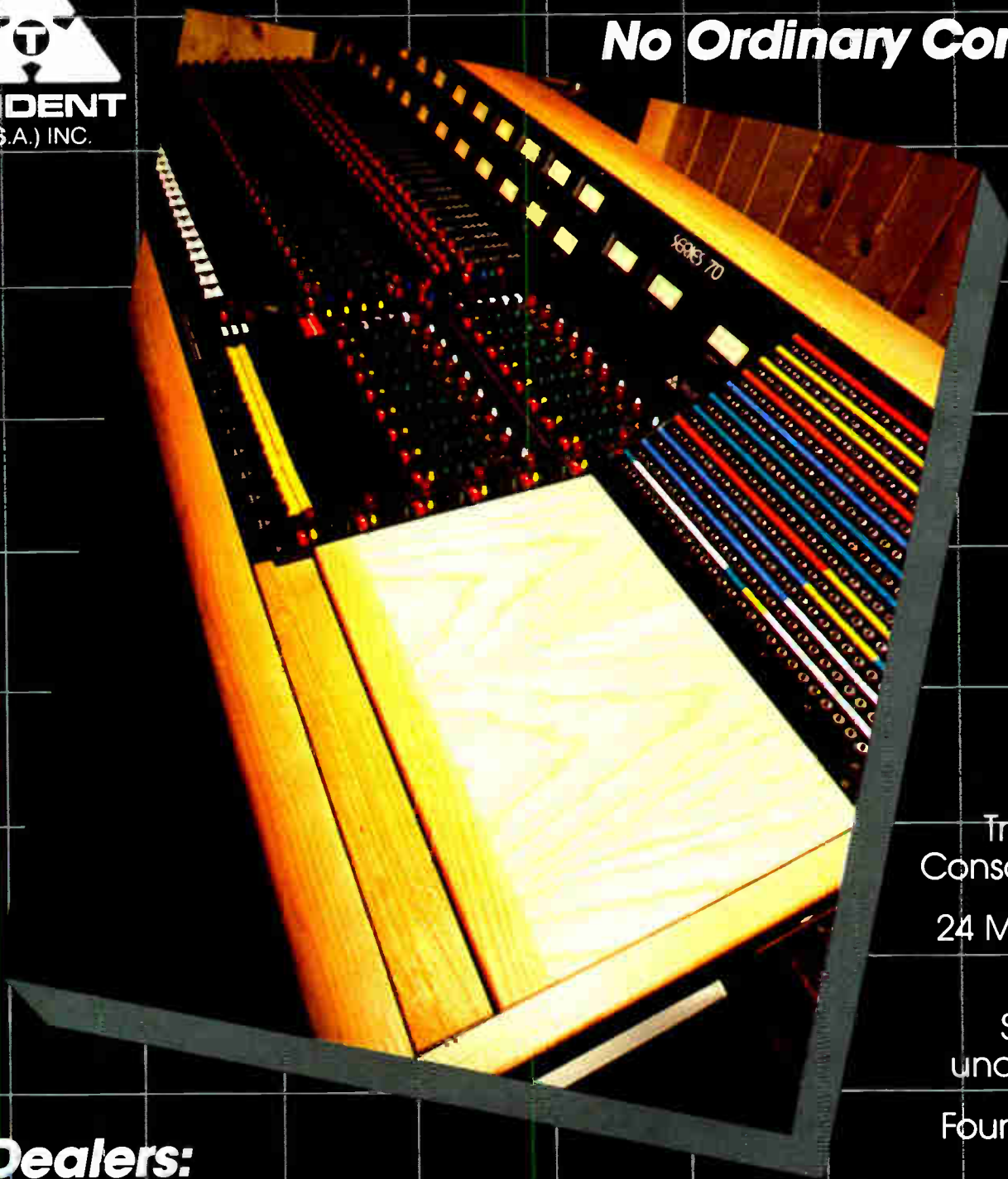
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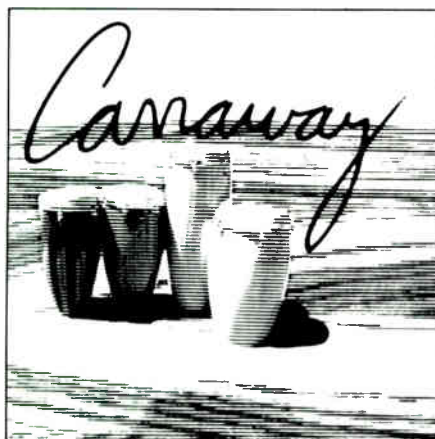
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EW PRODUCTS MUSICAL PRODUCTS AND ACCESSORIES

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CARRAWAY CONGAS
Caraway Congas

CARRAWAY CONGAS
P.O. Box 4163, San Rafael, CA 94903
(415) 479-3668

Product Name: CARRAWAY CONGAS

Contact: J.L. Carraway, President

Date Product Introduced: April 1983

Product Description & Applications: Carraway congas are completely handmade, hardwood drums that refine the traditional Cuban style. Usually built to customer specifications, these drums are available in African zebra wood, black walnut, vermillion, narra, oak, cherry, bird's eye maple, etc. The hand fitted hardware is triple-chrome plated, cold-rolled steel, helarc welded for maximum strength. The drum shell is epoxy-fiberglass reinforced on the inside bottom for durability, and is acoustically isolated from the floor to enhance tone quality.

Basic Specifications & Suggested List Price: Suggested list price is \$1295 per drum.

De ARMOND, INC.

350 Holland, Suite M, Maumee, OH 43537
(800) 537-3375

Product Name: 1604 PRE-AMP PEDAL, 1622 STEREO VOLUME PEDAL

Contact: Bob Knight, Sales Manager

Date Product Introduced: July 1983

Product Description & Applications: 1604 pre-amp pedal: cast aluminum volume pedal with variable gain from unity to +20 dB. Designed for transducers, pickups, electric pianos, or electric guitars. No high frequency loss.

1622 stereo volume pedal: impedance balanced for electric keyboards. Two inputs and two outputs with complete separation, no bleed through. No high frequency loss.

Basic Specifications & Suggested List Price: 1604 pre-amp pedal: \$99.95. 1622 stereo volume pedal: \$99.95.

DRUM WORKSHOP

2697 Lavery Ct. #16, Newbury Park, CA 91320
(805) 499-6853

Product Name: DW 5002 DOUBLE BASS DRUM PEDAL

Contact: Dave Levine, Marketing

Date Product Introduced: January 1983

Product Description & Applications: The DW 5002 double bass drum pedal incorporates Drum Workshop's highly successful chain and sprocket design with a unique linkage system to allow drummers to play double bass drum effects with one bass drum. The 5002 is easily attached and removed from the bass drum, is separate from the drummer's regular pedal, and has been proven on the road and in the studio by the world's top drummers.

Basic Specifications & Suggested List Price: \$238 (primary pedal sold separately).



EXR PROJECTOR MODEL SPIII
EXR Corporation

EXR CORPORATION

3373 Oak Knoll Dr., Brighton, MI 48116
(313) 227-6122

Product Name: EXR PROJECTOR MODEL SPIII

Contact: James Cassily, CEO, Melame Rogers, President

Date Product Introduced: June 1983

Product Description & Applications: The SPIII is the world's first psychoacoustic foot pedal giving the performing guitarist or keyboard player three state-of-the-art functions: 1. The EXR Exciter psychoacoustic enhancement, 2. A high tech volume pedal with EXR preset, 3. A full frequency direct box with continuously variable input control up to 40 dB gain. The SPIII will project a solo into the foreground without increasing volume or EQ by adding the vibrant, crystalline clarity EXR has become renowned for by the world's leading audio pros.

Basic Specifications & Suggested List Price: Input: 100 k ohms, instrument level, unbalanced 1/4" phono jack, output: dual 600 ohms 1 XLR balanced line level. 2. 1/4" phono jack, unbalanced unit gain. Input gain control: variable to 40 dB gain. +20 dBm maximum output capability. Frequency response: 1/4 dB from DC to 50 kHz. Power requirements: AC operation 105 to 125 VAC, 50-60 Hz (internally selectable between 110 and 220 volts). Suggested list price: \$299.

FRETTED INDUSTRIES

1415 Waukegan Rd., Northbrook, IL 60062
(312) 498-3510

Product Name: WASHBURN ACCELERATOR SERIES EFFECTS PEDALS

Contact: May 1983

Date Product Introduced: Seven accelerator pedals offering the latest technology have been introduced. The group includes stereo chorus, stereo flanger, distortion, analog delay, phaser, graphic EQ, and the "stack in the box" pre amp. The accelerator series is designed for live and studio applications.

Product Description & Applications: The pedals feature LED indicators, light filter printing for easy stage identification, extended battery life, clean, quiet switching and heavy duty die cast metal casing. Suggested list prices are: stereo chorus \$119, stereo flanger \$139, distortion \$89, graphic EQ \$99, phaser \$109, delay \$199, stack in the box preamp \$99.

GNOME SOUND INC.

P.O. Box 158, Station A, Flushing, NY 11358
(212) 358-5768

Product Name: THE ACTIVATOR

Contact: Stephen Tomecek

Date Product Introduced: Fall 1983

Product Description & Applications: The Activator is a retrofit preamp for the Fender Rhodes designed to deliver a bright punch

sound from any Rhodes. Its active EQ and gain controls provide a full spectrum of sound and its unique circuit topology using J-FETs eliminates noise. The Activator replaces the existing controls in the piano with a completely shielded module requiring no soldering or drilling. The Activator comes with dual 9 volt batteries, a replacement panel and a two year guarantee.

Basic Specifications & Suggested List Price: The Activator is a unity gained preamp offering an EQ of over 55 dB from 100 to 8 kHz. The unit features a noise figure in excess of -80 dB and operates on a dual 9 volt supply. Weighs 1 pound, 1 1/2" high x 8" long x 2 1/4" deep. \$120.

H.M. ELECTRONICS, INC.

6151 Fairmount Ave., San Diego, CA 92120
(619) 280-6050

Product Name: 22E SV112 WIRELESS INSTRUMENT LINK

Contact: John F. Kenyon, Asst. Sales Manager

Date Product Introduced: April 1983

Product Description & Applications: The 22E SV112 is a high quality wireless instrument link for use with a wide variety of musical instruments, including guitars and violins. The system provides approximately 100 dB dynamic range with VHF hi-band performance. Transmitter uses standard 9 volt battery and fits into pocket or may be attached to a belt.

Basic Specifications & Suggested List Price: RF frequency: VHF Hi-Band. Dynamic range: 100 dB. Transmitter size: 4" x 2.5" x 0.8". Transmitter weight: 5 oz, without battery. Frequency response: 50 Hz - 15 kHz. Retail price: \$2,475.

METRO GNOME

602 W. Iris Drive, Nashville, TN 37204
(615) 298-4948

Product Name: ROYALTY+ (Computer Software)

Contact: Mark Augelli

Date Product Introduced: June 1983

Product Description & Applications: Complete package of software functions designed exclusively for music publishers, dealing with such areas as catalog management (including song casting and pitching), income (and expense) management, staff management (with personnel and contract information), and contact management (for mailing list and directories).

Basic Specifications & Suggested List Price: The Apple version requires an Apple-compatible computer, at least one disk drive, and a printer, and sells for \$1300 for the complete package, or \$750 for the catalog management section. An IBM-compatible version is expected to be released in August 1983.

MPI PRODUCTS

P.O. Box 530505, Grand Prairie, TX 75053
(214) 262-1390

Product Name: MPI PEDAL STEEL, MPI ADJUSTABLE ROLLER NUT

Contact: Bob McCormick; Dianne McCormick

Date Product Introduced: January 1983

Product Description & Applications: Pedal steel guitar featuring adjustable roller nut to eliminate string buzz and de-tuning at first and second frets. Also features harmonically tunable puller housing to eliminate tone wavering on upper frets. Strobe tunable split tones. Above features are standard equipment and are patented items. Adjustable roller nut also available as replacement part for most other pedal steel guitars.

Basic Specifications & Suggested List Price: Guitar is single 12 with six floor pedals and six knee levers. Equipped with universal tuning of buyer's choice. Solid wood body in wide choice of domestic and exotic hardwoods. Case included in \$2500 price. Optional inlays, etc. available at extra charge.

OSBERHEIM ELECTRONICS, INC.

2250 S. Barrington Ave., Los Angeles, CA 90064
(213) 473-6574

Product Name: DX PROGRAMMABLE DIGITAL DRUM MACHINE

Contact: Russ Jones, Vice President, Marketing

Date Product Introduced: May 1983

Product Description & Applications: The Oberheim DX is a
(continued on page 108)

Consistent with Fairlight's policy of always providing the musician a choice, the CMI offers no less than three compositional programs: a real-time Multitrack Sequencer (Page 9), a non-real time Music Composition Language (Page C) and the revolutionary Real-Time Composer (Page R). Each is specifically designed to suit different styles and methods of composition. Together, they are the most complete compositional package available today.

The **Real-Time Multitrack Sequencer** records performances from the CMI's six octave dynamic keyboards together with all expressive nuances from either the keys or the six real-time controllers. The recorder is organized in such a way that there is no limit to the number of tracks that may be laid down or overdubbed, and total storage capacity is in excess of 50,000 notes. After recording, each track may be easily "patched" to any of the CMI's voice channels for re-orchestrating - even while the music is replaying.

MCL is a non real-time Music Composition Language that allows the non-piano playing composer/producer complete access through the CMI typewriter keyboard. The MCL's powerful editing ability allows the user to locate and alter any part of a composition quickly and easily. It also incorporates an error detection program that identifies error in notation.

The **Real-Time Composer** is our most recent development, and continues to cause considerable excitement among CMI users. This high-speed function allows rapid development of complex phrases, making it particularly suitable for rhythmic compositions. All pitch, timing and dynamic information is recorded and displayed while an automatic quantizing facility corrects playing inaccuracies. Editing may be performed live or through the typewriter keyboard.

Each of the eight channels of the CMI benefit from separate audio outputs, allowing independent channel processing. All three composition languages may be synchronized for multi-track recording.

Once you've used the Fairlight CMI, you'll realize why many of the world's leading music professionals now use it as their main composition-production tool. For the composer/producer there is simply no production system more complete or versatile. Extend your compositional creativity, contact the Fairlight office nearest you for a demonstration appointment.

NEWS! The new Series II voice card option (20K Hz bandwidth, 85 dB dynamic range) designed for CD recording, is now available for all Fairlights as a retrofit. Price \$2,750.



**FAIRLIGHT
INSTRUMENTS INC.**

Principal Office:
2945 Westwood Blvd., L.A., CA 90064.

East Coast Office:
575 Madison Ave., 10 Floor, N.Y., N.Y. 10022.

Phones:
West (213) 478-8221, East (212) 605-0296.

Circle #089 on Reader Service Card

CMI-Extending your compositional creativity...





DX PROGRAMMABLE DIGITAL DRUM MACHINE
Oberheim Electronics, Inc.,

—from page 106

new low cost addition to Oberheim's line of digital drum machines. Using digital recordings of real drums stored in computer memories, the DX features complete programmability of rhythms, time signatures, sequence length, and tempo in both real time and "single step" modes. Voices include bass and snare drum, open and closed hi-hat, three tom-toms, long crash cymbal with dynamics, shaker, and hand claps. The DX has separate outputs for each voice plus a seven channel stereo/mono mixer. The DX features 100 sequences, as well as fifty songs which enable programming of entire compositions, and has memory capacity for 2200 notes.

Suggested List Price: USA retail: \$1395

PASSPORT DESIGNS, INC.

116 N. Cabrillo Hwy., Half Moon Bay, CA
(415) 726-0280

Product Name: MIDI NETWORK

Contact: Chris Albano, V.P. Marketing

Date Product Introduced: October 1983

Product Description & Applications: The Midi Network is a hardware and software package for Apple II computer. It allows the user to control one or more music synthesizers and drum machines from the computer. The Mini Network consists of an interface circuit board which plugs into any Apple peripheral slot. The board receives and transmits data between the computer and keyboard and generates drum machine timing information. The software functions like a 4 track tape recorder. The user performs music on one of the connected synthesizer, and all data is transmitted concerning the performance.

PASSPORT DESIGNS, INC.

116 N. Cabrillo Hwy, Half Moon Bay, CA
(415) 726-0280

Product Name: MUSIC BUSINESS SOFTWARE

Contact: Chris Albano, V.P. Marketing

Date Product Introduced: October 1983

Product Description & Applications: Passport Designs Inc. introduces a music business software package. Included are three software programs: Writers +, a complete software package functions designed exclusively for professional songwriters who earn their living through royalties obtained by songs which have been published or recorded; Picker +, designed for professional musicians and singers who earn their living through either studio or live work; Tour +, designed exclusively for touring musicians both amateur and professional, who wish to keep accurate and organized records in their busy and hectic surroundings.

PPG/USA

9542 Pollack Drive, Huntington Beach, CA 92646
(714) 964-5044

Product Name: M & A K2 ELECTRONIC DRUMS

Contact: Dave Shultz

Date Product Introduced: Fall 1983

Product Description and Applications: Electronic drum kit for live and studio use. 4 tom tom pads, 2 cymbal pads, base pad, snare pad, hi hat foot control. Drum heads are made of a foam backed, extra hard plastic, creating more of an acoustic drum feel. Complete set needs only one hardware mount for the entire kit. Comes with a complete rack mountable control panel.

Suggested List Price: \$2,200.

PPG/USA

9542 Pollack Drive, Huntington Beach, CA 92646
(714) 964-5044

Product Name: PPG/WAVE 212 SYSTEM DIGITAL SYNTHESIZER

Contact: Dave Shultz

Date Product Introduced: Spring 83

NEW PRODUCTS

MUSICAL PRODUCTS AND ACCESSORIES

1 · 9 · 8 · 4

Product Description and Applications: Digital synthesizer with analog filtering. Dynamic keyboard with user friendly front panel. On-board sequencer with split keyboard modes. Nearly 2000 wave forms. In and out clock interface for syncing to drums and sequencers, etc. Expandable to a closed computer terminal system for sampling and additive synthesis and mass sequence storage.

Basic Specifications and Suggested List Price: Sampling capability up to 50 k. Dynamic 6 octave wood and weighted keyboard. Expander unit to be introduced in 1984. \$7950. Terminal \$8950

SHELTON LEIGH PALMER & CO., INC.
360 East 57th St., New York, NY 10022
(212) 980-3445

Product Name: THE MASTER CLICK PROGRAM

Contact: Shelton Leigh Palmer, president

Date Product Introduced: September 1983

Product Description and Applications: The Master Click Program is an extensively documented computer program designed to help composers work in film and video. You enter your counts, indicate the most important hits, input an approximate tempo and the program outputs the best metronome setting in Beats Per Minute or Frames per Beat; beat location, duration and note values for each hit point in film, video, time and beats. The program makes post-scoring as easy as pre-scoring.

Basic Specifications and Suggested List Price: The Master Click Program with comprehensive manual is available for the Apple II, II+ and IIe (\$299.95) and for New England Digital's Synclavier II (terminal option required) (\$1,000). Manual may be purchased separately for \$99.95 (refundable with purchase) from Palmer Computer Services, 360 East 57th St., NY, NY 10022 (212) 980-3445.

SILVER-EAGLE DESIGNS, INC.

6747 Valjean Ave., Van Nuys, CA 91406
(213) 786-8696

Product Name: THE "SUPER" STRAP (FOR GUITARS/BASSES)

Contact: Mr. Lawrence Weisberg, President

Date Product Introduced: The "Super Strap"™ is a unique design which features the most popular "Hootenanny" fabric patterns backed with genuine leather, and combined with super strength, color-coordinated nylon webbing for extra strength, durability and safety! There are no metal buckles, metal rivets, plastic attachment pieces, or damaging vinyl used in this economically priced strap! This new design is 100% safe even when used under the most strenuous conditions. Because of the unique way the leather portion is attached to the webbing portion, the consumer quickly realizes that he is getting two straps for the price of one by merely reversing the direction that the strap is worn.

Product Description and Applications: 1) Two straps in one; 2) made with genuine leather backing (safe for all guitar and bass finishes!); 3) Special, non-metal, "sure-grip" buckle (eliminates accidental scratching and slippage!); 4) Adjustable up to 55" in length; 5) genuine, heavy-duty leather ends for strong, safe attachment; 6) stitched with heavy strength industrial nylon thread; 7) The most popular "Hootenanny" style fabric patterns and colors to choose from!; and 8) Absolutely no vinyl used in manufacturing of this strap!

SILVER-EAGLE DESIGNS, INC.

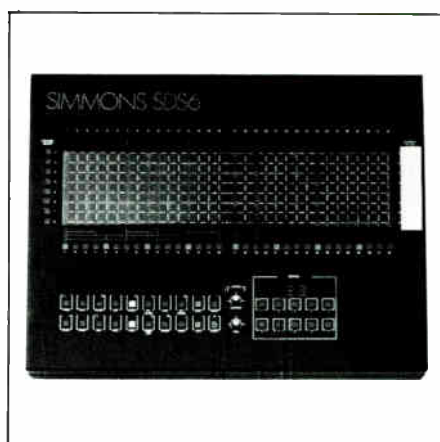
6747 Valjean Ave., Van Nuys, CA 91406
(213) 786-8696

Product Name: "MAXIMA" GOLD STRINGS™ (exclusively imported from Germany by S.E.D., Inc.)

Contact: Lawrence Weisberg, President

Product Description and Applications: "Maxima" Gold Strings provide a new dimension in quality and sound! Their newly treated metal wire core and wrap have been specially developed to provide a non-corrosive surface structure. All strings are coated with a layer of pure "gold." The added protection of the "gold plating" renders them impervious to corrosion, dirt, rust, changing environmental conditions and perspiration. They can be cleaned by simply wiping the strings off with a damp cloth! They project a noticeable improvement in intonation sound over other leading competitive string brands. Cosmetically speaking, "Maxima" Gold Strings are the Rolls Royce of strings and the unique "sound of gold" is quite unforgettable!

Basic Specifications and Suggested List Price: 1) Coated with a layer of pure "gold" making "Maxima" gold strings impervious to corrosion, longer string life; noticeable improvement in volume and clearness of sound; string sustain lasts much longer and remains truer in tone; & giving them a dynamic cosmetic appearance on all guitars and basses. 2) Available for all acoustic and electric guitars and basses in roundwound or flatwound styles, and in all the most popular string gauges.



S.D.S.6 ELECTRONIC DRUM SEQUENCER
Simmons Electronics

SIMMONS ELECTRONICS

24833 Jacob Hamblin Rd., Hidden Hills, CA 91302
(213) 884-2653

Product Name: S.D.S.6

Contact: Glyn Thomas, President

Date Product Introduced: July 1983

Product Description and Applications: S.D.S.6 Sequencer for the Simmons S.D.S.5 electronic drum synthesizer is a fully programmable 8 channel sequencer with a 32x8 LED display panel allowing the user to display visually any programmed drum pattern. Dynamic range of nine different values. 99 patterns of 99 songs and up to 250 sequences or songs. Comprehensive sync inputs and outputs allow compatibility with a multitude of electronic equipment.

Suggested List Price: List price \$2,800

SYE MITCHELL SOUND CO., INC.

22301 Cass Ave., Woodland Hills, CA 91364
(213) 348-4977

Product Name: "HOT STIX"

Contact: Sye or Ina Mitchell

Date Product Introduced: September 1983

Product Description and Applications: "Hot Stix" is a cassette system of pre-programmed software, designed for the drum computer owner who wants his machine to sound like real drums played by Marc Evars, thus eliminating the need to hire a programmer for your recording sessions. "Hot Stix" programs are available in rock, country, R&B, pop and new wave formats. Programming is available for Linn, DMX, Drumulator and MXR computer.

Basic Specifications and Suggested List Price: Each program is recorded on a standard cassette, ready to load into your drum computer. Each cassette holds 36 thematically related programs, which come in variable measure lengths and can be combined in any sequence to fit the song. Suggested list \$19.95

January, 1984

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DOD

For more information call or write
DOD Electronics Corp
2853 South 300 West
Salt Lake City, Utah
801-486-4534

N

EW PRODUCTS SIGNAL PROCESSING DEVICES

1 . 9 . 8 . 4

ADA
2316 Fourth St., Berkeley, CA 94710
(415) 548-1311, (800) 241-8888
Product Name: D640 DIGITAL DELAY

Contact: Lorry Marcus, Sales
Date Product Introduced: May 1983
Product Description & Applications: Digital delay with up to 640 ms of delay at 15 kHz bandwidth. 10:1 sweep range for the widest flange available of any digital delay. Phase reversal switch. Remote footswitch control of Repeat Hold and Effect Bypass. Regeneration Hi-Cut (EQ) variable between 15 kHz to 1.0 kHz.
Basic Specifications & Suggested List Price: Delay range: 0.25 to 640 ms. Bandwidth, delay: 20 Hz to 15 kHz. Dynamic range: 90 dB. Maximum input level: +20 dBV (ref. 775VRMS). Distortion (THD) @ 1 kHz: dry, 0 dBV, 0.5% max.; wet, 0 dBV, 1.0% max. Suggested list: \$499.95

ADVANCED MUSIC SYSTEMS

Wallstreams Lane, Worsthorne, Burnley, England
0282-36943 (England); (800) 637-5000 (USA)
Product Name: RMX 16 DIGITAL REVERBERATOR

Contact: Stuart Nevison (UK), Harry Harris (USA)
Date Product Introduced: September 1983
Product Description & Applications: The RMX 16 has been given 4 new program updates. Firstly a completely new program called chorus. Secondly the delay program now becomes echo with control of regeneration and EQ of each output. Finally the non-linear and reverse programs have been reprogrammed with a new stereo image. All earlier programs are available in bar code form for user programming via the RMX 16 remote terminal.
Basic Specifications & Suggested List Price: RMX 16 mainframe operates with a full 18 kHz bandwidth and has a 90 dB dynamic range.

ADVANCED MUSIC SYSTEMS

Wallstreams Lane, Worsthorne, Burnley, England
0282-36943 (England); (800) 637-5000 (USA)
Product Name: DE-GLITCH MODULE FOR DMX 15-80S STEREO PITCH

Contact: Stuart Nevison (UK), Harry Harris (USA)
Date Product Introduced: July 1983
Product Description & Applications: The AMS DMX 15-80S pitch changers have been acknowledged as providing the highest quality pitch changing available. The new de-glitch module further increases the quality of pitch changers in the DMS 15-80S and also allows for additional new processing possibilities.
Basic Specifications & Suggested List Price: DMX 15-80S has an 18 kHz bandwidth and 90 dB dynamic range. The de-glitched pitch changers operate over 2 octaves.

ADVANCING TECHNOLOGY

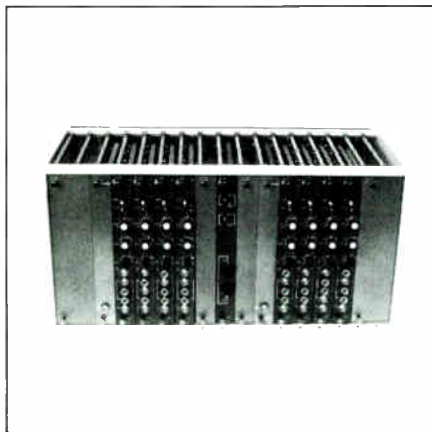
27106 46th Ave. So., Kent, WA 98032
(206) 854-1004
Product Name: DISCRIMINATE AUDIO PROCESSOR III
Contact: Brian Hayashi, General Manager
Date Product Introduced: November 1983
Product Description & Applications: The Discriminate Audio Processor III is a multi-band leveling device. Audio information is split into three bands and leveled independently, thus allowing compression free, controlled audio leveling. Leveling is accomplished via a unique VCA network. This allows distortion as low as 0.3% in hard compression. Uses would include live mixing, studio mixing/recording and broadcast applications.
Basic Specifications & Suggested List Price: Gain: variable. Compression: 2:1-30:1. Attack time: 2-20 microseconds. Release time: 1-2 seconds. Crossover points, adjustable with slope of 6 dB or 12 dB/octave, output to +21 dBm. Frequency response: ±0.50 dB/20 Hz-20 kHz.

APHEX SYSTEMS LTD.
13340 Saticoy St., No. Hollywood, CA 91605
(213) 765-2212

Product Name: COMPELLOR™
Contact: Paula Lintz, Marketing
Date Product Introduced: March 1983
Product Description & Applications: The Compellor™ is a

unique, revolutionary audio processing tool that combines the functions of an extremely fast, "intelligent" compressor with slow gain riding and an overall peak limiter. Two analog computers constantly monitor program dynamics and adjust operating parameter to suit, giving complete freedom from "breathing," pumping and the "choked" sound associated with deep compression. The result is a smooth, dense sound rich in transient quality with increased perceived loudness and brightness. Leveling maintains the audio in the soft knee of the compressor for constant compression as program level changes. The peak limiter catches all transients 12 dB over average level.

Basic Specifications & Suggested List Price: Controls: input, process balance (level/compress), output, silence gate threshold (freezes gain reduction if no program) in/out, stereo enhance. Metering: bi-color LED bar graph(2) showing 1) process (compression and leveling), 2) input/output (PK & VU). I/O: all electronic balanced XLR/less can do +27 dBm. Size: 1 1/4" x 19" x 9". Price: \$995.



SCAMP S27 4-BAND CROSSOVER AND SUMMING AMP
Audio + Design

AUDIO + DESIGN (Audio + Design Recording, Inc.)
P.O. Box 786, Bremerton, WA 98310
(206) 275-5009 / 275-5010

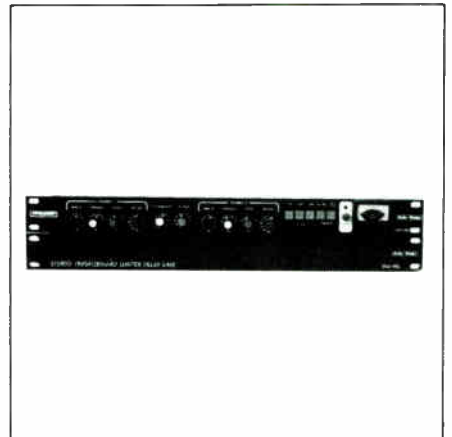
Product Name: STANDARDIZED COMPATIBLE AUDIO MODULAR PACKAGE (SCAMP) S27 4 BAND CROSSOVER AND SUMMING AMP
Contact: Kathleen Mallory
Date Product Introduced: April 1983
Product Description & Applications: The S27 module band splits a mono signal into four bands with crossover points at 220 Hz, 1.6 kHz, 4.5 kHz (these were chosen as optimum after much research and testing). The four signals are then routed for external processing (or if used as a crossover, to drive amplifiers) - e.g. F300 Expander/Gates for super effective noise reduction, S01 Compressor-Limiters for multi-band compression or selective limiting. They are then returned to the S27 and recombined.
Basic Specifications & Suggested List Price: Output: electronically balanced. Input differential (Clip level): +22 dBm. Sends: 4 band split outputs. Returns: 4 wide band mixer inputs. Distortion: better than .05% at 1 kHz. Crossover points at: 220 Hz, 1.6 kHz, 4.5 kHz, 12 dB/octave, no phase shift. Frequency response: overall - 5 dB/20 Hz - 20 kHz. Noise: better than -82 dBm. Price: \$340.

AUDIO + DESIGN (Audio + Design Recording, Inc.)
P.O. Box 786, Bremerton, WA 98310
(206) 275-5009 / 275-5010

Product Name: F601-D60 STEREO FEED FORWARD DELAY LINE LIMITER
Contact: Nigel Branwell
Date Product Introduced: July 1983
Product Description & Applications: The D60 Feed Forward Limiter Delay Line is an option for use with the F601 Superdynam-

ic Limiter and consists of a delay path and master control VCA. The D60 takes the performance of the Superdynamic to the logical limit, allowing the limiter to anticipate changes in waveform and level. The system was designed to protect 16 bit PCM inputs which are very critical to overload and allows maximum modulation of the PCM system. It can, of course, be used wherever a high quality limiter is required.

Basic Specifications & Suggested List Price: Frequency response: +0 -0.5 dB/20 Hz to 20 kHz. Distortion: Less than 0.3%. System dynamic range: 105 dB. Noise: 96 dB. Input/output differential balanced. Limit scope: 20:1. Threshold stepped variable: +4 dBm to +15 dBm. Limiter range: 30 dB. Price: F601 mono: \$990; F601 stereo: \$1,490; D60 delay line: \$560.



F601-D60 STEREO FEED FORWARD DELAY LINE LIMITER
Audio + Design

AUDTRONICS
3750 Old Getwell, Memphis, TN 38118
(901) 362-1350

Product Name: PPEQ PROGRAMMABLE PARAMETRIC EQUALIZER SYSTEM
Contact: Larry Lamoray, Marketing Manager
Date Product Introduced: April 1983
Product Description & Applications: Designed for audio production use where it is desirable to store equalization setting for instant recall keyed to event changes. It includes up to 4 mono or stereo tracking 3 band equalizer units, with variable Q, variable boost/cut on each band. High and low bands also include peak/shelf capability and each band has a separate in/out switch. Each equalizer unit has 32 on-board non-volatile memories and an interface to accept serial or parallel controls from an external source. All parameters are software controlled and displays are provided for each parameter to enable viewing of all settings at a glance. A remote control is optionally available.
Basic Specifications & Suggested List Price: 4 mono equalizer system: \$9446. Dual stereo equalizer system: \$6098.

BLACET MUSIC RESEARCH
18405 Old Monte Rio Rd., Guerneville, CA 95446
Product Name: TIME MACHINE™ DELAY LINE
Contact: John Blacet

Date Product Introduced: January 1983
Product Description & Applications: The Time Machine™ is an ultra compact, professional delay line with the classic analog sound. All functions can be voltage controlled. This includes: effect mix level, delay time, LFO rate and level, and regeneration. In addition, the unit provides an LFO sync input, an external modulation input, and an envelope follower output. Extra care has been taken to engineer a unit that is stable, quiet, and extremely versatile. It is especially useful for synthesizer applications.
Basic Specifications & Suggested List Price: Control voltage range: 0-10 V. Delay time: 10-200 ms/20-400 ms. Filters: anti-

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the most respected studios and on tour throughout the world. The XL-210 provides performance that is far superior to what has previously been considered the best of inexpensive reverbs and establishes the new standard for excellence in systems priced below \$1,000.

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AUDIO PRODUCTS, INC.
2995 Ladybird Lane
Dallas, Texas 75220 (214) 352-3811

alasing 4th order clock 6th order ICs Curtis LFO VCO VCA 11.074 op amps Noise reduction companding pre-emph basis Size (mini rack) 10"x6"x2" Price mini rack \$450 19 rack \$500

BROADCAST TECHNOLOGY, INC.
33 Comac Loop, Ronkonkoma, NY 11779
(516) 588-6565

Product Name: MODEL SP9510 SIGNAL PROCESSOR
Contact: Don Richter, Marketing Manager
Date Product Introduced: April 1984
Product Description & Applications: The SP 9510 Signal Processor is a rack mountable 8 1/4" high sophisticated 10 band graphic equalizer on ISO octave centers. It is DC controlled permitting static and dynamic control of each band. It can alter sonic perspective and achieve selectable parametric boundaries simultaneously and safely provides mixers, producers, artists or broadcast station management with a creative tool of almost limitless possibilities. Subjective loudness can be measured and controlled yet processing artifacts are virtually nonexistent.
Basic Specifications & Suggested List Price: Threshold boost cut and slope controls manipulate the dynamics of each band. LED displays monitor energy within bands and drive the selectable boundaries. Additional displays monitor the input and output which are controlled by rotary potentiometers. Linear potentiometers control the 10 band static graphic equalization. Price mono \$4,900, stereo \$5,250

CARVIN MFG.
1155 Industrial Ave., Escondido, CA 92025
(619) 747-1710

Product Name: EQ-2029
Contact: Neal Taylor, Sales Manager
Product Description & Applications: The EQ 2029 equalizer is a professional quality 1/3 octave equalizer with very accurate summing and tuned frequency centers. Fully balanced inputs and outputs and 112 dB signal-to-noise ratios only hint at the quality and advanced engineering backing the EQ 2029.
Basic Specifications & Suggested List Price: Frequency response 20 Hz to 20 kHz Boost cut ± 15 dB High pass filter 12 dB octave below 20 Hz Low pass filter 12 dB octave above 20 kHz Maximum output +22 dBV into 600 ohms S/N 112 dB Power req 110/220 VAC 50/60 Hz Weight 15 lbs Price \$259

CARVIN MFG.
1155 Industrial Ave., Escondido, CA 92025

NEW PRODUCTS

SIGNAL PROCESSING DEVICES

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(619) 747-1710
Product Name: EQ-2020
Contact: Neal Taylor, Sales Manager
Product Description & Applications: The EQ 2020 is a stereo 10 band equalizer. Active bandpass filtering with precision electronic components assure exact filter frequency centers. High/low pass filters balanced inputs and outputs and over 112 dB S/N ratios. A truly professional stereo graphic equalizer for any number of precision filter needs.
Basic Specifications & Suggested List Price: Frequency response 20 Hz to 20 kHz Boost cut ± 15 dB High pass filter variable from 10 Hz to 500 Hz Low pass filter variable from 2 kHz to 50 kHz Weight 12 lbs Price \$249

CASTLE INSTRUMENTS
2 Carteret Court, Madison, NJ 07940
(201) 377-8185

Product Name: CHORUS/ECHO I & II
Contact: Ben Cahill, owner
Date Product Introduced: May 1984
Product Description & Applications: High quality analog delay provides more versatility than most digital units. Delay time can be continuously entered and modulated over entire available range with no inhibiting range switches. Chorus/Echo II creates multi-layer chorusing and multi-slapback echo with extra delay chip. Delay Bandwidth product is automatically maximized for any delay time with voltage controlled anti-aliasing filters. High quality features include Reticon time delay chips, the Castle Noise Reduction system, mil-spec pots, BIFETICs. Many semi-custom control inputs, output and stereo options available.
Basic Specifications & Suggested List Price: Delay range 2-500 msec (2-1000 msec for Chorus/Echo II) Bandwidth 20 kHz at 43 msec and less 7 kHz (14 kHz for CE II) at 100 msec Control rate 1 minute 100 Hz modulation width time enter emphasis repeat blend + delay select for CE II Power 120 VAC 220 VAC available Dynamic range 90 dB Packaging 19" rack 1/2" Dual rack pedal List prices Chorus/Echo I Rack \$149 Chorus/Echo II Rack \$159

\$149 Chorus/Echo II Rack, \$599 Chorus/Echo I Dual Rack \$949 Chorus Echo II Dual Rack \$1159

CASTLE INSTRUMENTS
2 Carteret Court, Madison, NJ 07940
(201) 377-8185

Product Name: FLANGER/CHORUS I & II
Contact: Ben Cahill, owner
Date Product Introduced: May 1984
Product Description & Applications: Quiet ultra controllable short delay covers all popular flanging and chorusing effects in one cost effective device. "Multi-layer" flanging and chorusing (Flanger/Chorus II) is done by adding a second delay producing a very pleasing fattening/flanging, chorusing and doubling (in this case tripling) bandwidth is automatically maximized for any time delay by using voltage-controlled anti-aliasing filters. This enables a very bright flanging effect, as well as very broad chorusing, without the encumbrance of a "range" switch. Many control voltage I/O and stereo options.
Basic Specifications & Suggested List Price: Delay range 0.25-50 msec (0.25-100 msec for Flanger/Chorus II) Bandwidth 20 kHz at 4 msec and less 4 kHz 8 kHz for FC II at 20 msec Control rate 1 minute 100 Hz modulation width delay enter emphasis/repeat, blend, + delay select for flanger/chorus II Dynamic range 90 dB Power 120 VAC (220 VAC available) Packaging 19" rack 1/2" Dual rack pedal List prices Flanger/Chorus I Rack \$329 Flanger/Chorus II Rack \$419 Flanger/Chorus I Dual Rack \$799 Flanger/Chorus II Dual Rack \$949

CONNECTRONICS CORPORATION
652 Glenbrook Rd., Stamford, CT 06906
(203) 324-2889

Product Name: ACCESSIT
Contact: Richard J. Chivers, Vice President
Date Product Introduced: late 1982
Product Description & Applications: Accessit line of audio signal processors manufactured by Bandwe, Ltd. in the UK. This budget line of units is designed on a modular basis and can be rack mounted. The line includes compressor, noise gate, reverb unit, dual sweep EQ, power amp, 18 way normalize patch bay.
Basic Specifications & Suggested List Price: All units in the Accessit range are constructed in a unique box measuring 142 x 132 x 43 mm with a complete shield incorporated into its design. Except for the power amp, the units require a 30 volt unregulated DC power supply. Power supplies are available in the same format to power to 10 units or more. Retail prices compressor \$149 noise gate \$149 reverb \$349 equalizer \$149 power amp \$195 mod patch \$179

DELTALAB RESEARCH, INC.
19 Alpha Rd., Chelmsford, MA 01824
(617) 256-9034

Product Name: SUPER TIME LINE ADM-2048 (ADM-512)
Date Product Introduced: June 1984
Product Description & Applications: DeltaLab is proud to introduce the super Time Line series. These units are the first "low cost" truly affordable full bandwidth (16 kHz) programmable digital delay signal processors. Both the ADM 512 and the ADM 2048 are simple to program and are easily addressable via the front panel or the accessory remote control. The ADM 512, with a suggested U.S. retail price of only \$799 is a full bandwidth wide dynamic range programmable special effects processor that features flanging, doubling, chorusing and echo effects with up to 512 milliseconds of high performance digital delay. The ADM 2048 is identical to the ADM 512 except that it provides the user with over two seconds (2048ms) of high performance full bandwidth (16 kHz) all delay settings delay. The ADM 2048 has a suggested retail price of \$999. DeltaLab has established a new standard in performance, quality simplicity, programmability and low cost. We have redefined the price point for high end programmable digital delay equipment.

DELTALAB RESEARCH, INC.
19 Alpha Rd., Chelmsford, MA 01824
(617) 256-9034

Product Name: ECHOTRON MODEL ADM-4096
Date Product Introduced: June 1984
Product Description & Applications: The Echotron is designed for DeltaLab's consumers who have requested a solid state digital delay loop with long delay capability. The delay range is from 256ms (1/4 sec) to 4096 (4 sec), all at full bandwidth (16 kHz) allowing you to produce short to extremely long high quality echoes. The unit also offers Infinite Repeat capabilities for storing sound digitally, without any signal degradation. Sound on sound can be added by using the feedback control, in conjunction with the Infinite Repeat, allowing you to produce over four seconds of repetitive high quality audio digitally. You can sync your favorite drum machine to it. All for a retail price of \$699.

DELTALAB RESEARCH, INC.
19 Alpha Rd., Chelmsford, MA 01824
(617) 256-9034

Product Name: EFFECTRON II (ADM-64/ADM-256/ADM-1024)
Date Product Introduced: June 1983
Product Description & Applications: The Effectron II series products are an enhanced Effectron series. The ADM-64 provides

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a full three octaves of flanging (8 to 1 flange ratio), making it the widest range digital flanger manufactured. The ADM-64 also includes an internal envelope follower that provides incredible flanging effects. Doubling and short echoes are other features of the ADM-64 ranging from 16ms to 64ms, allowing you the freedom to create various multi track effects. The ADM-256 offers from 0.25ms to 256ms of delay and the ADM-1024 offers from 0.25ms to 1024ms of delay, both with no signal degradation at all settings. The ADM-256 and ADM-1024 are complete signal channel special effects processors providing effects such as flanging, doubling, chorusina and echo. By adding feedback and VCO, vibrato, tremolo, chorusing and multiple echoes are possible. Each unit includes an infinite repeat button, allowing you to put music into memory and by using feedback you can continue to add to your music in digital memory. The ADM-1024 offers a "remote" infinite repeat capability. Our Effectron II series units maintain full audio bandwidth (16 kHz) and full dynamic range (90 dB typ.) at all delay settings.

NEW PRODUCTS

SIGNAL PROCESSING DEVICES

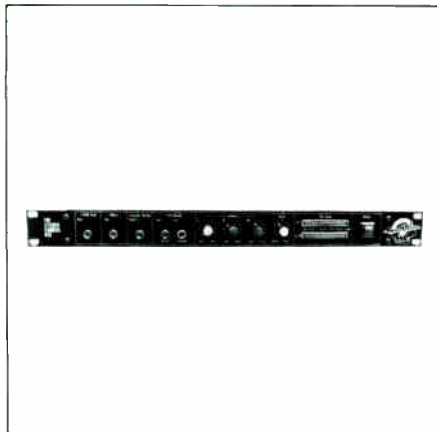
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enhances and clarifies the bass and lower mid-frequencies, making it the first psychoacoustic processor for bass. Other new features include sweepable frequency counterpoint control, process noise gate with threshold and release speed controls, adjustable process limiter to prevent high frequency splash condense program material, 0 dB or -20 dB switchable XLR input/output for line level or mike/direct use, and a peak level switch.

Basic Specifications & Suggested List Price: Max input/output +27 dBv (level switch 0 dB), +7 dBv (level switch 20 dB) Input: Balanced input instrumentation amp-type. Output transformerless AC floating circuit impedance 150 ohm. -20 +6 dBv 12 segment LED level indicator. Noise gate threshold range -40 dBv, -5 dBv (level switch 0 dB), -60 dBv -25 dBv (level switch 20 dB). Power supply: US 117 VAC 50/60 Hz, 10VA, internally switchable to 230 VAC 50/60 Hz. Signal to noise ratio: better than 90 dB. XLR connectors 1 = ground, 2 = (-) 3 = (+).



EXR EXCITER MODEL EXIV
EXR Corporation



TRI STEREO CHORUS 618
Dyno My Piano

DYNO MY PIANO

P.O. Box 1007, Burbank, CA 91507
(213) 845-7864

Product Name: TRI STEREO CHORUS 618

Contact: Chuck Monte, President

Date Product Introduced: July 1983

Product Description & Applications: Tri Stereo Chorus incorporates three distinct waveforms of chorus. Intensities I (left) II (middle) III (right) allow engineer to duplicate any existing chorus as well as create new chorus colors. The 618 automatically varies phase of left and right outputs in stereo. LFO Mode selector offers a preset and/or manual of rate and intensities I, II, III. This feature allows six wave-forms and two speeds of chorusing to occur simultaneously. Rate controls delay of response allows gradual increase or decrease of speed, also triggered via footswitch.

Basic Specifications & Suggested List Price: 116 dB unpre-amplified in-room and signal to noise and frequency response make the Tri Stereo Chorus 618 state-of-the-art—the chorus of the 80s. Street at \$1,195 available direct ONLY through Dyno My Piano P.O. Box 1007, Burbank, CA 91507 (213) 845-7864. STUDIO DISCOUNTS AVAILABLE.

EVENTIDE CLOCKWORKS, INC.

265 West 54th St., New York, NY 10010
(212) 581-9290

Product Name: SP2016 EFFECTS PROCESSOR/REVERB

Contact: Suzanne Langle, Marketing

Product Description & Applications: This totally programmable signal processor provides a wide variety of audio effects including a whole group of reverb programs. Among the features of the SP2016 are software plug-in ROMs, an alphanumeric display, self-test mode, comb filter effects, Digiplex echo, full and selective band delay, and more. All effects allow for user control of all parameters.

New audio effects for the SP2016 will be introduced at the AES Convention in October.

Basic Specifications & Suggested List Price: Configuration: stereo in and out, independent of bandwidth. Bandwidth: 16 kHz with most programs. Some programs are 8 kHz. Input characteristics: stereo in, impedance nominal 10k, balanced, maximum input level +24 dBm. Full dynamic range from -10 dBm to +24 dBm levels. Output characteristics: stereo out, impedance nominal at 150 ohms. Suitable for driving 600 ohms or greater at +18 dBm. Electrified balanced. Size 3 1/2" x 19" x 12". Price \$8995.

EXR CORPORATION

3373 Oak Knoll Dr., Brighton, MI 48116
(313) 227-6122

Product Name: EXR EXCITER MODEL EXIV

Contact: James Cassily

Date Product Introduced: January 1983

Product Description & Applications: The new fourth generation EXR Exciter has incorporated a new process setting ("A") which

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Only ADA gives you your choice at your price — 640ms for \$499.95 or 1280ms for \$699.95. Professional equipment backed by a full, one-year warranty.

For more information, call: 800-241-8888. In California and Canada 415-548-1311. Australia 61/2 371 9009. France 33/7 237 7390. Italy 39/2 817839. Netherlands 31/2 158 1683. Telex 470 880 ADA UI.

ADA
ADA SIGNAL PROCESSORS
2036 COLQUHOUN STREET, BURLINGAME, CA 94010
(415) 241-8888

INOVOINICS, INC.
503-B Vandell Way, Campbell, CA 95008
(408) 374-8300

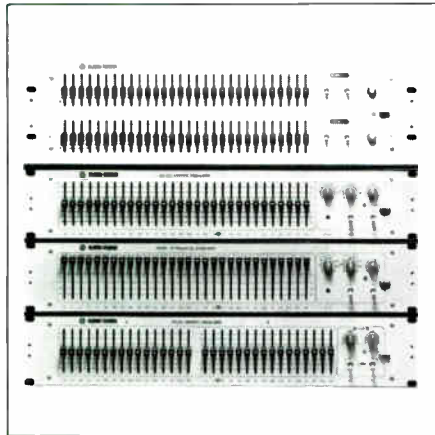
Product Name: INOVONICS 250 - DIGITALLY PROGRAMMABLE AUDIO PROCESSOR

Contact: Jim Wood, President

Date Product Introduced: April 1983

Product Description & Applications: The Inovonics 250 is a programmable stereo audio processor which combines slow gain riding A.G.C., 5 band compression, 5-band graphic EQ and split band final peak limiting. Processing parameters may be pre-programmed and remotely selected with switch closures to ground. Alternately, an optional computer interface card puts the processor under continuous on-line control via the RS-232C serial data interface buss.

Basic Specifications & Suggested List Price: Response ± 0.5 dB, 10 Hz - 15 kHz. Noise -70 dB re 0 VU. Crosstalk -60 dB re 0 VU. Distortion 0.25% THD at 10 dB comp & 10 dB limit. VCA pulse width modulation, 100 kHz clock. Price: \$2,645.



300 SERIES EQUALIZERS
Klark-Teknik Electronics Inc.

KLARK-TEKNIK ELECTRONICS INC.
262a Eastern Parkway, Farmingdale, NY 11735
(516) 249-3660

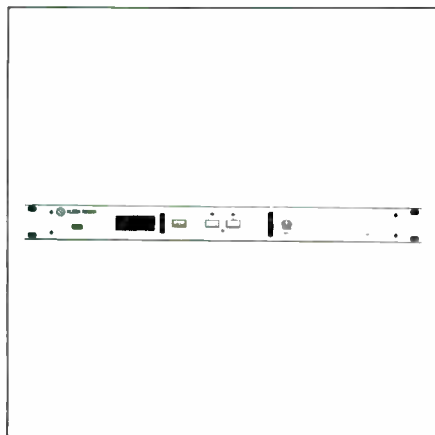
Product Name: 300 SERIES EQUALIZERS

Contact: Jack Kelly, President

Date Product Introduced: July 1983

Product Description & Applications: The Klark-Teknik 300 Series Graphic Equalizers include the DN360 (dual 1/3 octave), DN400 (single 1/3 octave), DN301 (single 1/3 octave attenuating) and the DN342 (dual 2/3 octave). The entire series is based on Klark-Teknik's proprietary micro electronic filter circuits and thick film technology. Applications include live sound reinforcement, studio control room equalization, dialog sound equalization, and broadcast EQ for maximum on-air level.

Basic Specifications & Suggested List Price: Input electronically balanced. Output unbalanced +22 dBm (transformer balancing optional). EIN -90 dBm. Distortion 0.1% at 1 kHz, +4 dBm. All connections are 3 pin XLR. DN360 \$1500, DN301 \$980, DN300 \$900, DN342 \$1000.



DN701 DIGITAL DELAY LINE
Klark-Teknik Electronics, Inc.

KLARK-TEKNIK ELECTRONICS INC.
262a Eastern Pkwy., Farmingdale, NY 11735
(516) 249-3660

Product Name: DN701 DIGITAL DELAY LINE

Contact: Jack Kelly, President

Date Product Introduced: August 1983

Product Description & Applications: The DN701 is a digital

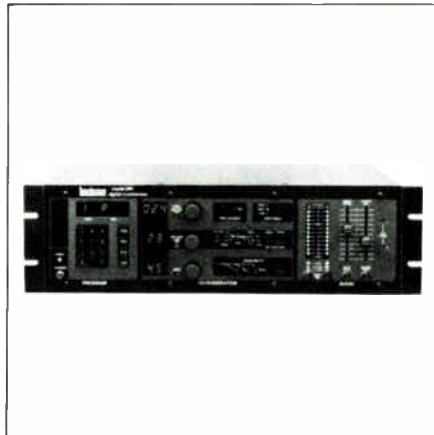
NEW PRODUCTS

SIGNAL PROCESSING DEVICES

1 · 9 · 8 · 4

delay line with one input and three independently adjustable outputs. Delay can be set from 0 to 1.2 sec. in 26.5 microsecond increments. The delay settings are stored even when power is off, and the same switch on the front panel acts on an electronic security cover. The DN701 is designed for installations requiring delay to compensate for time delay due to speaker placement.

Basic Specifications & Suggested List Price: DN701 delay 0 to 1.2 seconds. Input (1), electronically balanced. Outputs (3), +10 or +18 dBm, preset internally. Bandwidth: 15 kHz at full delay. Dynamic range: 86 dB.



MODEL 200 DIGITAL REVERBERATOR
Lexicon, Inc.

LEXICON, INC.
60 Turner St., Waltham, MA 02154
(617) 891-6790

Product Name: MODEL 200 DIGITAL REVERBERATOR

Contact: Virginia Casale, Marketing Services Manager

Date Product Introduced: August 1983

Product Description & Applications: A fully professional digital reverberation system which simulates rooms of any size and a wide range of plates and chambers of any volume. The Model 200 offers three reverb programs (Concert Hall, Plate Chamber, 40 factory presets, and 10 non-volatile memories for user-generated setups). User controls include Variable Reverb Time (with frequency contour), Pre-Delay, Size (apparent volume), Pre-Echoes, Diffusion, Holloff, variable level and blend. The Model 200 which will operate in stereo or mono should become a benchmark in affordable pro-quality reverberation.

Basic Specifications & Suggested List Price: Reverberation programs: concert hall, plate, chamber. Decay time: 0.2 sec. to 70 sec. Apparent room volume (size): 1 to 1,000,000 cubic meters. THD and noise: 0.04% typical. Frequency response: 20 Hz to 10 kHz ± 0.5 dB. Dynamic range: 84 dB typical. Price: \$4,800.



LEXICON ALPHANUMERIC REMOTE CONSOLE (LARC)
Lexicon, Inc.

LEXICON, INC.
60 Turner St., Waltham, MA 02154
(617) 891-6790

Product Name: LEXICON ALPHANUMERIC REMOTE CONSOLE (LARC)

Contact: Virginia Casale, Manager of Marketing Services

Date Product Introduced: July 1983

Product Description & Applications: The LARC controller is a retrofittable option for the Lexicon 224X Digital Reverberator/Effects unit. Extensive alphanumeric prompting assists operators in utilization of the X's extensive processing capabilities. Off-line storage and recall of memory registers is provided via an audio tape interface. The LARC uses standard serial type communication, allowing remote operation up to 1,000 ft. over lightweight flexible cable. Simple, high speed access to the total power of the Model 224X is now available for all existing and potential users of this processor.

Basic Specifications & Suggested List Price: Display: LED alphanumeric 48 characters. Controls: 6 assignable analog slider controls. Keys: 10 key numeric pad, 10 function keys, 6 slider assignment keys. Tape interface: 600-Baud DIN connector. Interface: RS422 9600-baud serial, DB-9 connectors. 50 ft. cable standard. Price: 224X w/LARC option \$12,500. Retrofit for existing 224X \$800. (Contact factory.)

LT SOUND

2605 Mountain Industrial Blvd., Suite 10, Tucker, GA 30084
(404) 493-1258

Product Name: RCC WITH MICROPLATE

Contact: Lacy Thompson, Jr., Owner

Date Product Introduced: May 1983

Product Description & Applications: An extremely high quality mono reverberation unit with an excess of 18 kHz frequency response on the reverb! Outperforms small plate reverb systems in sound quality.

Basic Specifications & Suggested List Price: Frequency response: reverb 20 - 19k Hz. Dynamic range: 80 dB. Resonance to noise floor: 90 dB. Distortion: less than 15% at resonance. Suggested list price: \$600.

LT SOUND

2605 Mountain Industrial Blvd., Suite 10, Tucker, GA 30084
(404) 493-1258

Product Name: CLX-2

Contact: Lacy Thompson, Jr., owner

Date Product Introduced: March 1983

Product Description & Applications: Two channel compressor/limiter/expander incorporates EGC 101 VCA and "ripple window" for "distortionless" compression (patent pending). Ducking, de-essing, stereo tracking (push button), and keyed expansion are some features. Simultaneous compression and expansion on each channel. Knee compression switchable in or out.

Basic Specifications & Suggested List Price: Dynamic range: greater than 110 dB. Distortion: less than 0.06% S/N ratio: greater than 90 dB (A wtd.). Frequency response: ± 5 dB 20 - 30 kHz. Max in: +26 dBV. Max out: +20 dBV. List: \$895.

MODULAR AUDIO PRODUCTS

50 Orville Drive, Bohemia, NY 11716

(516) 567-9620

Product Name: STEREO COMPRESSOR/LIMITER 7102

Contact: John Visser, Audio Product Manager

Date Product Introduced: January 1983

Product Description & Applications: This unique compressor/limiter contains two full VCA units controlled by a single DC source derived from a novel circuit using a true RMS to DC converter. Input threshold control, compression ratio control, Slow/fast release time switch, output level control. LED indicators for normal and peak levels. Left and right VU meters for input/output levels.

Basic Specifications & Suggested List Price: Rack mount 19" w, 9" d, and 1 3/4" h. Threshold: min -5 dBm. Compression ratio: continuously adjustable 1:1 to 20:1, limit. Input/output levels: +20 dBm max. Frequency response: ± 0.5 dB at threshold, 30 Hz to 20 kHz. Distortion: less than 0.5%, 30 Hz to 20 kHz. Output noise: less than -90 dBm. 40 Hz to 20 kHz. Price: \$815.

NEI

934 N.E. 25th Ave., Portland, OR 97232

(503) 232-4445

Product Name: 2711X DIGITAL EQUALIZER/RTA

Contact: Bud Garrison, President

Date Product Introduced: June 1983

Product Description & Applications: Computer assisted digital equalizer/RTA combines functions of 27 band, 1/3 octave equalizer with Real Time Analyzer. On board microcomputer stores and recalls gain settings on each of 27 ISO centered filtering bands. Storage of EQ settings can be recalled by the push of a button. Additionally, using the RTA and internal pink noise generator, the 2711X performs computer controlled equalization. Additional single LEDs give status information on functions interactively programmed with 4 switches via the 4-character alpha-numeric display. To make servicing less demanding, unit also has a built in set of diagnostic tools.

Basic Specifications & Suggested List Price: List price: \$1,995. Internal microcomputer: 8 bits CPU, 2K bytes RAM, 4K bytes firmware in PROM, expandable to 12K bytes total with optional expansion interface cards. Switched capacitor filter (SCF) circuit driven by stable clock frequency: 40 Hz to 16 kHz in 27 ISO centered bands. 27 band equalization with computer memory of gain settings. Computer-assisted real time analysis of audio spectrum in 1/3 octave bands. Automatic equalization by computer, using pink-noise generator.

Everyone Says They're Better — We Prove It!



- Time Delay
- Reverberation
- Crossovers
- Tape Noise Reduction
- Compressor / Limiters
- Expanders
- Spectrum Analyzers
- Parametric EQ

With all the strong claims by advertisers, it's not easy to distinguish between the hot air and the hot products. That's exactly why we prepared this demonstration album. In it we show you what our products do and how they compare with the best of our competition under identical circumstances.

You will hear our phenomenal MICROPLATE[®] Reverb with over 18 KHZ bandwidth in side by side reverb only comparisons with the EMT[®] Plate on percussion and vocals. No other spring reverb would dare attempt such a comparison! The cost is incredible too, under \$600 mono, \$1,200 in stereo!

We also show our CLX-2 Compressor/Limiter/Expander in side by side comparisons with the dbx[®] 165 and illustrate the CLX's audibly superior freedom from distortion as well as its other abilities of De-Essing, Expansion, Keyed Expansion, Push button Stereo Tracking, and Ducking.

Other demos feature our exceptionally versatile parametric equalizers, time delays and tape noise reduction. Examples are drawn from the master tapes of top 40 Hits and show some of the most sophisticated recording techniques ever devised. Let your ears decide who sounds best before you buy. Only direct sales allow us to offer a superior product at prices lower than the competition.

Write or call for a free 24 page brochure and demo album.

**LT Sound, Dept. MX-1, P.O. Box 338,
Stone Mountain, GA 30086 Phone (404) 493-1258**

LT Sound

We Make A Better Product

ORBAN ASSOCIATES INC.
645 Bryant St., San Francisco, CA 94107
(415) 957-1067
Product Name: MODEL 536A DYNAMIC SIBILANCE CONTROLLER

Contact: Sid Goldstein, Marketing Manager
Date Product Introduced: January 1983
Product Description & Applications: The Model 536A Dynamic Sibilance Controller is a two-channel unit featuring the same proven circuitry as the popular single-channel 526A. However, a lower price results from better packaging economy and elimination of the mike-level input found on the 526A. The 536A has circuitry to provide constant de-essing with input levels which vary as much as 16 dB. De-essing is adjusted with a single threshold control per channel, which makes the unit easy to set up in time pressure situations. Dual LEDs provide accurate indication of de-essing action. A click-free in/out switch allows for use during program without clicks or pops. Active balanced inputs and outputs are standard with transformer output option.

Basic Specifications & Suggested List Price: Suggested list price \$539 THD better than 0.025% 20-20,000 Hz at +24 dBm. Input level -10 or +4 dBm. Gain +20 dB or +6 dB (dependent on input strap). Suggested applications: subtle de-essing of singers, announcers, actors, DJs, and TV newsroom personalities in a wide range of recording, broadcast video/film, and live sound applications.

PHOENIX AUDIO LABORATORY, INC.
91 Elm St., Manchester, CT 06040
(203) 649-1199

Product Name: LOFT MODEL 400 QUAD GATE/LIMITER
Contact: John H. Roberts, President
Date Product Introduced: June 1983
Product Description & Applications: The Loft Model 400 Quad Gate/Limiter contains 4 independent feed-forward limiters with a noise gate on each channel, all contained in a single rack space package. Front panel adjustments include limit threshold, attack/release time, noise gate threshold, and a polarity reversal for each channel. The protected version (controls are screw driver accessible) retails for \$599; the studio version with knobs costs \$649. Applications range from amp speaker protection to multi-track signal processing.
Basic Specifications & Suggested List Price: Max input +26 dBv. Limit threshold -12 dBv to +12 dBv adjustable. Gate threshold 0 dBv to off. Output 600 ohms electr. bal. Input 20 k electr. bal.



GE 27 STATE VARIABLE GRAPHIC EQUALIZER
Rane Corporation

RANE CORPORATION
6510-D 216th SW, Mountlake Terrace, WA 98043
(206) 774-7309
Product Name: GE 27 STATE VARIABLE GRAPHIC EQUALIZER

Contact: Larry Winter, Vice President Marketing
Date Product Introduced: March 1983
Product Description & Applications: The GE 27 is a 1/3 octave graphic equalizer with 27 state variable filters on ISO centers which maintain a constant 1/3 octave bandwidth at all slider positions. 45 mm sliders provide 12 dB boost and 15 dB cut. Level control provides up to 12 dB gain, hard-wire bypass switch, signal and overload LEDs, output relay and stereo 1/4" RTS auto unbalanced/balanced input and auto unbalanced/floating output (compatible with balanced systems).
Basic Specifications & Suggested List Price: Signal/noise 91 dB below +4 dBm output, unweighted THD less than .006%, slew rate greater than 10V/microsecond, +22 dBm maximum input level, +20 dBm output into 600 ohms ultra-, sub-sonic and RFI filters. Suggested list price \$449.

ROLAND CORP. U.S.
7200 Dominion Circle, Los Angeles, CA 90040
(213) 685-5141

NEW PRODUCTS

SIGNAL PROCESSING DEVICES

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Product Name: SDE-3000 DIGITAL DELAY/SDE-1000 DIGITAL DELAY

Contact: Ray Baragary, Communications
Date Product Introduced: June 1983
Product Description & Applications: Two new digital delays, featuring up to 4.5 seconds of programmable delay and utilizing up to 8 channels, will be shown at AES. All the control settings with the exception of input attenuation can be stored in memory. Effect patches can then be changed with a remote foot switch.
Basic Specifications & Suggested List Price: Price not established at press time.

SONY CORPORATION OF AMERICA
Sony Drive, Park Ridge, NJ 07656
(201) 930-1000

Product Name: DRE-2000 DIGITAL REVERBERATOR
Contact: Rick Plushner, National Sales Manager / Compton CA 214 517 4300
Date Product Introduced: April 1983
Product Description & Applications: The DRE 2000 Digital Reverberator now offers expanded software providing greater programming capacity and additional acoustic parameters. The new features are available to upgrade previous systems at no expense. Improvements include wider stereo width of reverberation, higher echo density, smoother, more natural decay and the addition of a second, independently controlled, early reflection. In addition to factory pre-set memory modes, the new unit now offers the user the ability to compose complex programs of acoustic characteristics for instant recall.
Basic Specifications & Suggested List Price: 16-bit digital quantization, 4 reverberation space modes, 2 echo modes, 7 delay modes built-in A/D & D/A converters, interfaces directly with either digital or analog systems, rack mountable, hand held remote keyboard, 10-program memory, time displays available.

STUDIO TECHNOLOGIES, INC.
6666 N. Lincoln Ave., Lincolnwood, IL 60645
(312) 676-9400

Product Name: STEREO SYNTHESIZER
Contact: James Cunningham, President
Date Product Introduced: October 1983
Product Description & Applications: Creating stereo in a multi-track mixdown process has largely been a pan-pot function. Yet, it has long been known that the complex and subtle time and intensity differences between two channels are what make the stereo effect happen. Recent computer models and cross-correlation studies have led to the design of a more effective mono to stereo synthesizer.
Basic Specifications & Suggested List Price: Nominal input and output levels +4 dBm (re 775v). Maximum input and output levels +24 dBm (re 775v). Total harmonic distortion 5%. Frequency response 20 to 15 kHz. Signal to noise 80 dB. Rack space required 1 1/4".

SUNDHOLM ELECTRONICS
P.O. Box 1471, Lake Oswego, OR 97034
(503) 635-9373
Product Name: MODEL 302 STEREO ELECTRONIC CROSSOVER

Contact: Conrad Sundholm, President
Product Description & Applications: The Sundholm 302 is a 2 channel 3 way electronic crossover utilizing a Linkwitz-Riley filter alignment with 24 dB/octave slopes. This alignment offers flat summed amplitude response without notches or peaks, and outputs which are in phase at all frequencies, resulting in a stable on-axis acoustical radiation pattern at crossover. The Sundholm 302 is one of a family of six quality, low noise, crossovers offering these performance advantages.
Basic Specifications & Suggested List Price: Frequency response ± 5 dB 20 Hz - 20 kHz THD less than 0.1%, hum and noise less than -95 dBm (unweighted), maximum input +26 dBm gain ± 9 dB maximum output +20 dBm into 600 ohm floating and balanced 24 dB/octave variable high pass 20 Hz - 200 Hz Crossover frequency 201 202 (2-way) 100 Hz 10 kHz 301 302 (3-way) 100 Hz 10 kHz 800 Hz - 8 kHz 401 402 (4-way) 30 Hz - 300 Hz 100 Hz 1 kHz 800 Hz - 8 kHz. Price for 302 is \$395.

UNICORD
89 Frost St., Westbury, NY 11590
Product Name: KORG PROFESSIONAL MODULAR EFFECTS PME-40X
Contact: Mitch Colby, Product Manager
Date Product Introduced: June 1983
Product Description & Applications: An advanced effects system which combines the convenience and low cost of individual effects used in a pedalboard with the quality of professional rack

mountable signal processors. The outstanding dynamic range, frequency response, and low distortion of the PME-40X system make it highly suitable for use with keyboards and guitars in both live performance and recording applications. A unique on/off switching system completely bypasses any effect or the entire system. This prevents loading and provides a better frequency response and an overall punchier sound when the effects are in the on or off position.

Basic Specifications & Suggested List Price: Modules available include low noise stereo flanger with positive and negative flanging, low distortion compressor, low noise, accurate control graphic equalizer, tube amp sound overdrive with tone control, full response distortion with active tone control, external selector for looping other effects into the PME system, and a filler box which is used if less than four effects are utilized.

UNICORD
89 Frost St., Westbury, NY 11590

Product Name: KORG SSD-1000
Contact: Mitch Colby, Product Manager
Date Product Introduced: June 1983
Product Description & Applications: Unicord and Korg are pleased to announce the SSD 1000 digital delay line. Designed in the tradition of the world renowned SDD-3000, the primary emphasis of the SSD-1000 is high quality sound. The SSD-1000 can be used with guitars, synthesizers, or in recording applications without glitching, aliasing noise or distortion.
Basic Specifications & Suggested List Price: Features include 0.5 to 540ms delay time, four to one sweep range, continuously variable hi cut feedback filter, modulation circuit for flanging, chorusing and doubling, a unique control scheme which allows exact matching of the processed and direct signal, footswitch jacks for infinite hold and bypass, inputs and outputs on the front and back, and stereo outputs. Frequency response 30 Hz to 10 kHz at all delay times.



430 SERIES DYNA-MITE SIGNAL PROCESSING DEVICE
Valley People, Inc.

VALLEY PEOPLE, INC.
2817 Erica Place, P.O. Box 40306, Nashville, TN 37204
(615) 383-4737

Product Name: 430 SERIES SIGNAL PROCESSING DEVICES
Contact: Tom Behrens, National Sales, Ray Updike, International Sales
Date Product Introduced: June 1983
Product Description & Applications: The 430 Series is a new version of our popular 400 Series product line. Each model is packaged in a 1 1/4" x 19" steel and aluminum enclosure and may be ordered with the optional front panel patch through jack option, allowing the user access to any of the rear panel inputs and outputs at the front panel. The new package improves RF shielding and is extremely road worthy, making this product series applicable to the fields of broadcast, recording, sound reinforcement and stage sound.
Basic Specifications & Suggested List Price: The Model 430 consists of two Dyna-Mite cards, each capable of performing limiting, expansion, noise gating, keying, FM limiting, de-essing and voiceover. The two channels may be coupled for stereo operation. The Model 432 offers two channels, each with 2 independent transformerless preamps with on-board 3 band tone control. Each of the 2 inputs and a 432 card may be optimized for microphone, line or musical instrument impedance and levers. The single output of each card is switchable to +4 dBm, -10 dBv or -20 dBv. List \$560 with jack option \$575.

*Tell them
you caught it
in the Mix!*

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BX 25 ED



The new AKG Two-Channel Reverberation Unit

The new AKG reverberation unit has been designed as a genuine two-channel device and has been further improved in many design aspects over the well proven and well known BX 20.

The essential Features:

- Either channel can be used and controlled separately.
- Patented circuitry prevents any direct signal at reverb output.
- Frequency response may be altered both, at input and output of reverb section.
- Built-in limiter prevents reverb channel overloading.
- Input and output levels adjustable on the connector panel.
- Complete with remote control unit for reverb time setting.
- Switchable to mono drive of both channels.
- Isolation from structure-borne vibrations has been improved.
- Remote mix control between pure reverb signal and reverb plus individual reflections.
- Individually adjustable level for each of the discrete reflections.
- The discrete reflections are available both, as reflections only or in connection and mixed with the reverb content.
- Initial delay for the reverb signal available.
- The two discrete reflections for each channel may be adjusted in 6 ms steps from 6 ms to 60 ms.
- Available with or without Digital Control Section (BX 25 ED or BX 25 E).
- Every BX 25 E may be easily adapted with a Digital Control Section M 250.



77 Selbeck Street
Stamford, CT 06902
203-348-2121

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EW PRODUCTS SPEAKERS

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ALTEC LANSING

P.O. Box 4730, Anaheim, CA 92803
(714) 774-2900

Product Name: MANTARAY® II MID-SIZE CONSTANT DIRECTIVITY HORNS

Contact: Gary Rilling, VP Commercial Sales

Date Product Introduced: 1983

Product Description & Applications: For applications in sound systems requiring compact, lightweight constant directivity horns. The patented geometry of the Mantaray II family provides precision directivity to focus high frequency and mid frequency sound exactly where it's needed. Low frequency loading to 500 Hz!

Basic Specifications & Suggested List Price: Coverage patterns include 40/20, 60/40, 90/40 and 120/40 (degrees). Priced from \$156 to \$246

ALTEC LANSING

P.O. Box 4730, Anaheim, CA 92803
(714) 774-2900

Product Name: 8000 SERIES LOUDSPEAKER SYSTEMS

Contact: Gary Rilling, VP Commercial Sales

Date Product Introduced: 1983

Product Description & Applications: Eight Thiele/Small tuned systems. For use in a wide range of sound reinforcement and monitoring applications.

Basic Specifications & Suggested List Price: Pairs one or two of Altec's new 3000 Series loudspeakers with one of eight Thiele/Small optimally tuned enclosures for unequalled selection among low frequency response, efficiency and compact size. Priced from \$318 to \$789

AURATONE CORPORATION

P.O. Box 698, Coronado, CA 92118
(619) 297-2820

Product Name: AURATONE MODEL T6 SUB-COMPACT TWO-WAY SPEAKER SYSTEM

Contact: Paul Wilson, Sales Coordinator

Date Product Introduced: January 1983

Product Description & Applications: Auratone's Quality Sound Monitor Model T6 Sub-Compact Two-Way Speaker System is an excellent auxiliary monitor for mixdown reference, broadcast monitoring, and commercial sound distribution where space is limited. Produced in mirror-image pairs from new Super-Acoustic-wood, they feature a sophisticated six element 12 to 18 dB per octave slope crossover network that contributes to the system's unusually smooth blending of drivers and flat response over a wide range of frequencies.

Basic Specifications & Suggested List Price: T6 utilizes a 6 1/2" polypropylene cone woofer with foam suspension, 1" soft dome tweeter with ferrofluid voice coil coolant, 8 ohm impedance, 80 watts program power handling, anechoic frequency response 60 Hz to 20 kHz (± 3 dB), Sensitivity 88 dB 1W/1M, HWD 14 1/2" x 9 1/2" x 10", shipping weight 36 lbs/pair. Pro-net \$325/pair

AURATONE CORPORATION

P.O. Box 698, Coronado, CA 92118
(619) 297-2820

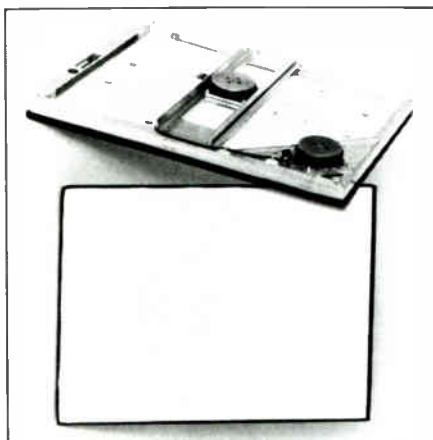
Product Name: AURATONE MODEL T66 COMPACT TWO-WAY SPEAKER SYSTEM

Contact: Paul Wilson, Sales Coordinator

Date Product Introduced: January 1983

Product Description & Applications: Auratone's Quality Sound Monitor Model T66 Compact Two-Way Speaker System for use as a near field control room reference and mixdown monitor, broadcast monitor, sound reinforcement and sound distribution system for small and mid-size auditoriums, churches, classrooms, and performer's or musician's monitor. Featuring a sophisticated close-tolerance crossover network, there is no "hype" or exaggeration in Auratone quality sound monitors' reproduction, just faithfully accurate sound that gives pure, unadulterated super-star performance.

Basic Specifications & Suggested List Price: T66 uses two 6 1/2" polypropylene cone woofers with foam suspension, 1 1/4" soft dome midrange tweeter, 8 ohms impedance, 100 watts program power handling, anechoic frequency response: 55 Hz to 18 kHz (± 2.5 dB) Sensitivity 90 dB 1W/1M, HWD 12" x 18" x 12 1/2". Shipping weight 33 lbs each. Pro-net \$595/pair



CEILING SPEAKER SYSTEM
B.E.S. Incorporated

B.E.S. INCORPORATED

345 Fischer St., Costa Mesa, CA 92626
(714) 549-3833

Product Name: CEILING SPEAKER SYSTEM

Contact: Mr. Irv Weisman, National Sales Manager, Commercial Products

Date Product Introduced: January 1983

Product Description & Applications: Ceiling Speakers feature patented polymer diaphragm driven by 13 ounce ferrite magnet, one-inch voice coil, hammer assembly. Primarily for easy T-bar drop-ceiling installations. Dimensions 23 7/8" H x 17 7/8" W x 3" D. Distortion at 96 dB SPL of C60S, 0.7% THD at 8,000 Hz, of C60D, 0.6% THD at 8,000 Hz. Dispersion, 180° horizontally/vertically, therefore, fewer speakers required per installation. Can be painted with non-petroleum base paint. High moisture environments do not affect speaker performance.

Basic Specifications & Suggested List Price: C60S Response, 50 Hz - 10 kHz ± 3 dB. Power capacity 100 watts. Sensitivity 1W 1 meter 86.5 dB SPL. Suggested list price \$186 each. C60D Response, 40 Hz - 19 kHz ± 3 dB. Power capacity 125 watts. Sensitivity 1W 1 meter 92 dB SPL. Suggested list price \$230 each.



ALL-WEATHER SOUND REINFORCEMENT SPEAKERS
B.E.S. Incorporated

B.E.S. INCORPORATED

345 Fischer St., Costa Mesa, CA 92626

(714) 549-3833

Product Name: ALL-WEATHER SOUND REINFORCEMENT SPEAKERS

Contact: Mr. Irv Weisman, National Sales Manager, Commercial Products

Date Product Introduced: January 1983

Product Description & Applications: All-Weather Sound Reinforcement Speakers feature a patented polymer diaphragm driven by 13 ounce ferrite magnet, one-inch voice coil, hammer assembly. Dispersion is 360° horizontally and vertically. Distortion at 96 dB SPL, 0.7% THD at 8,000 Hz. Due to unique materials used, speakers are unaffected by environmental conditions, including extreme moisture. The Hollywood Bowl utilizes 120 B82s in their digitally time-delayed sound system. "T" designation denotes usage of optional indoor grill cloth.

Basic Specifications & Suggested List Price: B81 Response, 50 Hz - 10 kHz ± 3 dB. Power capacity 100 watts. Sensitivity 1W 1 meter 86.5 dB SPL. Suggested list price \$320 each. B82 Response, 40 Hz - 19 kHz ± 3 dB. Power capacity 125 watts. Sensitivity 1W 1 meter 92 dB SPL. Suggested list price \$380 each.

CELESTION

Kunniholm Dr., Box 521, Holliston, MA 01746
(617) 429-6706

Product Name: CELESTION G 5D 25 and G 12 H-100 CE

Contact: Mary C. Warbasse, Marketing Services Manager

Date Product Introduced: June 1983

Product Description & Applications: G 5D 25 - 5" 25 watt full range speaker w/rubber surround. Applications: spot monitors/PA systems.

G 12 H-100 CE - 12" 100 watt cambric edge speaker for low and mid bass sound reinforcement. Application: PAs, dance playback and monitors.

Basic Specifications & Suggested List Price: G 5D 25 Full range 100 - 10,000 Hz - \$37. G 12 H 100 CE 45 - 6,000 Hz 99 dB average sensitivity \$114.

DESIGN DIRECT SOUND

6850 35th N.E., Seattle, WA 98115
(206) 527-4371

Product Name: DVB

Contact: Bob Rice

Date Product Introduced: 1983

Product Description & Applications: The DVB is a highly portable vented bass enclosure. The port is exponentially flared to reduce non-linear distortion and allows for smooth coherent phase propagation. The vent entry port is designed for low air particle resistance while creating an environment which dampens any possibility of transducer hangover.

Basic Specifications & Suggested List Price: Frequency response 45 Hz - 1000 Hz. Height 48", width 24.5", depth 25", weight 62 lbs. Sensitivity 97.25 dB. Materials fiberglass, end grain balsa core and aluminum trim with 4" casters.

DESKTOP LOUDSPEAKER SYSTEMS

P.O. Box 398, Simi Valley, CA 93062
(805) 583-0540

Product Name: DLS-1

Contact: Bill Cara, President, Cara International

Date Product Introduced: March 1983

Product Description & Applications: The DLS-1 is an ultra-miniature (0.54 cu. ft.) monitor loudspeaker system, with 50 Hz to 20 kHz response, 50 watts power handling, and 100 dB longterm (ave.) output capability. It is useful for monitoring in recording vans, portable field production systems for ENG, film and broadcasting. The system is excellent for use with wide screen video monitors or audio visual presentations.

Basic Specifications & Suggested List Price: Frequency response 50 Hz - 20 kHz. Power handling 100 watts wideband pink noise. Sensitivity 87 dB/1 watt/1 meter/channel. Weight 26 lbs/system total. List price \$525/system.

ELECTRO-VOICE, INC.

600 Cecil St., Buchanan, MI 49107
(616) 695-6831

Product Name: SENTRY 505

(continued on page 120)

STEREO IMAGING

DISPERSION

PHASE ALIGNED

PORTABLE

EXPENSIVE

ACCURACY—NOT FLATTERY

Knowing exactly "what's on the tape" is of paramount importance to the professional recording engineer and producer. Unfortunately, many recording, mixing, mastering and listening rooms are less than ideal, making truly accurate monitoring difficult.

For over a decade, permanently installed Westlake Audio studio monitors have been the worldwide choice of professionals who demand accurate reference monitors. Now, that same precision is available in the Westlake Audio BBSM series of Portable Reference Monitors.

The BBSM's pinpoint stereo imaging, wide bandwidth, totally symmetrical polar pattern and coherent wave front, even when monitoring as close as 18 inches, are a result of a unique combination of drivers, cross over and mounting configuration. Best of all, this has been achieved in a size that makes these Reference Monitors easy to carry with you from studio to studio.



BBSM121



BBSM6



BBSM121

Circle #094 on Reader Service Card

From acoustic design
to down beat...

**Westlake
Audio**

Manufacturing Research
and Development
2696 Lavery Court, Unit 18
Newbury Park, California 91320
909 499 3686

Contact: Greg Silsby, Market Development Mgr. Pro Mkts
Date Product Introduced: April 1983
Product Description & Applications: The Model 505 is very efficient, producing 96 dB (1 watt, 1 meter, anechoic). It features frequency response that is essentially flat from 40 to 18,000 Hz. While it can be powered by modestly-sized amplifiers, it can handle 100 watts average long term, and short term peak loads of 400 watts. The Sentry 505 is a 2-way speaker system with a 12" high excursion woofer and a tweeter capable of handling a full 25 watts (many tweeters operate in the 5-watt range). The crossover frequency is 1500 Hz. A specially designed "director" for the tweeter matches the dispersion angles of both transducers at the crossover point. The result is extremely well controlled vertical and horizontal dispersion of sound in the critical 250 Hz to 10,000 Hz range. Electro-Voice calls this controlled dispersion "Constant Directivity." Frequency response of the system can be extended down to 28 Hz with the addition of the SEQ low frequency step-down kit. The Sentry 505 weighs 60 lbs, is supplied in a matte black vinyl-covered enclosure, and includes mounting brackets. The front panel provides easy access at all times to a 4-position tweeter attenuator that allows adjustments from a flat setting to -9 dB in 3 dB steps.

ELECTRO-VOICE, INC.
 600 Cecil St., Buchanan, MI 94107
 (616) 693-8817
Product Name: ELECTRO-VOICE FR15-2 SOUND REINFORCEMENT LOUDSPEAKER
 Contact: Jim Long, Director of Marketing/Pro Sound Reinforcement Products
Date Product Introduced: September 1983
Product Description & Applications: The EV FR15-2 is a two-way speaker system designed for sound reinforcement applications demanding a wide, controlled coverage angle and high efficiency. It incorporates a 15" EVM-15L Series II mounted in a 4 cubic foot optimally vented enclosure, and a compression driver on a 90° x 40° constant-directivity horn. The system was developed as an alternative to separate components which are less attractive, cost more, and require more complex installation.
Basic Specifications & Suggested List Price: Frequency response, flat from 50 to 15,000 Hz. Sensitivity 98 dB SPL with a 1 watt input measured at 1 meter on axis. Long-term power handling capacity 200 watts. 28-3/8 x 31 1/2 x 16-5/8 inches (h/w/d). Pro user net price \$665.

NEW PRODUCTS

SPEAKERS

1 · 9 · 8 · 4

EMILAR CORP.
 1365 N. McCann St., Anaheim, CA 92806
 (714) 632-8500
Product Name: EMILAR EC-600
 Contact: Algis Renkus, Vice President
Date Product Introduced: AES Show
Product Description & Applications: The EC-600 is a midrange compression driver (6" diameter diaphragm) and matching horn. Frequency response: 150 - 4000 Hz.

FENDER MUSICAL INSTRUMENTS, PROFESSIONAL SOUND PRODUCTS DIVISION
 1300 East Valencia Dr., Fullerton, CA 92631
 (714) 879-8080
Product Name: FENDER LOUDSPEAKER ENCLOSURES
 Contact: Steve Woolley, Marketing Director
Date Product Introduced: November 1983
Product Description & Applications: Fender designed their 2800 series loudspeaker systems to achieve a high sensitivity, wide bandwidth and remarkably flat frequency response. The 2851, 2841 and 2821 feature Thiele/Small bass-reflex enclosure, 90° x 40° constant-directivity, rapid flare horns that carry compression drivers with diaphragms of titanium for even response and low distortion, and include third order Butterworth crossovers with a superior slope rate of 18 dB per octave. Power handling of models 2851 and 2841 rates 150W sine wave/300W of continuous music and 75W sine wave/150W for the 2821. Sensitivity/impedance ranges from 100 - 97 dB SPL (1 watt at 1 meter)/8 ohms.

FULTON MUSICAL INDUSTRIES, INC.
 4204 Brunswick Ave. N., Minneapolis, MN 55422
 (612) 537-7076
Product Name: PREMIERE P-20

Contact: Robert W. Fulton, President
Date Product Introduced: May 1983
Product Description & Applications: Awesome - perhaps even a bit frightening - A daring twist of the level control is sure to quicken the pulse of the most critical audiophile. Smooth, velvety highs to challenge the very limits of human hearing. Thundering lows you actually feel. Exhilarating. All encompassing. Unsurpassed. Performance specifications of the new Premieres are unequalled in the audio world. Accuracy range - purity - a musical reproduction of a quality never before achieved. A new standard of excellence.

Basic Specifications & Suggested List Price: Frequency response 13 Hz to 80 kHz. Crossover frequencies: 39 Hz, 80 Hz, 195 Hz, 2.4 kHz, 8 kHz, 26 kHz, 42 kHz. Driver complement two 12" sub-woofers, one 12" mid-woofer, one 10" upper-woofer, one mid-range enclosure, one special 5 element, wide range tweeter array. Cabinet: walnut. Cabinet dimensions: 25" x 22" x 59". Price per pair: \$6,500.

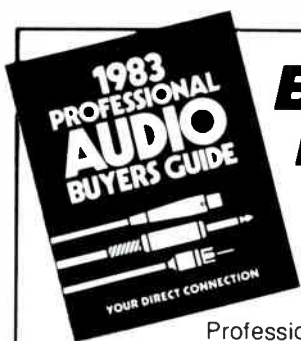
FULTON MUSICAL INDUSTRIES, INC.
 4204 Brunswick Ave., N., Minneapolis, MN 55422
 (612) 537-7076
Product Name: MIDGET MONITOR AND COMPANION WOOFER SYSTEM
 Contact: Robert W. Fulton, President
Date Product Introduced: June 1983
Product Description & Applications: A micro-monitor with an unusually large coherent sound field, and the airiness that only extended HF response can yield. Engineering excellence - quality construction - powerful, clean delivery. Small in size - large in true, musical reproduction. Matching companion woofer system also available.
Basic Specifications & Suggested List Price: Frequency response 80 Hz - 30 kHz, with woofer 40 Hz - 30 kHz. Crossover frequency 3800 Hz. Speaker complement: one 2 1/4" tweeter, one 5" woofer, woofer one 8". Cabinet: walnut. Cabinet dimensions: 7" x 6" x 10". Woofer: 11 1/2" x 9 1/2" x 16". Warranty: 5 years. Price: \$350 per pair. Woofer: \$450 per pair.

J.B.L. INC.
 8500 Balboa Blvd., Northridge, CA 91329
 (213) 893-8411
Product Name: 4612 OK
 Contact: Nina Stern (PR) 213-462-3539
Date Product Introduced: October AES
Product Description & Applications: The Model 4612OK is the fixed installation version of JBL's successful 4612 Compact Sound Reinforcement System. Suitable for a variety of applications, such as restaurants, churches and lounges. Features an oak-grain vinyl wrap enclosure for an unobtrusive look which can blend well with any environment.
Basic Specifications & Suggested List Price: Components 28" low frequency speakers for the mid and low frequencies, each capable of handling 100 watts continuous sine wave. High frequencies are delivered thru a miniature bi-radial horn mounted on a ring radiator. Dimensions: 17 1/4" x 21 1/2" x 10" deep.

J.B.L. INC.
 8500 Balboa Blvd., Northridge, CA 91329
 (213) 893-8411
Product Name: FLAT-FRONT BI-RADIAL HORN LOUDSPEAKER 2386
 Contact: October AES
Date Product Introduced: Joins JBL's 2380 and 2385 flat-front bi-radial horns. Ideal for a variety of professional sound applications such as portable reinforcement systems and motion picture theatre house designs. Can be either flush mounted, or installed in compact clusters.
Product Description & Applications: 2" throat diameter, 11" mouth height, 17 5/8" mouth width, 14" depth, 12 lb weight, 40° x 20° coverage, uniform on and off axis frequency response.



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 Klipsch & Associates



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UNLOADING AREA



“THE WRONG CITY?!”

For the fast-paced, hurry-up, load-it-up, load-it-in kind of abuse found on the road, you need a speaker that does more than sound good.

It's gotta be TOUGH.

KLIPSCH® Professional Series Loudspeakers may be the toughest. Cabinets are built of stout plyboard panels, fitted together with several pounds of glue and screws. Then they're sprayed with black fiberglass and epoxy to make 'em even more durable. And finally, every edge and corner is custom fitted with die cast aluminum trim to take the bite out of the hardest knock.

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KLIPSCH & ASSOCIATES, INC.
P.O. Box 688, Hope, AR 71801
(501) 777-6751

Product Name: KG² LOUDSPEAKER

Contact: Jim Clemons

Date Product Introduced: June 1983

Product Description & Applications: The improved Klipsch kg² now uses two active drivers and a passive radiator. The passive radiator is 10" and is mounted on the rear of the cabinet. The cabinet is of a compact design making the speaker ideal for mini monitor applications.

Basic Specifications & Suggested List Price: Dispersion is 100° horizontally and vertically. Frequency response is 35 Hz to 20 kHz \pm 4 dB. Sensitivity is 90 dB/SPL, one watt, one meter. Suggested retail is \$420 per pair.

KLIPSCH AND ASSOCIATES
P.O. Box 688, Hope, AR 71801
(501) 777-6751

Product Name: MMTM HORNS

Contact: Jim Clemons

Date Product Introduced: 1983

Product Description & Applications: The Klipsch MMTM is a high frequency long throw horn system which incorporates two horns each having two HF drivers (4 drivers total) in each cabinet.

Basic Specifications & Suggested List Price: Usable frequency range: 6.0 to 16.0 kHz \pm 5 dB. On-axis sensitivity at 1 meter: 108 dB SPL at 1 watt input. 124 dB SPL at 40 watts input. Crossover is passive: 18 dB octave at 6 kHz. Price: \$408.

MCCAULEY SOUND, INC.
13608 94th Ave. East, Puyallup, WA 98036
(206) 848-0363

Product Name: MODEL 6246 LOW FREQUENCY LOUDSPEAKER - 15"

Contact: Jeffrey Miller, Marketing Director

Date Product Introduced: Late 1982

Product Description & Applications: The model 6246 15" low frequency loudspeaker is virtually unmatched in power handling, low end definition and transient response due to high tech engineering, high quality materials and workmanship. Today's monitor and side fill applications require a powerful blend of lows and a dynamic, punchy midrange all of which the 6246 produces flawlessly. Performance after performance. The 6246 is one of a family of five 15" low frequency to midrange loudspeakers.

Basic Specifications & Suggested List Price: Model 6246 15" LF loudspeaker. Nominal diameter 15". Impedance: 8 ohms. Voice coil diam 4". Material: edge-wound copper Magnet assembly 96 oz ferrite. Power capacity RMS 400 watts. Program 800 watts. Usable bandwidth: 40 Hz - 2000 Hz. Suggested list price: \$202. Lifetime warranty.

MCCAULEY SOUND, INC.
13608 94th Ave. East, Puyallup, WA 98036
(206) 848-0363

Product Name: MODEL 6256 18" LOW FREQUENCY LOUDSPEAKER

Contact: Jeffrey Miller, Marketing Director

Date Product Introduced: July 1983

Product Description & Applications: The Model 6256 18" low frequency loudspeaker was designed to fill the needs of high power applications without sacrificing sound quality. The 6256 comprises the same quality concepts of McCauley's Series 6000 loudspeakers that is a field replaceable basket assembly, double spider, M-roll compliance and a powerful 96 oz magnet. The 6256 is conservatively rated at 800 watts program with over 100 dB low frequency sensitivity.

Basic Specifications & Suggested List Price: Model 6256 18" low frequency loudspeaker. Nominal diameter: 18". Impedance: 8 ohms. Voice coil diam 4". Material: edge-wound copper Magnet assembly 96 oz ferrite. Power capacity RMS 400 watts. Program 800 watts. Usable bandwidth: 40 Hz - 1.5 kHz. Suggested list price: \$425. Lifetime warranty.

MTX
One Mitek Plaza, Winslow, IL 61089
(312) 243-1342

Product Name: MTX PRO LINE SERIES, PL-15 LOUDSPEAKER

Contact: Robert Landsberg, National Sales Manager

Date Product Introduced: January 1983

Product Description & Applications: Featuring a 15" loudspeaker with a plastiseal surround and molded black paper cone driver, the PL-15 is part of MTX's Pro Line Series of six technically advanced drivers for commercial and professional applications. Features include the manufacturer's exclusive process of voice coil winding — using a 2" heavy gauge copper wire wound around a high temp aluminum core to increase efficiency and power capacity. The PL-15 has a power range of 150 watts RMS.

Basic Specifications & Suggested List Price: With a mounting depth of 6 inches, the PL-15 features a unique basket design for heightened sensitivity and expanded excursion. These Small parameters are supplied for driver installation. D.C. resistance: 6 ohms, impedance: 8 ohms nominal, sensitivity: 98 dB at 1 watt input, on-axis bandwidth: 45 Hz to 2700 Hz. Net weight: 1.2 lbs. Last price: \$77.50.

NEW PRODUCTS

SPEAKERS

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MTX
One Mitek Plaza, Winslow, IL 61089
(312) 243-1342
Product Name: MTX PRO LINE SERIES, PY-15 LOUDSPEAKER

Contact: Robert Landsberg, National Sales Manager

Date Product Introduced: January 1983

Product Description & Applications: Featuring a 15" polypropylene loudspeaker with foam surround, the PY-15 is part of MTX's Pro Line Series of six technically advanced drivers for commercial and professional applications. Features include exclusive process of voice coil winding — using a 2" heavy gauge copper wire wound around a high temp aluminum core to increase efficiency and power capacity. The PY-15 has a power range of up to 100 watts RMS.

Basic Specifications & Suggested List Price: With a mounting depth of 6 1/2", the PY-15 features a unique basket design for heightened sensitivity and expanded excursion. These Small parameters are supplied for driver installation. D.C. resistance: 6 ohms, impedance: 8 ohms nominal, sensitivity: 97 dB at 1 watt input, on-axis bandwidth: 25-1400 Hz. Net weight: 1.2 lbs. Last price: \$79.50.



GS-3 OMNISPEAKER
Paramount Sound Systems Corp.

PARAMOUNT SOUND SYSTEMS CORP.
1651 Gardena Ave., Glendale, CA 91204
(213) 956-3222 or (800) 423-3205 outside CA

Product Name: GS-3 OMNISPEAKER

Contact: O. Roger Seward, Sales Manager

Product Description & Applications: The GS-3 Omnispeaker is a direct burial outdoor speaker made of a durable weatherproof plastic. It houses an 8" cone type driver. The GS-3T comes with an optional 70v transformer. The choice of cable entrances are conduit, direct burial cable or rubber jacketed.

For use in backyards by pool or patio, amusement parks, hotels etc., where quality sound is needed for music or paging systems. The GS-3 complements outdoor scenery while creating sonic reality.

Basic Specifications & Suggested List Price: Horizontal dispersion: 360°. Vertical dispersion: 30°. Frequency response: 150 Hz to 10 kHz. Pressure sensitivity: 88 dB at 4 w, 1 watt pink noise. Power handling capacity: 5/10/15 watts/70 volt input. Color: shrub green. Size: 14" x 14" x 14". Weight: 8 lbs. Options: 1) Special input terminations, 2) 70 volt transformer (order GS-3T).

TURBOSOUND, INC.
611 Broadway #841, New York, NY 10012
(212) 460-9940

Product Name: TURBOSOUND TMS-1

Contact: Alan C. Wick, President

Date Product Introduced: July 1983

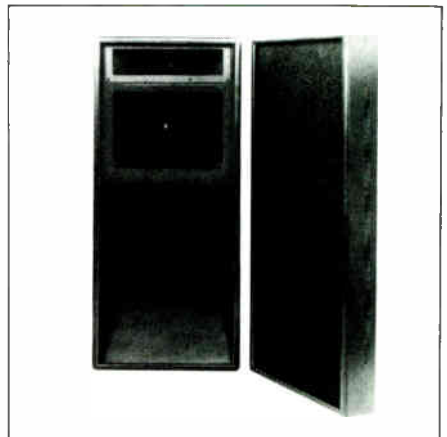
Product Description & Applications: Turbosound's TMS-1 is a compact, high fidelity 3-way full range speaker module. It utilizes a passive crossover and is phase and amplitude aligned. The design employs a 10" LF driver located into a patented TurboBassDriver™, a 10" MF driver located into a patented TurboMidDriver™ and a 1" HF tweeter assembly. These are combined into a high efficiency, low distortion line array which is phase coherent through its frequency range.

Basic Specifications & Suggested List Price: Size: 23 1/2" x 17" W x 18" D. Weight: 50 lbs. Frequency response: 80 - 15,000



TURBOSOUND TMS-1
Turbosound, Inc.

Hz \pm 3 dB. Power handling: 225 watts RMS, 450 watts program. Sensitivity: 102 dB/1 watt/1 meter (average), 105 dB/1 watt/1 meter (peak). Max SPL: 125 dB (continuous), 128 dB (peak). Dispersion: 70°H x 50°V at +6 dB points (average). Suggested list: \$949.



TURBOSOUND TMS-4
Turbosound, Inc.

TURBOSOUND, INC.
611 Broadway #841, New York, NY 10012
(212) 460-9940

Product Name: TURBOSOUND TMS-4

Contact: Alan C. Wick, President

Date Product Introduced: June 1983

Product Description & Applications: Turbosound's TMS-4 is a phase and amplitude aligned, full range package of Turbo sound principles and techniques into a 2-way active, 3-way line array module. The design employs an 18" LF driver located into a patented TurboBassDriver™, a 10" MF driver located into a patented TurboMidDriver™ and a 1" HF assembly. The array projects a controlled, cohesive wavefront providing accurate transient reproduction and high SPLs with studio monitor detail and fidelity.

Basic Specifications & Suggested List Price: Size: 45" H x 20" W x 29" D. Weight: 165 lbs. Frequency response: 45 - 18,000 Hz \pm 3 dB. Power handling: 450 watts RMS, 900 watts program. Sensitivity: 104 dB/1 watt/1 meter (average), 107 dB/1 watt/1 meter (peak). Max SPL: 140 dB (continuous), 144 dB (peak). Dispersion: 70°H x 50°V at +6 dB points (average). Suggested list: \$1,690.

WESTLAKE AUDIO INC.
2696 Lavery Court #8, Newburg Park, CA
(805) 499-3686

Product Name: BBSM-8 and BBSM-10s

Contact: Glenn Phoenix

Date Product Introduced: BBSM-8: September 1983,

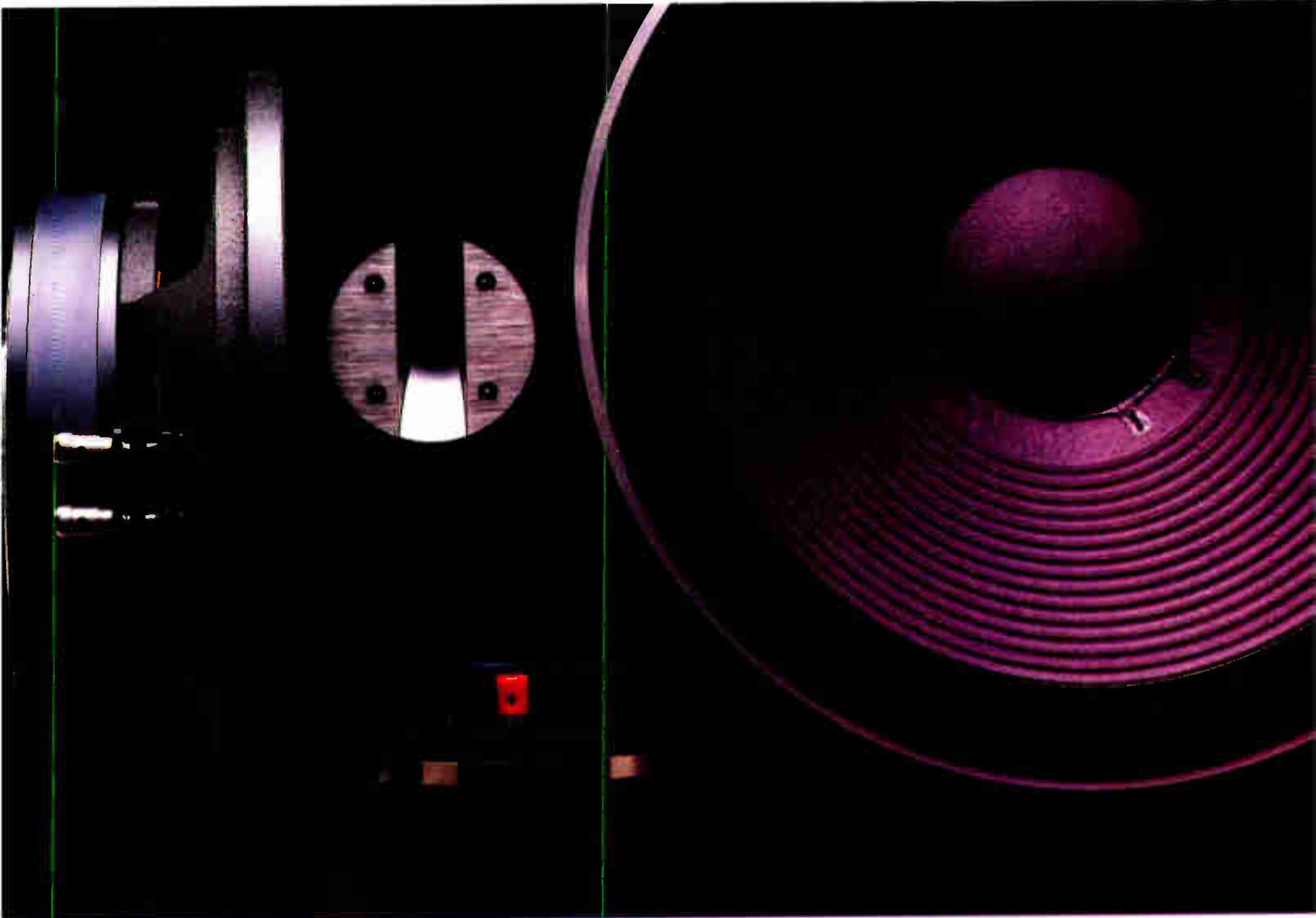
BBSM-10: June 1983

Product Description & Applications: Portable reference monitors, 3-way system. Dual woofers.

Basic Specifications & Suggested List Price:

	BBSM-8	BBSM-10
Freq. response	\pm 3 dB 70 Hz - 18 kHz	60 Hz to 15 kHz
Nominal power	90 watts below 600 Hz	120 watts below 500 Hz
Dimensions	13" x 26" x 16 1/2"	16" x 30" x 20"
Price	\$995 ea. (black)	\$1,195 ea. (black)

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We're not out to sell TAD professional loudspeaker components to everyone.

Only those who can afford to eliminate the word "compromise" from their vocabulary.

Obviously, you won't hear that word bandied about amongst the engineers at TAD.

Because our entire existence is dedicated to the perfection of audio. To accomplish this you can't be willing to skimp, to cut corners, to make sacrifices, to settle for less than the best.

That's why every device we make is assembled entirely by hand. With the precision you'd expect of a watchmaker. Our diaphragm assembly, for instance, is mounted with a gap precision of ± 1 millionth inch to ensure high reliability.

We use tremendously expensive evaluation and testing techniques with the aid of computers and esoteric acoustical equipment like a Doppler Laser, a Laser Holograph, an Impulse Generator, and

an Anechoic Chamber, to mention just a few.

Finally, we feel to make first-rate products you can't settle for second-rate materials. So we use the finest money can buy. Such as Beryllium diaphragms and Alnico magnets.

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And who feel that the price of *not* being a perfectionist is high.

TAD Technical
Audio Devices

Professional Products Division of Pioneer Electronics (USA) Inc.
4201 Long Beach Blvd., Long Beach, CA 90807. (213) 639-5050. Telex 65643

N

EW PRODUCTS TAPE AND RECORDING DEVICES

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AGFA-GEVAERT

275 North St., Teeterboro, NJ 07608
(201) 288-4100

Product Name: PE 612/812/1212 BULK CASSETTE TAPE

Contact: Andrew Da Puzzo

Date Product Introduced: 1983 AES

Product Description & Applications: The 12 Series bulk cassette tapes have extremely low noise, with super high outputs and exceptional high end response. The AGFA magnetite formulation is designed for quality music recording at IEC Bias 1, 120ms equalization.

AIWA AMERICA, INC.

35 Oxford Dr., Moonachie, NJ 07074
(201) 440-5220

Product Name: AD-WX110 DUBBING CASSETTE DECK

Contact: Vince Wheeler, Sales Promotion Manager

Date Product Introduced: Late 1982

Product Description & Applications: Double cassette speed, 4 channel dubbing cuts recording time to 1/4 of conventional models. One-touch synchro dubbing. Continuous playback function. Dolby C&B NR systems. LH bias fine adjust control. Auto tape selector. Timer standby mechanism. Music sensor. Auto replay facility. LED peak level meters.

Basic Specifications & Suggested List Price: Frequency response: 20 Hz - 18 kHz (metal tape). Signal to noise ratio: 76 dB (metal tape, Dolby C). Channel separation: 35 dB. Wow & flutter: 0.05% (WRMS). Suggested list price: \$395.



AD-F99OU STEREO CASSETTE DECK
Aiwa America, Inc.

AIWA AMERICA, INC.

35 Oxford Dr., Moonachie, NJ 07074
(201) 440-5220

Product Name: AD-F99OU STEREO CASSETTE DECK

Contact: Vince Wheeler, Sales Promo Manager

Date Product Introduced: June 1983

Product Description & Applications: Amorphous alloy combination 3 head system. Dolby HX professional active bias system. Computer designed keyboard front panel. Dolby C&B NR system. D A T A (Digital Automatic Tape Adaptation). Fluorescent multi-function display. All mode remaining tape time display. 8 second intro-play. Memory rewind and repeat system. Micro-grain dual capstan. A D M S (Automatic D-Magnetizing System). Auto tape select. Auto rec-mute facility. Switchable MPX filter. Auto tape source selector. Auto noise reduction detector. Auto noise reduction detector.

Basic Specifications & Suggested List Price: Frequency response: 20 Hz - 19 kHz (± 3 dB) normal tape, 20 kHz (± 3 dB) chrome tape, 20 Hz - 21 kHz (± 3 dB) metal tape. Signal to noise ratio: 80 dB above 5 kHz (Dolby C, metal tape). Wow and flutter: 0.025% (WRMS). Suggested list price: \$595.

BASF SYSTEMS

Crosby Drive, Bedford, MA 01730
(617) 271-4000

Product Name: LHD CASSETTE DUPLICATING TAPE

Date Product Introduced: October 1983

Product Description & Applications: New formulation high output, low noise audio tape for high speed duplication of pre-recorded music cassettes. Improved high frequency sensitivity. Available in 8,200', 10,000' C-60 and 11,500' C-90 lengths.

dbx INC.

71 Chapel St., Newton, MA 02195
(617) 964-3210

Product Name: MODEL 700 - dbx DIGITAL AUDIO PROCESSOR

Contact: Joel Silverman, National Sales Manager

Date Product Introduced: late 1982

Product Description & Applications: Professional stereo (2 channel) digital-audio processor using proprietary new digital technology. Companded Predictive Delta Modulation (CPDM). Dynamic range greater than 100 dB unweighted, frequency response 10 Hz - 20 kHz ± 1 dB THD less than 0.05%, negligible wow/flutter. Neutral noise floor; gentle anti-aliasing filters (minimal phase shifts in audio band), sampling rate 640 kHz, bit rate 640 k-bits/sec, less sensitivity to bit errors than PCM systems, full correction of dropout errors; graceful overload behavior. Converts to NTSC video signal (designed for use with VCRs/VTRs). Switchable metering, headphone jack; mike pre amp adds less than 1 dB of noise for all microphone impedances from 100 to 1 k ohm. Pro levels and XLR connectors, standard rack dimensions: 5 1/4" h x 19" w x 11 1/2" d. Suggested retail price: less than \$5,000.

EDUCATIONAL ELECTRONICS CORP.

213 N. Cedar Ave., Inglewood, CA 90301
(213) 671-2636

Product Name: SONY CCP-13B

Contact: Richard T. Kehoe, Product Sales Manager

Date Product Introduced: February 1983

Product Description & Applications: 4 track/4 channel high speed audio cassette duplicator. Cassette master or open reel master. System is expandable to 43 cassette slave units. 2 year head wear guarantee.

We are the exclusive U.S. distributor of this product.

Basic Specifications & Suggested List Price: Frequency response: 50 Hz - 10 kHz. Signal to noise: 45 dB or better. Crosstalk: 4 track/4 channel, better than 55 dB. Speed ratio: 8X. Wow and flutter: 0.2% (WRMS).

ELECTRO SOUND, INC.

160 San Gabriel Dr., Sunnyvale, CA 94086
(408) 245-6600

Product Name: ES 8000 HIGH SPEED TAPE DUPLICATOR WITH DOLBY HX PROFESSIONAL

Contact: David Bowman, Vice President, Marketing

Product Description & Applications: The ES 8000 Tape Duplicator again pioneers the newest technology in cassette duplication — the Dolby HX Professional Headroom Extension System. The system controls the total effective bias applied to the tape during recording, thus the usual "self-erasure" of high frequency signals is eliminated. Results on tape = increased high frequency energy and lower distortion. The system does not require special playback hardware to get the benefit.

Basic Specifications & Suggested List Price: Fully automatic and requires no special setup or maintenance. Compatible with all tape formulations. Duplication ratios: 64:1 and 32:1. Price: \$2,975 per 8000 slave recorder.

FOSTEX CORP. OF AMERICA

15431 Blackburn Ave., Norwalk, CA 90650
(213) 921-1112

Product Name: B-16 TAPE RECORDERS

Contact: Mark Cohen, Vice President, Sales/Marketing

Date Product Introduced: April 1983

Product Description & Applications: 16 track recorder using 1/2" tape. 3 motor motion-sensing transport. Search-to-zero. Real-

time counter. Video interlock ready. Bar graph LED meters with peak attack and V U decay characteristics. Footswitch jack for punch in/out. Edit mode. XLR electronically balanced + 4 inputs and outputs optional. Built-in Dolby C, dbx optional.

Basic Specifications & Suggested List Price: Crosstalk: -55 dB. Frequency response: 40 Hz to 18 kHz ± 3 dB. Signal to noise: 73 dB. Retail: \$5,900 - includes Dolby C, dbx \$800 - additional (in place of Dolby C). Remote control: \$500.



B-16 TAPE RECORDER
Fostex Corp. of America

HAMMOND INDUSTRIES INC.

8000 Madison Pike, Madison, AL 35758
(205) 772-9626

Product Name: AS 6000 OPEN REEL TAPE RECORDER

Contact: Susan Prudowsky

Date Product Introduced: January 1983

Product Description & Applications: The AS 6000 is a 10 1/2" multi-head, 3-speed analog recorder for both the professional/studio user and the most discriminating home enthusiast. Available in either 1/2 track or 1/4 track configurations, at either high (15, 7 1/2, 3 3/4 ips) or low (7 1/2, 3 3/4, 1 1/2 ips) speed. The AS 6000 also features opto-electronic tape sensors, an electronic braking system, cueing capability, built-in mixing facility, full logic tape transport and peak level indicators.

Basic Specifications & Suggested List Price: Wow and flutter: 0.4% 15 ips, 0.5% 7 1/2 ips, 1.0% 3 3/4 ips, 2.0% 1 1/2 ips. Frequency response: 20 Hz - 28 kHz 15 ips, 10 Hz - 28 kHz 7 1/2 ips, 20 Hz - 22 kHz 3 3/4 ips, + 2/-3 dB. S/N ratio: 68 dB 15 ips, 68 dB 7 1/2 ips, 67 dB 3 3/4 ips. FF/rewind 160 seconds. Harmonic distortion: 6% 15 ips, 6% 7 1/2 ips, 8% 3 3/4 ips. Professional user price is \$1,795.

HAMMOND INDUSTRIES INC.

8000 Madison Pike, Madison, AL 35758
(205) 772-9626

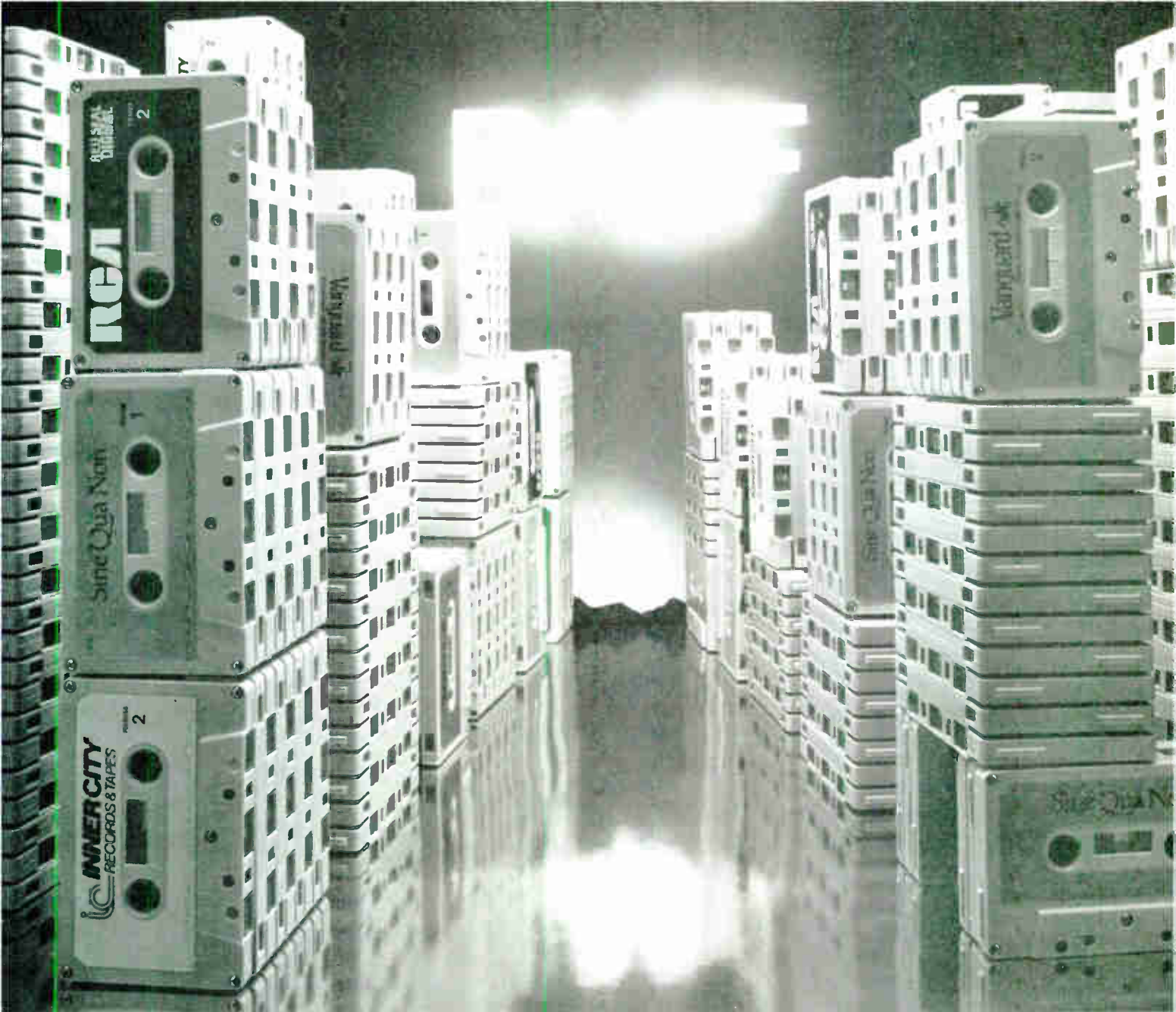
Product Name: AS 3001 CASSETTE TAPE RECORDER

Contact: Susan Prudowsky

Date Product Introduced: January 1983

Product Description & Applications: The AS 3001 combines a 3-motor drive unit, dual capstan system, Dolby B&C, and special infrared cassette operating protection. Unique to the 3001 is RALF (Response Adjust Level Frequency) which offers user-controlled bias and equalization of six different oxides. Variable pitch and memory rewind are standard, with optional remote control via infrared. The AS 3001 also features cue function, electronic counter memory system, record level indicators, and built-in mixing facility.

Basic Specifications & Suggested List Price: Wow and flutter: 0.7% WRMS. Input sensitivity: 1 mV (high mike), 0.1 mV (low mike) and 70 mV (line). Bias and erase frequency: 105 kHz. Erase attenuation better than 70 dB. Frequency response: 20 Hz - 20 kHz + 2/-3 dB. S/N ratio: unweighted 55 dB, Dolby B = 61 dB.



THE ROAD TO PLATINUM IS PAVED WITH BASF PURE CHROME.

The only place to be in the recording business is #1. And with cassettes taking over nearly 50% of the industry's pre-recorded sales this year, the best way to get to the top is on BASF Pure Chrome duplicating tape.

BASF Pure Chrome helps you climb the charts faster because it duplicates your sounds more perfectly than any other brand. Technically speaking, BASF Pure Chrome offers extended high frequency Maximum Output Level (MOL), plus the world's lowest background noise. And our exclusive Pure Chrome formulation is extremely clean and stable at even the highest duplicating speeds. The payoff? Audio performance that's virtually indistinguishable from a studio master recorded at 15 I.P.S.



Best of all, just about anyone can change over from ferric oxide to BASF Pure Chrome with the greatest of ease—and without any need for additional equipment or expenses.

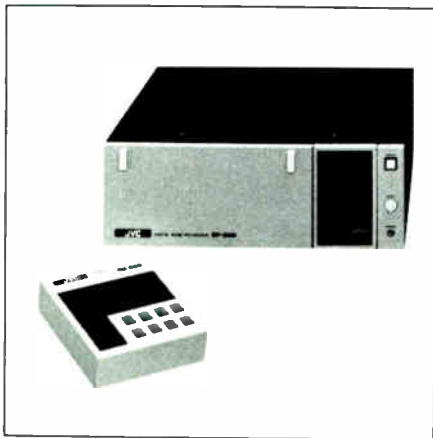
Find out why such major names as RCA Red Seal Digital, Sine Qua Non, Vanguard and Inner City all put their trust in us. Switch to BASF Pure Chrome duplicating tape. Because when you put "CrO" on your label, you're not just guaranteeing the public the pure music they're paying for. You're paying your way to platinum with BASF Pure Chrome.

 **BASF**
Chrome Audio & Video Tapes

NEW PRODUCTS

TAPE AND RECORDING DEVICES

1 · 9 · 8 · 4



DAS-900 DIGITAL AUDIO MASTERING SYSTEM
JVC Cutting Center, Inc.

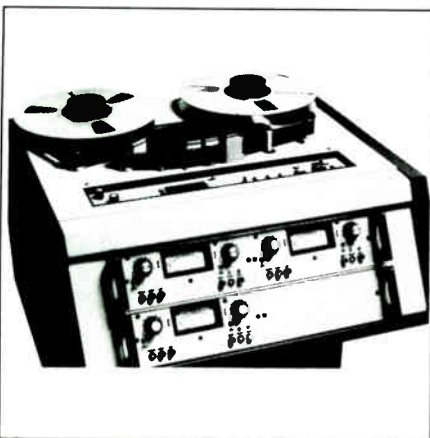
JVC CUTTING CENTER, INC.
6363 Sunset Blvd, Suite 500, Hollywood, CA 90028
(213) 467-1166

Product Name: DAS-900 DIGITAL AUDIO MASTERING SYSTEM

Contact: Larry Boden, Chief Engineer
Date Product Introduced: late 1982

Product Description & Applications: The DAS-900 digital audio mastering system is a professional 2 channel system using 3/4" U-format or 1/2" VHS VCRs. The main units making up the system are the BP-900 Digital Audio Processor and AE-900 Electronic Editor. The processor features are compact and lightweight thanks to newly developed LSIs. The electronic editor makes 180 microsecond accuracy of editing possible. The system can be synchronized with video production systems.

Basic Specifications & Suggested List Price: Number of channels 2. Quantization 16 bit, linear. Sampling rate 44,1/44,056 kHz (switchable). Dynamic range more than 90 dB. Editing accuracy 180 microseconds.



JH-110B-3-LB AUDIO LAYBACK SYSTEM
MCI

MCI
A DIVISION OF SONY CORPORATION OF AMERICA
Sony Drive, Park Ridge, NJ 07656
(201) 930-1000

Product Name: JH-110B-3-LB Audio Layback System

Contact: Jim Guthrie, National Sales Manager

Date Product Introduced: April 1983

Product Description & Applications: The Audio Layback System is a post production recorder for transfer of audio to one inch type C video tape. It is used to optimize frequency response, S/N, and wow and flutter in the audio portion of the final edited video tape. The Audio Layback recorder has two audio tracks for stereo sound and a SMPTE time code control track. The system is available for NAB A or B 1" tape reel sizes.

Basic Specifications & Suggested List Price: S/N greater than 60 dB. Frequency response: from 30 Hz to 20 kHz. Wow and flutter less than 0.25%. Depth of erasure better than 80 dB at 1 kHz. Amplifier electronics (3 channels provided) input impedance 10k ohms balanced, output impedance 120 ohms balanced, output clipping +24 dBm. Transport speeds 9,606 ips fixed (NTSC Video Recorder standard). Start time 800 ms.

OTARI CORPORATION
2 Davis Drive, Belmont, CA 94002
(415) 592-8311

Product Name: MTR-12

Contact: John Carey, National Sales Manager

Date Product Introduced: April 1983

Product Description & Applications: The MTR-12 is a microprocessor-controlled, constant-tension mastering recorder, capable of handling EIA and NAB hub reels up to 12 1/2" in diameter, available in 3 console-mounted versions of 1/4" 2 track, 1/2" 2 track, and 1/2" 4 track. It is a 30/15/7.5 ips machine with separate repro EQ, record EQ, and phase compensation as well as 2 pre-set master bias adjustments for each speed, and is switch-selectable to IEC or NAB equalization. Standard transport functions include return to zero, back timing, cue and shuttle modes, library spooling, dump edit mode, and "one hand" microprocessor-assisted reel rocking for convenient editing. Standard features include a monitor speaker, splicing block, a sine/square test oscillator, synchronizer/editor interface connector, ±20% variable speed, and transformer or electronic balanced input/output. Accessories include a full function 10-memory auto-locator and an RS-232 serial input transport control interface.

Basic Specifications & Suggested List Price: 42 Hz - 29 kHz + 5 - 2 dB at 30 ips. 0.03% wow and flutter (DIN 45507). 75 dB S/N ratio unweighted 30 Hz - 18 kHz filter. Prices: MTR-12.2 (1/4") \$6,900, MTR-12.2 (1/2") \$8,065, MTR-12.4 (1/2") \$8,800.

SONY CORPORATION

1 Sony Drive, Park Ridge, NJ 07656
(201) 930-1000

Product Name: PCM-701 ES

Contact: Sony Corp. (see above)

Date Product Introduced: September 1983

Product Description & Applications: High performance, moderately priced digital processor. Offers both EIA1 14 bit linear quantization or switchable to 16 bit linear quantization format. Digital copy capability. Peak program display includes auto/peak hold, VCR tracking, and source level indication. Record and P/B muting controls. Works with any NTSC format videocassette recorder.

Basic Specifications & Suggested List Price: Frequency response 10 Hz - 20 kHz ±0.5 dB. Total harmonic distortion less than 0.005%. Dynamic range more than 90 dB. Wow and flutter less than measurable. Suggested retail price \$1,200.

SOUNDCRAFT ELECTRONICS INC.
1517 20th St., Santa Monica, CA 90404
(213) 453-4591

Product Name: SERIES 20 TAPE RECORDERS

Contact: Enka Lopez, Advertising

Date Product Introduced: Fall AES

Product Description & Applications: Two track master recorder. Uses include studio and broadcast track mastering. Fully microprocessor controlled, will align itself to 5 different types of tape and 3 EQ standards at any one of 3 speeds previously programmed in by the operator. Once info is stored, the machine will realign to required settings by the touch of a button. A center track is available for time coding.

Basic Specifications & Suggested List Price: Standard features include a remote unit, noise reduction switching outputs, 14" reel capacity, varispool, edit and dump modes, headphone jack and internal cue speakers. Options include 1/4 and 1/2 inch versions, 2 types of VU or PPM metering, serial and parallel ports for external control and rack mounting.

STUDER REVOX AMERICA
1425 Elm Hill Pike, Nashville, TN 37210
(615) 254-5651

Product Name: STUDER A710 CASSETTE DECK

Contact: Tom Minner, Director, Studer Products

Date Product Introduced: March 1983

Product Description & Applications: The A710 is a fully professional cassette deck featuring complete microprocessor control, three heads, four direct-drive motors, die-cast aluminum alloy chassis, azimuth stable headblock design, quartz servo control for the dual capstan motors, constant speed fast wind, electronic braking, Dolby B and C, modular electronics, balanced +4 inputs and outputs, calibrated levels, fader start, and remote control (optional). The A710 is designed for applications requiring consistent, high quality cassette recordings under conditions of hard, continuous use.

Basic Specifications & Suggested List Price: Wow and flutter 0.1% maximum (DIN 45507 weighted). Frequency response 60 Hz - 14 kHz (±2 dB), 30 Hz - 18 kHz (±3 dB), IEC II and IV. S/N ratio (IEC/A weighted at 3% distortion) 55 dB (IEC I, NR off), 69 dB (IEC I, Dolby C on), 72 dB (IEC IV, Dolby C on). Distortion better than 1% at 315 Hz, 0 dB (200 nWb/m) impedance min 5 k ohm, 30 Hz - 20 kHz. Output impedance less than 50 ohm, 30 Hz - 20 kHz. Suggested list price \$2,200.



TASCAM 52 TAPE RECORDER
Tascam

TASCAM (TEAC CORP.)
7733 Telegraph Rd., Montebello, CA 90640
(213) 726-0303

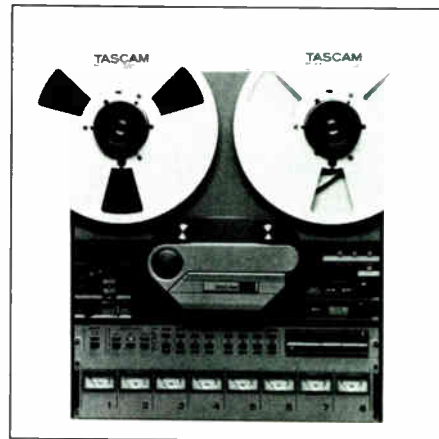
Product Name: TASCAM 52

Contact: Bill Mohrhoff or Tay Hotta

Date Product Introduced: April 1983

Product Description & Applications: 1/4" two track re-order 10 1/2" reel capacity. 7 1/2 ips or 15 ips operation. Fluorescent real time tape counter. Rear panel connectors for SMPTE synchronizer/controller interfacing. Three motor design with microprocessor-controlled transport functions. Var-Pitch mode with fine and coarse speed adjustments. Zero search feature moves tape to exactly 00 minutes 00 seconds. Several optional remote controllers are available.

Basic Specifications & Suggested List Price: \$3,500



TASCAM 58 TAPE RECORDER
Tascam

TASCAM (TEAC CORP.)
7733 Telegraph Rd., Montebello, CA 90640
(213) 726-0303

Product Name: TASCAM 58

Contact: Bill Mohrhoff or Tay Hotta

Date Product Introduced: April 1983

Product Description & Applications: The Tascam model 58 is a 1/2" 8 track recorder/reproducer which operates at 15 ips and accommodates 10 1/2" reels. Rear panel connectors provide quick interface to SMPTE controller/synchronizers. Three motor microprocessor-controlled transport with zero search and real time fluorescent tape counter. Var-pitch speed control. Several optional remote controllers are available. Long life high density permalloy heads for 40 Hz to 22 kHz response in sync or repro modes.

Basic Specifications & Suggested List Price: \$5,900

TELEX COMMUNICATIONS, INC.
9600 Aldrich Ave. S., Minneapolis, MN 55420
(612) 884-4051

Product Name: TELEX TAPE DUPLICATING SYSTEMS

Contact: Don Meehan

Product Description & Applications: Series 6120 high speed tape duplicating system. Modular construction for expandability. Half track or quarter track.

Basic Specifications & Suggested List Price: 6120 series from \$3,570

"I prefer Apollo Master blanks for my most critical work."

Vladimir Meller

Custom Mastering Engineer
Columbia Records Mastering Studios,
New York City



"I believe they give as quiet a cut as you can get through conventional mastering."

"The Apollo has all the pluses mastering engineers look for."

We designed into the Apollo lacquer all the features the mastering engineers have been asking for: better flatness, less noise, clean cutting, longer stylus life, better uniformity and consistency. Ultimately, the Apollo results in better records.

"Absolutely flat."

All aluminum blanks used for the Apollo are micropolished using a process originally developed for magnetic computer disks. This multi-step process resurfaces the aluminum blanks and creates a fine finish, free from defects and with an improved flatness.

"Free of ticks and pops."

Our elaborate lacquer manufacturing process insures that all particles and gels which could cause cutting problems are removed. Moreover, the new formulation resists lacquer buildup on the stylus, thus reducing groove wall scoring and loose debris in the groove, which contribute to ticks and pops.

"Least abrasion."

The unique Apollo formulation reduces the cutting friction when contacted by the heated stylus. This results in lower abrasion, thus extending the stylus life. And, of course, the formulation does not use any abrasive ingredients in the first place.

"Very consistent from batch to batch."

The excellent consistency of the Apollo lacquer masters is the result of complete control we have over the critical raw materials and the blending of the formulation. In addition, the extensive process and quality control methods assure the maintenance of tight manufacturing tolerances.



We've Mastered the Master.

Capitol
APOLO
Master Audiodisc.

Capitol Magnetic Products, 6902 Sunset Boulevard, Hollywood, CA 90028

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Circle #098 on Reader Service Card

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EW PRODUCTS OTHER EQUIPMENT

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POWER-FEP 204 ELECTRONIC CROSSOVER
Alagatronics Inc.

ALAGATRONICS INC.

141 Fifth Ave., New York, NY 10010
(212) 473-0515

Product Name: POWER-FEP 204 ELECTRONIC CROSSOVER

Contact: Frank Dines, President

Product Description & Applications: This unique product utilizes complementary signal processing, a method of frequency division which allows the individual outputs to be perfectly recombined. The acoustic result is total sound transparency and stunning transient response. Unity summing is not possible in classic crossover designs due to severe phase and amplitude distortion at the crossover points. As dramatic proof of the FEP 204's unity summing ability a stereo remix of all 4 outputs is provided for full band monitoring.

Basic Specifications & Suggested List Price: Mid bass 155 190 270-140 Hz (1,2) Mid bass/mid-high 81 218 27 kHz Mid-high/high 4.5 7 10 kHz Operating level 0 to +6 dBm maximum level +20 dBm 20,000 Hz (1) bass output features selectable compensation for mono sub-bass (2) in 3 way mode mid bass response from 20 Hz to mid high frequency bass output is identical in 3/4 way modes. Dimensions 10x1 75x5 375. All connections via RCA jacks. Note: complementary processing requires all drives connected in identical phase. Optimum results achieved by aligning all acoustic centers of radiation. List price \$625.

ANCHOR SYSTEMS INC.

5097 Santa Fe St., San Diego, CA 92109
(619) 272-9770

Product Name: ANCHOR 206/256

Contact: Maria E. Garcia, Assistant Sales Manager
Date Product Introduced: June 1983

Product Description & Applications: Self contained PA system with 55 watt amplifier, two 4 1/2" woofers and dome tweeter. Balanced mike input with volume control, 1/4" phone and RCA line inputs with volume control, 1/4" phone line output, speech/music equalization switch. Model 206 has walnut enclosure, model 256 has vinyl covered plywood enclosure with reinforced corners.

ANCHOR SYSTEMS INC.

5097 Santa Fe St., San Diego, CA 92109
(619) 272-9770

Product Name: ANCHOR SEVILLE POWERED PORTABLE LECTERN

Contact: Maria E. Garcia, Assistant Sales Manager
Date Product Introduced: July 1983

Product Description & Applications: Table-top oak cabinet lectern with volume control, aux. mike input with volume control, 1/4" phone line input with volume control, 1/4" phone line output, tone control, high-off-low light switch. Available as unpowered lectern. Optional 30" high base also available.



THIN PROBE HAN-D-MAG
R.B. Annis Co.

R.B. ANNIS CO.

1101 N. Delaware St., Indianapolis, IN 46202
(317) 637-9282

Product Name: THIN PROBE HAN-D-MAG

Contact: R.B. Annis

Date Product Introduced: late 1982

Product Description & Applications: As a result of customer requests, there is a new thin probe model of the powerful Han-D-Mag head demagnetizer. The overall thickness of the vinyl jacketed laminated steel probe is only 0.315". It is particularly well suited for reaching into narrow or "tight" areas and is the most powerful and effective audio-video head demagnetizer available. **Basic Specifications & Suggested List Price:** This thin probe Han-D-Mag is designed for practical intermittent duty on 115 volts, 50-60 Hz, being rated at 180 volt amperes. Demagnetizing field strength at the tip of the 2 1/4" probe is over 1200 oersteds and over 2000 oersteds at the opposite flush pole end. Price \$33.70, now in stock.

AUDIOARTS ENGINEERING

(A Division of Wheatstone Corp.)

5 Collins Rd., Bethany, CT 06525
(203) 393-0887

Product Name: MODELS 3218/2218 TUNEABLE ELECTRONIC CROSSOVERS

Contact: Andrew Calvanese, Engineering

Date Product Introduced: 1983 Fall AES

Product Description & Applications: The Audioarts Engineering tuneable electronic crossovers are new designs available in two models, the 3218, which is a three way stereo unit, and the model 2218, which is a two-way stereo unit. Both models have -18 dB/octave crossover points and have the following features: click detente variable frequency settings, HPF, front panel gain controls, LED overload indicator circuits, phase reverse, balanced transformer output options.

Basic Specifications & Suggested List Price: Frequency response 20 Hz - 100 kHz, ± 5 dB. Dynamic range 110 dB THD 0.0275% 20 kHz BW. Price: model 3218 \$585, model 2218 \$365.

AUDIO + DESIGN (Audio + Design Recording, Inc.)

P.O. Box 786, Bremerton, WA 98310
(206) 275-5009 / 275-5010

Product Name: PROPAK I & II

Contact: Kathleen Mallory

Date Product Introduced: May 1983

Product Description & Applications: Propak I allows level interface between high quality semi pro equipment and any operating level. Propak II adds to the above an optional "Coincident Time Corrector CTC™" for use with EIAJ Digital Recorders (such as the Sony PCM-F1) producing a Time Coincident Digital

Stereo Recording which is, after conversion to a compatible digital form, directly 1610 or compact disk compatible. It is no longer necessary to return to the analog domain for transfer to other digital formats.

Basic Specifications & Suggested List Price: Frequency response +0 - 25 dB 20 Hz - 20 kHz. Noise (rel. input) less than 92 dBm. Dimensions: 210 x 140 x 45 mm. Dynamic range, greater than 125 dB. Crosstalk: better than 70 dB at 10 kHz. Input impedance: electronically balanced 45 k ohms each phase ground rel. (transformer bal 10 k ohms floating). Output impedance: electronically balanced 68 ohms (transformer bal 140 ohms). Distortion: 0.004% THD at +20 dBm into 600 ohms, worst case. Price: Propak I - \$240, Propak II - \$290.

BANNER

P.O. Drawer 1803, Shelby, NC 28150

(704) 487-7012

Product Name: BANNER RTA-1232 1/2 OCTAVE REAL TIME ANALYZER

Contact: John Dellinger, President

Date Product Introduced: Prototype shown in late '82 - Production February 1983

Product Description & Applications: The Banner RTA 1232 is a 1/2 octave Real Time Analyzer featuring 31 double-tuned filter bands and an SPL meter. Double-tuned filters provide high resolution without loss of inter-band frequencies. The unit has built-in pink and white noise generators. It has two balanced phantom powered mike inputs and two line level inputs that may be summed together. Accordingly, it is very useful in the studio for detecting stereo cancellations.

Basic Specifications & Suggested List Price: 31 iso bands cover 20 Hz to 20 kHz. SPL meter. Digital pink and white noise generator. Two microphone inputs. Two line inputs. Special double-tuned filters. Suggested list price \$1,250.

CASES INC.

1745 W. 134th St., Gardena, CA 90249
(213) 770-4444

Product Name: ROADRUNNER SHIPPING CASES

Contact: Wayne Nall

Date Product Introduced: June 1983

Product Description & Applications: Cases for all audio and video equipment.

Basic Specifications & Suggested List Price: Cases are built to meet or exceed the Air Transport Assn. (ATA) specification 300 category. Prices vary depending on mtg & model of equipment to be cased.

CLEAR-COM INTERCOM SYSTEMS

1111 17th St., San Francisco, CA 94107
(415) 861-6666

Product Name: DLC SERIES

Contact: Peter Giddings, Marketing Director

Date Product Introduced: April 1983

Product Description & Applications: The DLC (Digital Logic Control) Series represents an innovative, modular concept incorporating a front panel designed for removable 4 channel/intercom and 4 channel/IFB modules. The DLC station operator can monitor a channel by pressing one of the monitor select buttons assigned to each channel. Each DLC station has an internal 10 x 10 assignment matrix, a mike preamplifier stage, announce, priority, ISO call, and permanently attached electret mike on a field adjustable length gooseneck extension.

Basic Specifications & Suggested List Price: Power on/off, circuit breaker reset, short circuit LED indicator, speaker on/off, call, mike on/off/momentary on, monitor select, push-to-talk, stage announce, priority/all-call, program volume, sidetone adjust, intercom volume, 9 intercom connectors, auxiliary input, external speaker connector, speaker mute connector, stage announce connector. Suggested list on MS-8 main frame - \$960.

CONCERT MUSIC DESIGN, INC.

1552 Laurel St., San Carlos, CA 94070
(415) 592-8055

Product Name: THE SMART SWITCHER SYSTEM

(continued on page 132)

TIME OFFSET CORRECTION



TOC™ 23

TIME OFFSET CORRECTION

Introducing TOC™ 23 from Professional Audio Systems. Finally, a way to correct time offset.

Many speakers have impressive response curves — but most have time offset error. And, if the acoustic sources of the low and high frequencies are offset from each other, the accuracy of transient sound will be impaired. The new TOC™ 23 Time Offset Correction device solves this problem — it provides an active delay that creates an identical acoustic source for the low, mid and high frequency components.



You will hear the difference ... in the studio, on stage or in the audience. Pin Point Accuracy.

Only the PAS electronic crossover with

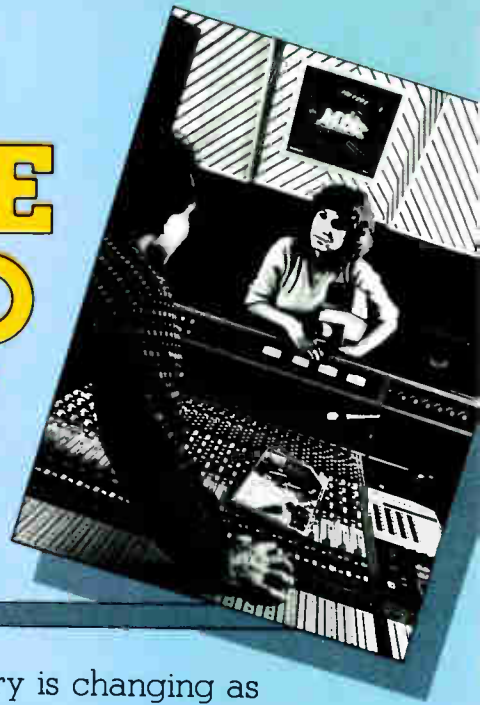
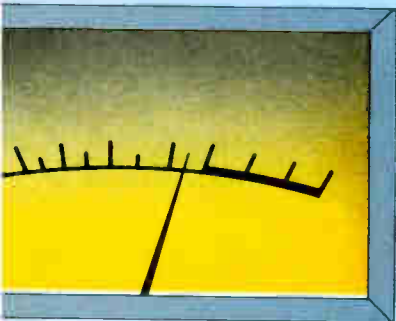
Time Offset Correction gives you such versatility:

- Single channel, 2 way or 3 way
- Special filters for flat group delay through the crossover points
- Equal group delay in all outputs in both 2 way and 3 way modes
- Adjustable time offset correction in low and midrange outputs
- Subsonic and supersonic filters
- Limiter on input
- Additional limiter on hi-frequency output for sensing amplifier output power
- Hi-frequency EQ for constant coverage horns

Take your speakers into your nearest Professional Audio Systems dealer for a demonstration. Or listen to theirs. You will hear like never before ... Clearly, distinctly, *correctly*.

1224 W. 252nd St., Harbor City, CA 90710 213/534/3570

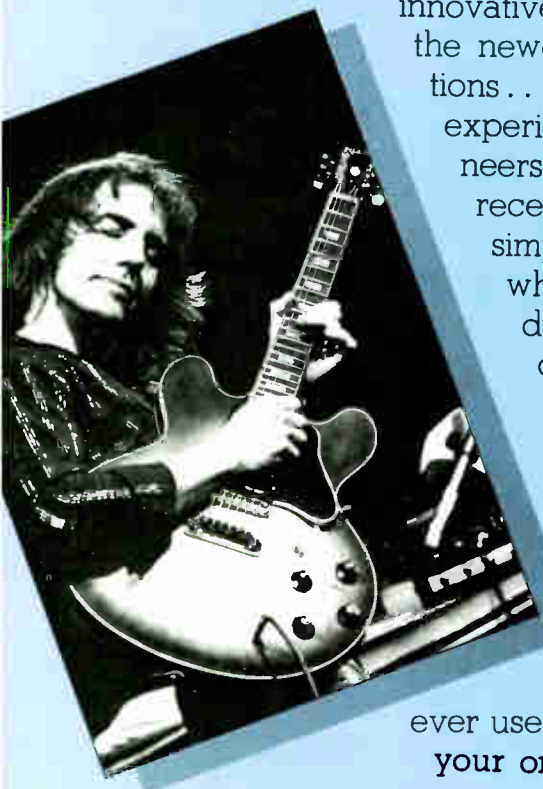
...IF YOU'RE IN THE STUDIO YOU'RE IN THE MIX



No doubt about it: the recording industry is changing as never before. Digital recording... Video music... declining record sales... computerization in the studio... home taping of records and radio... new markets. As a serious professional, you're probably changing too, and doing your best to keep up with these new developments. That's where **Mix** comes in. ■ No other publication offers such a wide variety of informative columns and feature articles on today's dynamic audio/video scene. Whether you want to learn about the latest hardware and innovative production techniques... tour the newest, state-of-the-art studio installations... read the views and personal experiences of leading producers, engineers and performers... catch up on recent sessions and other events... or

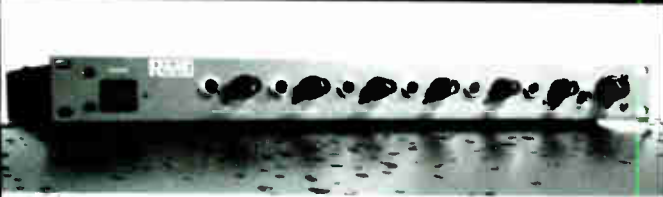


simply be entertained by some of the best writing anywhere—**Mix** has it all! (And only **Mix** publishes detailed directories of studios throughout the U.S., as well as other vital facilities and services.) ■ We want you to find out for yourself how *you* can benefit from reading **Mix** each month, so we're making a special introductory offer: **12 months—one whole year of Mix—for just \$18.00!** That's 25% off our regular subscription price. ■ Just return the subscription card in this issue. For only \$1.50 a month, you'll begin receiving one of the most valuable tools of the trade you'll ever use! (Special bonus: Send payment with your order and receive two extra issues.)

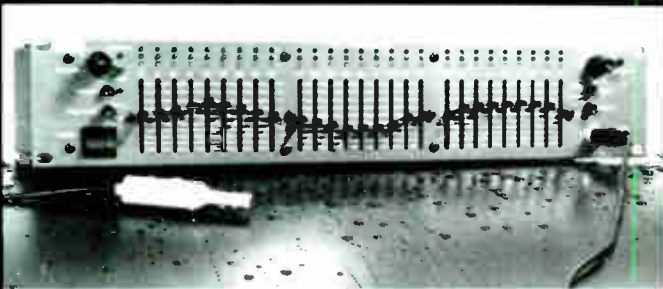


"HAVE YOU HEARD ANY OF THAT NEW RANE EQUIPMENT?"

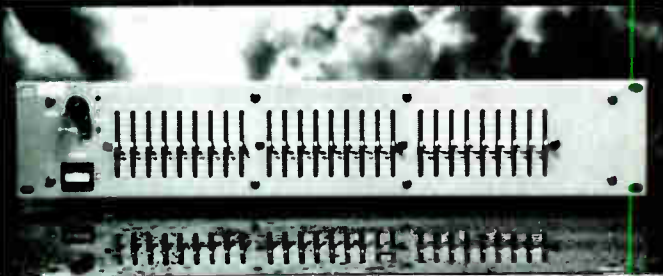
People are talking about Rane. They should. Suddenly there are a number of surprisingly innovative, practical, cost-effective and downright exciting products coming from this new Rane Corporation.



The HC 6 HEADPHONE CONSOLE contains six stereo headphone amplifiers which can be driven individually through separate inputs, or together through a master stereo input! In just a single rack space the HC 6 provides all the output and flexibility you could desire for personal recording or professional studio headphone monitoring. Suggested list price \$349



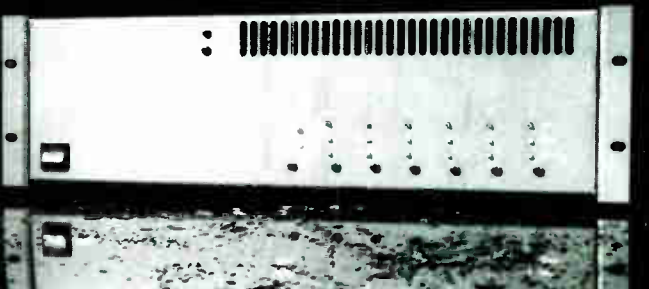
The RE 27 REALTIME EQUALIZER is a precision 1/3 octave equalizer combined with a matching 1/3 octave realtime analyzer, including its own pink noise generator and calibrated condenser microphone. Incredibly easy to use, the RE 27 can provide minimum feedback and a dramatic improvement in the entire system sound in mere minutes, whenever you perform. Suggested list price for the complete system is just \$799



The GE 27 STATE VARIABLE THIRD OCTAVE GRAPHIC EQUALIZER brings a whole new standard of precision to the third octave format. The State Variable filters maintain a constant third octave bandwidth at all slider positions, resulting in greater accuracy, reduced filter overlap and minimized adjacent band interaction over any other standard designs. With superior performance and specifications the GE 27 is only \$449 suggested list price.



The MM 12 MONITOR MIXER is an ultra compact, rack mountable 12 input 6 output mixer, complete with built-in mic splitters, three-way input EQ, sub-mixing, two-stage parametric output EQ, cue system and a re-designed layout to make it extremely easy to use. Only 19" W x 21" H x 2 1/2" D the MM 12 carries a suggested list price of \$1299



The MA 6 MULTICHANNEL AMPLIFIER is a whole new concept in power amp format. The MA 6 contains SIX separate channels EACH rated at 100W into 8 ohms or 150W into 4 ohms, with fully automatic built-in bridging for 300W into 8 ohms from each pair of channels. A SINGLE MA 6 will drive 6 separate stage monitor mixes or stereo biamped main speakers with 100W high end and 300W low end or three separate biamped monitor mixes or stereo triamped main or side-fill monitors, and who knows what else - ALL protected by built-in limiters to provide an extra 15dB headroom before clipping and a 4dB increase in continuous SPL (the equivalent of six 250W amps without limiters). Only 5 1/2" H x 19" W x 11 1/2" D and 44 lbs. the MA 6 will deliver up to 960W six different ways for only \$1499 suggested list price.

Shown above are five unique products currently in production, with more on the way. Stop into any of the fine Rane dealers nationwide, ask for a demonstration, and hear for yourself all that these products will deliver.



6510 D 216th SW, Mountlake Terrace, WA 98043 (206) 774-7309

Circle # 100 on Reader Service Card

World Radio History

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TRAVEL

WEATHER

BOATS NO. 1

THE JET AGE

CONSTRUCTION

LIGHT AIRCRAFT

SURF AND WATER

TRANSPORTATION

INDUSTRIAL NO. 1

ATMOSPHERE NO. 1

ATMOSPHERE NO. 2

ATMOSPHERE NO. 3

FIRE AND DISASTER

LITTLE SOUNDS NO. 1
PEOPLE AND CROWDS
HOUSEHOLD/WORKSHOP

Just a few of the sounds in the SFX® Sound Effects Library—Created with the professional in mind. Choose from our 16 albums listed to the left. For ordering information write or call: SFX®, Box 401, Skokie, IL 60077, 312.775.5505



Circle #101 on Reader Service Card

TONE GENERATORS

for critical slide synchronizers and other applications.

Zero cross detection.
Automatic repulse and many other features.

Two models to choose from.

Write or call for further information.



Rt 4 Box 40
Lockport, IL 60441
(815) 838-1285

Circle #102 on Reader Service Card

NEW PRODUCTS

OTHER EQUIPMENT

1 • 9 • 8 • 4

—from page 128

Contact: Jerry Kirby
Date Product Introduced: April 1984
Product Description and Applications: The Smart Switcher System is an automated audio routing switcher that will sum as well as distribute very high quality audio signals. The system features parametric level control and can be controlled by either an Apple II or an IBM PC. Optional time code preset software will be available soon.

Basic Specifications and Suggested List Price: Frequency response: +0 to +5 dB from 18 Hz to 40 kHz; Crosstalk: +85 dB at 20 kHz; Signal to noise ratio: +92 dB; Total harmonic distortion: 0.5% @ 2 matrix positions; 100 track space. Suggested list price: \$15,000.

DIRECT CONNECTION
P.O. Box 437, Lanham, MD 20706
(800) 638-8027

Product Name: MC-2 MICROPHONE CABLES
Contact: John Kirkland, Sales Director
Date Product Introduced: July 1983
Product Description & Applications: Direct Connection has introduced a line of microphone cables and components. The ultra flexible MC-2, which is available in 11 colors, features a low capacitance pair twisted tightly to reject electro magnetic interference wrapped in a teflon 100% TFE jacket that will not bind or slip when flexed. The cable can be purchased in bulk or with Neutrik connectors installed and marked to indicate length. Storage straps and gold plated contacts available.

Basic Specifications & Suggested List Price: Capacitance: 20 pF/ft; Conductors: 22 AWG; Drain wire: 22 AWG; Shield effectiveness: 100%; Diameter: .24"

DIRECT CONNECTION
P.O. Box 437, Lanham, MD 20706
(800) 638-8027

Product Name: MULTIPLE CHANNEL WIRING SYSTEMS
Contact: John Kirkland, Sales Director
Date Product Introduced: July 1983
Product Description & Applications: Direct Connection has introduced a complete line of multi-channel audio video wiring systems and components. The multi-channel extra large high contrast numbering system color coded groups an extremely rugged custom designed composite box with connector boards and standard interconnects and sockets. Permanent mounting brackets and storage straps. A complete line of tools and accessories is also available.

Basic Specifications & Suggested List Price: Cable mate Black double shield 22 AWG individually shielded; Connectors: Neutrik XLH gold plated pins available; AMP, CTR, C and M series connector transformers; in-line and lift switches available.

DISCWASHER
A DIVISION OF JENSEN, AN ESMARK CO
1407 N. Providence Rd., P.O. Box 6021,
Columbia, MO 65205
(314) 449-0941

Product Name: DISCWASHER GOLD-ENS, NEW IMPROVED
Contact: Lynn Bush, Design Engineer, DISC LAB
Date Product Introduced: June 1983; former CES
Product Description & Applications: Gold-Ens (New Improved) features low capacitance cable connected via color coded strain relief and built-in RCA phono connectors. The improvement centers on the insulation which is now a high performance leaved dielectric for minimum distortion and maximum clarity. For use with the highest performance consumer type monitor systems, is used in quality concert studios.

Basic Specifications & Suggested List Price: Lengths available: 1 meter, 1.5 meter, 2 meter, 3 meter, 4 meter, 5 meter, 5.5 meter, 6 meter, 6.5 meter, 7 meter, 7.5 meter, 8 meter, 8.5 meter, 9 meter, 9.5 meter, 10 meter, 10.5 meter, 11 meter, 11.5 meter, 12 meter, 12.5 meter, 13 meter, 13.5 meter, 14 meter, 14.5 meter, 15 meter, 15.5 meter, 16 meter, 16.5 meter, 17 meter, 17.5 meter, 18 meter, 18.5 meter, 19 meter, 19.5 meter, 20 meter, 20.5 meter, 21 meter, 21.5 meter, 22 meter, 22.5 meter, 23 meter, 23.5 meter, 24 meter, 24.5 meter, 25 meter, 25.5 meter, 26 meter, 26.5 meter, 27 meter, 27.5 meter, 28 meter, 28.5 meter, 29 meter, 29.5 meter, 30 meter, 30.5 meter, 31 meter, 31.5 meter, 32 meter, 32.5 meter, 33 meter, 33.5 meter, 34 meter, 34.5 meter, 35 meter, 35.5 meter, 36 meter, 36.5 meter, 37 meter, 37.5 meter, 38 meter, 38.5 meter, 39 meter, 39.5 meter, 40 meter, 40.5 meter, 41 meter, 41.5 meter, 42 meter, 42.5 meter, 43 meter, 43.5 meter, 44 meter, 44.5 meter, 45 meter, 45.5 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meter, 715 meter, 715.5 meter, 716 meter, 716.5 meter, 717 meter

Basic Specifications & Suggested List Price: CM1905 voltage monitor and surge suppressor is equal to or better than a "conventional" line performance and provides optimum transient protection that complies with the IEEE Standard. It is compact, light weight and designed for use in the home or office. The suggested list price is \$159.

OMNIMOUNT SYSTEMS

10850 Van Owen St., N. Hollywood, CA 91605
(213) 766-9000

Product Name: OMNIMOUNT SERIES 200, CABLE/MOUNT SYSTEM

Contact: Alexander Cyrell
Date Product Introduced: April 1983
Product Description & Applications: Complement the Series 90 and Series 100 Omnimount Universal Mounting Assemblies as the Series 200 Omnimount designed for larger and heavier loads. The Series 200 can be used in conjunction with a new cable mount system. Cable mount uses air rat type wire rope for a super strong, very clean installation. Unsightly eye bolts, cable clamps and turnbuckles are eliminated by the ball socket and flange design of our on-site adjustable end fittings.

PEAK AUDIO INCORPORATED

3107 Bedlington Place, Holland, PA 18966
(215) 860-0303

Product Name: PHASEMETER I

Contact: Michael L. Sirks, President
Date Product Introduced: October 1983
Product Description & Applications: The Phasemeter offers two modes of operation. In the VU mode, Phasemeter I displays left and right tape playback level information on two 10 step LED meters. When played in the Phase mode, the unit generates a special signal to be recorded onto the tape. When reproduced, the returning stereo signal is analyzed for phase error and the error is displayed. The unit can be used to quickly align record head azimuth prior to recording in a studio; play head azimuth can be adjusted by using a tape pre-recorded with the special signal and expensive test tapes.

Basic Specifications & Suggested List Price: VU mode, two ten digit peak response LED level meters; Phase mode, built-in auto manual detector; displays phase error $\pm 54^\circ$ in 9° increments. Phase resolution is reference to 15 kHz.

PENNY & GILES CONDUCTIVE PLASTICS
1640 Fifth St., Santa Monica, CA 90401
(213) 393-0014

Product Name: ROTARY FADERS

Contact: Gay Coles
Date Product Introduced: January 1983
Product Description and Applications: Penny & Giles rotary faders for professional use provide a smooth and positive rotary action while maintaining the same high engineering standards and performance benefits of Penny & Giles linear faders.
Basic Specifications and Suggested List Price: Penny & Giles rotary faders offer these performance advantages: infinite resolution, smooth rotary action, no maintenance, fully sealed construction, up to 8 outputs per slider, very low cross-talk, audio linear or pot, pot, other options for detents and switches.

R-COLUMBIA PRODUCTS COMPANY, INC.

2008 St. Johns Ave., Highland Park, IL 60035
(312) 432-7915

Product Name: REMOTE POWERED INTERCOM HEADPHONE SYSTEM

Contact: Irv Rozak, President
Date Product Introduced: January 1983
Product Description and Applications: Featuring "instant hookup" remote powered intercom headphones provide superb 2 way inter-communication without the need for technical installation skills. Powered by a 120V supply, the R-Columbia Model TP-IC provides crystal clear 2 way voice communication utilizing up to 10 similar headphones which can be separated by distances of up to one mile. System is compatible with universally available modular telephone cords and accessories. "Instant hookup" headphones require only a whisper to transmit loud and clear long distances.

Basic Specifications and Suggested List Price: Starter system (includes 2 TP-IC headphones, IC-100 interconnect cables and 1 MSPW 1 main station power supply) priced at only \$595. TP-IC dual ear headphone price is \$135. TP-IC 2 single ear headphone price is \$140. IC-100 interconnect cable (100 ft) price is \$54. MSPW 1 main station/power supply price is \$250.

R-COLUMBIA PRODUCTS COMPANY, INC.

2008 St. Johns Ave., Highland Park, IL 60035
(312) 432-7915

Product Name: MODULAR "TELEHEADPHONE"™ HEADSET

Contact: Irv Rozak, President
Date Product Introduced: January 1983

Product Description and Applications: A telephone headset phone the new Teleheadphone converts any standard modular telephone to "hands-free" operation without installation. The R-Columbia Model 52/TM is plus in compatible with standard telephone handsets and provides superbly comfortable "hands free" telephone use for long hours. For operation, unplug the cord from any modular type telephone handset and insert it into the "Teleheadphone." The handset is removed from its cradle during phone use and hung up at the end of conversations.

Basic Specifications and Suggested List Price: Model 52/TM single ear model price is only \$99.75. Model 52/TMM double ear type is priced at only \$145.

ROSSET CO.
884 Murray Ave., San Luis Obispo, CA 93401
(805) 543-9543

Product Name: MEDIA DISTRIBUTION AMPLIFIER MODEL 124A

Contact: Paul Hosset, Engineer
Date Product Introduced: June 1983
Product Description and Applications: Designed for applications where multiple isolated outputs are required from single balanced audio feeds. The model 124A provides 16 unity-gain unbalanced outputs plus 8 low level balanced microphone outputs. A single balanced output is provided for cascading additional 124A media distribution amplifiers. Ideal for use whenever multiple simultaneous recordings are required: concerts, trade shows, press conferences, town meetings, lectures.

Basic Specifications and Suggested List Price: Input operating level +4 dBV. Max. +21 dBV. Mike level outputs +45 dBV. Any output can be shorted to ground indefinitely with no effect on other outputs. Steel cabinet is black with walnut sides. Size: 2 3/8" x 8 1/4" x 12 1/4". Power requirements: 110 VAC, 60 Hz. Suggested list price: \$450.

RTS SYSTEMS, INC.
1100 West Chestnut St., Burbank, CA 91506
(213) 843-7022

Product Name: MODEL 802 MASTER STATION

Contact: Bob Tourkow, Sales Manager
Date Product Introduced: April 1983
Product Description and Applications: The Model 802 Master Station is a highly sophisticated microprocessor assisted communications control center designed for use in teleproduction, television, broadcast operations, commercial industrial installations, and virtually any other application where reliable, high performance communications are required. The 802 can provide 22 independent signal paths operating in up to six modes. Features include intercom, scanback, IFB, SA, station iso, and signaling. The 802 is completely self contained and does not require space consuming central electronics.

Basic Specifications and Suggested List Price: As of April 1983, pro net price for 802 Master Station is \$4,600.

SAKI MAGNETICS
8650 Hayden Place, Culver City, CA 90230
(213) 559-6704

Product Name: METAL AND FERRITE MAGNETIC TAPE HEADS

Contact: Trevor J. Boyer, Director Marketing & Sales
Product Description and Applications: In our plant in Culver City, CA, Saki manufactures both metal and ferrite heads for most models of Ampex, MCI, Mincom, Otari, Revox, Scully, Studer and Technics machines. Most of these heads are of hot pressed glass bonded ferrite construction with a life expectancy 10 to 20 times that of standard metal heads. However, in the case of 2 track 1/2" and 16 and 24 track heads, some of these are also of metal construction. Every Saki head is shipped with an unconditional guarantee of complete satisfaction.

New long life audio posts for Sony and Ampex machines.
Basic Specifications and Suggested List Price: Typical pricing: ATH 100 2 track 1/4" record or playback head: \$295. ATH 100 2 track 1/2" record or playback head: \$475. Ampex 350 440 type 2 track 1/4" record or playback head: \$270. MCI 2 track 1/4" record or playback: \$195 ea. Mincom 2 track 1/4" \$295, Mincom 16 and 24 track call for special pricing. Scully, Otari, Revox 2 track 1/4" \$195 ea. Studer A 80: \$295, TEAC 80 H: \$395.

SHARP ELECTRONICS CORPORATION,
Professional Products Division
10 Sharp Plaza, P.O. Box 588, Paramus, NJ 07652
(201) 265-5548

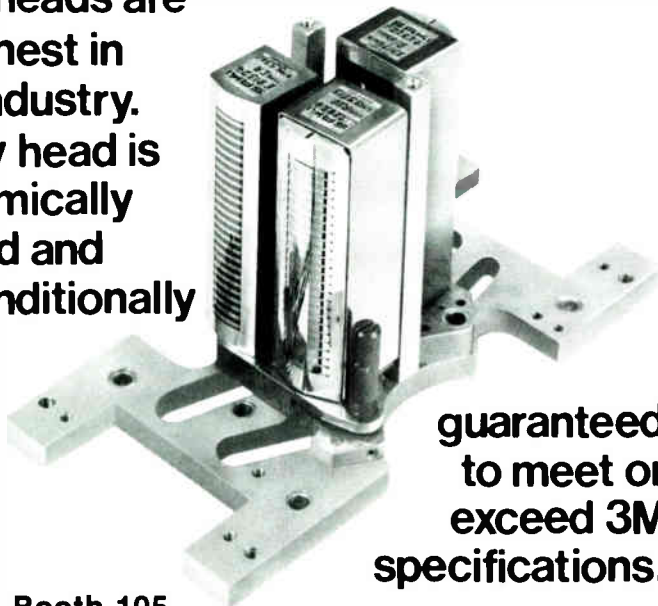
Product Name: XC-900D DIODE GUN PLUMBICON COLOR CAMERA

Contact: Robert Garbutt, General Manager
Date Product Introduced: April 1983
Product Description and Applications: The Sharp XC-900D is a broadcast grade 3 tube prism optics color video camera. It features Diode Gun Plumbicon tubes for high resolution and signal-to-noise, and low lag. It also features linear matrix masking for precise color matching and an on-board microcomputer. The XC-900D is an excellent video camera for studio use, as well as field production (such as remote location shoots and live concert video taping).

Basic Specifications and Suggested List Price: XC-900D Camera Head: \$18,735. XC-900PP (Portable Package) includes

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guaranteed to meet or exceed 3M specifications.

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A CALIFORNIA CORPORATION

8650 Hayden Place, Culver City, CA 90230 213 / 559-6704 (TWX-910-328-6100)

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camera head, 1 1/2" viewfinder, AC adaptor and heavy-duty carrying case \$1995 XC-60/TX Trax System allows remote camera operation over a mile from base station (perfect for use in large stadiums and concert halls) \$995 XC-80RPA Remote Operation Panel (for studio and field production use) \$2500 XC-870VF 7" Studio Viewfinder \$860 A wide selection of lenses, camera cables and other system accessories is also available for the XC-900D

SIE PUBLISHING

31121 Via Colinas, Suite 1003,
Westlake Village, CA 91362
(213) 706-0303

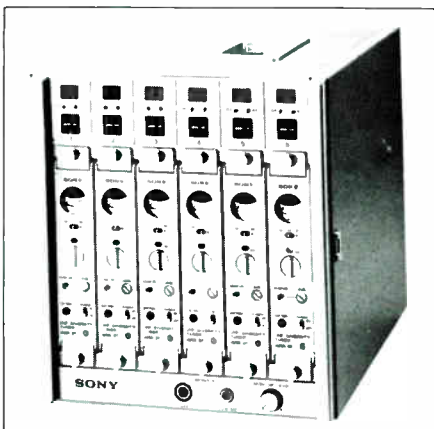
Product Name: 1984 PROFESSIONAL AUDIO BUYERS GUIDE

Contact: Cecilia Moskal, Vice President

Date Product Introduced: January 1984

Product Description and Applications: The 1984 Professional Audio Buyers Guide is a revised and expanded third edition listing a complete range of products from over 100 manufacturers of PA and recording equipment represented by product pictures, model numbers, features, specs, prices and a cross referenced index. In addition to the product reference section, next year's book will contain a new editorial section featuring general interest technical articles, audio tips, product comparison charts and interviews with prominent audio professionals.

Suggested List Price: List price \$9.95



PB-36 PORTABLE BASE UNIT
Sony Corporation of America

SONY CORPORATION OF AMERICA

Sony Drive, Park Ridge, NJ 07656
(201) 930-6210

Product Name: PB-36 PORTABLE BASE UNIT

Contact: Jim Guthrie, National Sales Manager

Date Product Introduced: April 1983

Product Description and Applications: The PB-36 Portable Base Unit constitutes a powerful 6 channel diversity tuner system when combined with WRH 37 type diversity tuners. Includes built-in antenna divider, AC power supply. Features front panel mounted monitor level control and headphone jacks. Available optional attachment that permits 19" rack mounting and is capable of supplying power to an antenna booster.

Basic Specifications: 9 1/2" w x 12 1/2" d x 10 1/2" H

SOUND IDEAS SOUND EFFECTS LIBRARY

86 McGill St., Toronto, Ontario Canada M5B 1H2
(416) 977-0512

Product Name: SOUND IDEAS SOUND EFFECTS LIBRARY

Contact: Mr. Brian Nimens, President

Date Product Introduced: April 1983

Product Description and Applications: Over 3,000 stereo sound effects, on 125 boxed reels of tape, over 30 hours of recorded sounds available at 7 1/2 or 15 ips, comes with two computerized catalogs complete with descriptions and times for every effect. We feature an Auto Locate system that allows you to find an effect with speed and efficiency. Tonea slates for each effect. Every library dubbed on a one-to-one basis at time speed from dbx Masters.

Basic Specifications and Suggested List Price: 7 1/2 ips library \$1,500 15 ips library \$2,000 Extra catalogs \$10 each.

SOUND TECHNOLOGY

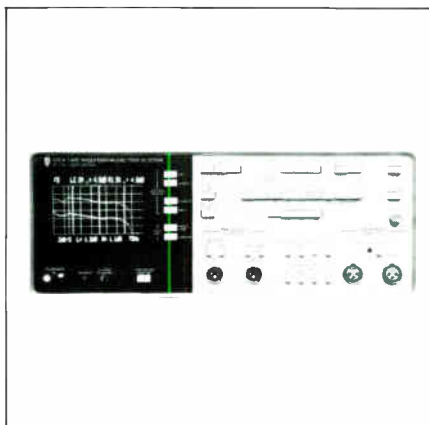
1400 Dell Ave., Campbell, CA 95008
(408) 378-6540

Product Name: Model #1510A

Contact: Kent McGuire, National Sales

Date Product Introduced: 1983

Product Description & Applications: With the 1510A Tape Recorder/Audio Test Instrument, the audio engineer has the capability of performing all of the necessary tests for maintenance troubleshooting and general check-out of any professional audio device, whether it be tape recorder, turn machine, mixing board, reference turntable, parametric equalizer, or any other outboard device. With the 1510A's exclusive asynchronous inputs and out-



MODEL #1510 A
Sound Technology

puts, the instrument lends itself to system check-outs and remote location testing such as satellite transmitter or studio testing using either the 1510A's microprocessor controlled generator or an external generator (the 1510A's inputs are totally auto ranging and auto-tuning). For more information or a demonstration, call Kent McGuire or Bob Millice at the factory (408) 378-6540.

STELLATRON

4942 Whitsett Ave., N. Hollywood, CA 91607
(213) 506-0415

Product Name: AIRFOX

Contact: Wayne Slater

Date Product Introduced: September 1983

Product Description and Applications: The Airfox is designed to allow engineers and producers to evaluate their products as they sound on FM stereo radio. Airfox contains both broadband and high frequency limiter compressors which process the audio in the same manner as broadcast stations. A full fidelity FM stereo multiplex generator and high quality FM oscillator transmit a stereo signal to any FM receivers within the approximate 200' range. Airfox may also be used as a wireless headphone transmitter, utilizing "Walkman" type receivers.

Basic Specifications and Suggested List Price: Controls/features: power switch, stereo mono switch, audio input adjust, frequency and modulation adjust. A triple bar graph indicates composite modulation, broadband and high frequency gain reduction. The Airfox measures 19 x 3 1/2" x 12" and is rack mountable. Four panel TRS audio inputs are provided. Requires 117 VAC 50/60 Hz. Price: \$695.

STUDER REVOK AMERICA

1425 Elm Hill Pike, Nashville, TN 37210
(615) 254-5651

Product Name: STUDER SFC-16 SAMPLING FREQUENCY CONVERTER

Contact: Tom Minter, Director, Studer Products

Date Product Introduced: January 1983

Product Description and Applications: The SFC-16, the first digital sampling frequency converter for audio, is based on novel concepts in digital filtering, clock processing and digital filter control. It permits the free conversion between arbitrary digital audio formats and sampling frequencies. The amount of signal degradation introduced is significantly lower than that of state-of-the-art analog converters. The SGC-16 processes a stereo pair of digital audio channels and can be used to either increase or decrease the sampling frequency of a digital audio signal. As it adapts itself to the clock signals, the SFC-16 does not require programming.

Basic Specifications and Suggested List Price: Signal to noise ratio (up or down mode) 96 dB. Phase response: linear. Attenuation at 20 kHz and 44.1 kHz sampling frequency: 2 dB. Suggested list price: \$22,500.

SWITCHCRAFT, INC.

5555 N. Elston Ave., Chicago, IL 60630
(312) 792-2700

Product Name: IMPEDANCE MATCHING TRANSFORMERS

Contact: Herbert C. Klapp, Manager Marketing/Communications

Date Product Introduced: March 1983

Product Description and Applications: A complete line of in-line impedance matching transformers with a variety of connectors. Send for brochure NPB-365A for details.

Suggested List Price: \$30.75 to \$17.25

TENTEL

1506 Dell Ave., Campbell, CA 95008
(408) 379-1881

Product Name: TENTELOMETER

Contact: Wayne Graham, Sales Manager

Date Product Introduced: 1983

Product Description & Applications: Tape tension gauge for measuring dynamic in-line running hold back and take up tension

on reel to reel recorders and tape widths of 1/4", 1/2" and 1". Invaluable for diagnosing sources of wow and flutter caused by bearings, out of round, capstans or pinch rollers.

Basic Specifications & Suggested List Price: T2L20A measures tape tension to 20 ounces or 600 grams, requires no batteries, is hand held and provides accuracies within $\pm 10\%$ of the tension reading. List price is \$198.



IDEAL SOUND RECORD CLEANING KITS
Timerep Inc.

TIMEREP INC.

141 Fifth Ave., New York, NY 10010
(212) 473-0515

Product Name: "IDEAL SOUND" RECORD CLEANING KITS

Contact: Steve Brown

Product Description and Applications: Used frequently, Ideal Sound guarantees better sound and longer record durability. As shown from left to right: (0203) Velvet pad with fine fibers for removing dust that accumulates in record grooves. (0205) Carbon fiber brush. Natural electric conductive filaments eliminate electrostatic charges to clean records. (0207) Anti-static Fluid Cleaner. Just a few drops of fluid on the pad makes cleaning easy. A brush for cleaning the pad and the pickup complete the kit. (0201) Record Dry Cleaning Kit. The piezoelectric demagnetizer eliminates static electricity on records, allowing for easy cleaning. Included in the kit is a brush for cleaning the pad and the pickup.

Basic Specifications and Suggested List Price: Specifications per case:
(0203) Velvet pad 8 1/2" x 4" x 2 1/2" 1 lb. 5 oz. 12 per case
(0205) Carbon fiber brush 8 1/2" x 4" x 1 1/2" 1 lb. 4 oz. 15 per case
(0207) Anti-static fluid kit 1 3/4" x 1 1/2" x 9/4" 8 lb. 8 oz. 24 per case
(0201) Record Dry cleaner kit 11 x 8 1/2" x 5 1/2" 5 lb. 8 oz. 6 per case

TRADEWIND SOUND

P.O. Box 67224, Century City, CA 90067
(213) 836-8360 or 837-6863

Product Name: SOUND CONNECTIONS

Contact: Michael Panish

Date Product Introduced: mid 1983

Product Description and Applications: Sound Connections are the line of professional audio cabling manufactured by Tradewind Sound that comes with a lifetime warranty. The cable is custom manufactured by Belden and uses Switchcraft connectors. We have specially designed a triple step heat shrink process to insure Sound Connections every time the cabling is used. Personal house labeling is available at no extra charge. Available in red, green, blue, white, black and brown. Special configuration and color available by special order. High quality instrument cabling, microphone line, speaker and any other audio use.

Basic Specifications and Suggested List Price: Belden H402 dual conductor with an 85% braided shielding. Cotton cord insulation to insure proper flexibility at any temperature. Hypalon jacketed Switchcraft connectors triple heat shrink process, and a chemical bonding for dependable connections. Suggested list price 25' \$49.95.

WIREWOKS CORPORATION

380 Hillside Ave., Hillside, NJ 07205
(201) 686-7400

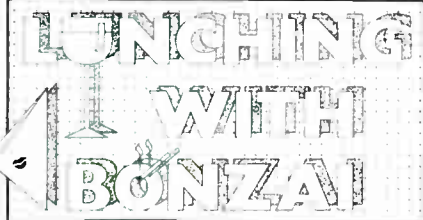
Product Name: WIREWOKS COAX CABLES (BC & UC SERIES)

Contact: Gerald J. Krulwicz, President

Product Description and Applications: These are completely assembled, precision tested, and individually packaged cable assemblies. BC Series cables are terminated with a BNC crimp type connector on each end, UC Series cables are terminated with UHF connectors on each end. Both series are stocked in 1, 5, 10, 25, 50, 75, and 100 foot lengths — available for immediate delivery.

Basic Specifications and Suggested List Price: BC Series cables are available in RG58/U for RF signals and RG59/U for video use. UC Series cables are available in three cable types: RG58/U for RF applications, RG8/U where lower loss cable is required, and RG59/U for video equipment use. For prices please contact Wireworks directly.

A FIRESIGN CHAT



by Mr. Bonzai

The Firesign Theatre first debuted on Los Angeles radio in 1966. Since then they have written and produced 15 record albums. They have also written and produced short films, written magazine articles, and appeared continually on stage, television, and in films. The big news with Firesign is that they have seriously entered their visual stage of comedy. Recently, they completed a video album for Mike Nesmith's Pacific Arts Video that will be distributed by MCA this fall.

We lunched on pizza and beajolais at Fred Jones Recording Services in Hollywood. This session was for an upcoming Nick Danger audio adventure.

The creation of a Firesign album is the spoken word equivalent of a complex multi-track music album. They zip back and forth laying down short bursts of dialogue. They listen and revise. They take a joke and spread it mercilessly on the floor. They attack it. They graft on a new punch line. They debate "funny." They have so many ideas that it's easy for them to throw the limp ones in the trash. The wordplay crisscrosses the room and is frantically woven into the fabric of weird narrative.

Each of the members is brilliant in his own particular way. Phil Proctor has the comforting and friendly air of a country doctor and yaks vigorously about the new forms their work has taken. Peter Bergman is intense and volatile; he injects his fantasies into our 1984 world and projects them into believable spinoffs of the present. Phil Austin is reserved and poised; his humorous philosophy is revealed through a careful choice of words and images.

Bonzai: Where have you guys been?

Austin: We went underground in '76 and re-emerged in '78. This is the fifth year of the new organization. Two years ago, David Ossman became an inactive member of the group and he's now working with National Public Radio. He was the host of the ill-fated "Sunday Show." We've been moving into video, film, television very strongly. And now I'd like to turn it over to Mr. Proctor.

Proctor: As far as I'm concerned, he's said it all. [Snores.]

Bergman: The past year has been spent creating the visual aspect of Firesign Theatre Craziness. Our video movie is called "Nick Danger and the Case of the Missing Yoke." Y-O-K-E.

Austin: What? Y-O-L-K!

Proctor: Oh, so that's how it's spelled, says mom.

Bergman: We are now translating all of the craziness that we project as audio fantasy into visual madness.

Proctor: Violating the laws of video.

Austin: Primarily, we're all writers.

For the 17 years that we've been together, our writing has been the most important part of what we do. To write for the visual medium after all those years has been tough, but we're lucky that we've had people to work with that match our vision. Most important is our director, Bill Dear. All of a sudden we're finding it very easy to translate into the visual world. In audio you are able to go anywhere, do anything, and make transistions very quickly. You don't have to keep

the listener constantly in touch with where he is, whereas in the visual world if you're in a room, you want to know what building it's in.

Proctor: One of the things you've seen today is that we take the script as a blueprint. In the studio, we've always created, at the moment, what goes onto tape. That is the performance. When people ask if we are an improvisational group, we have to say "kind of." We write, and out of the performance comes the polish. We listen and revise.

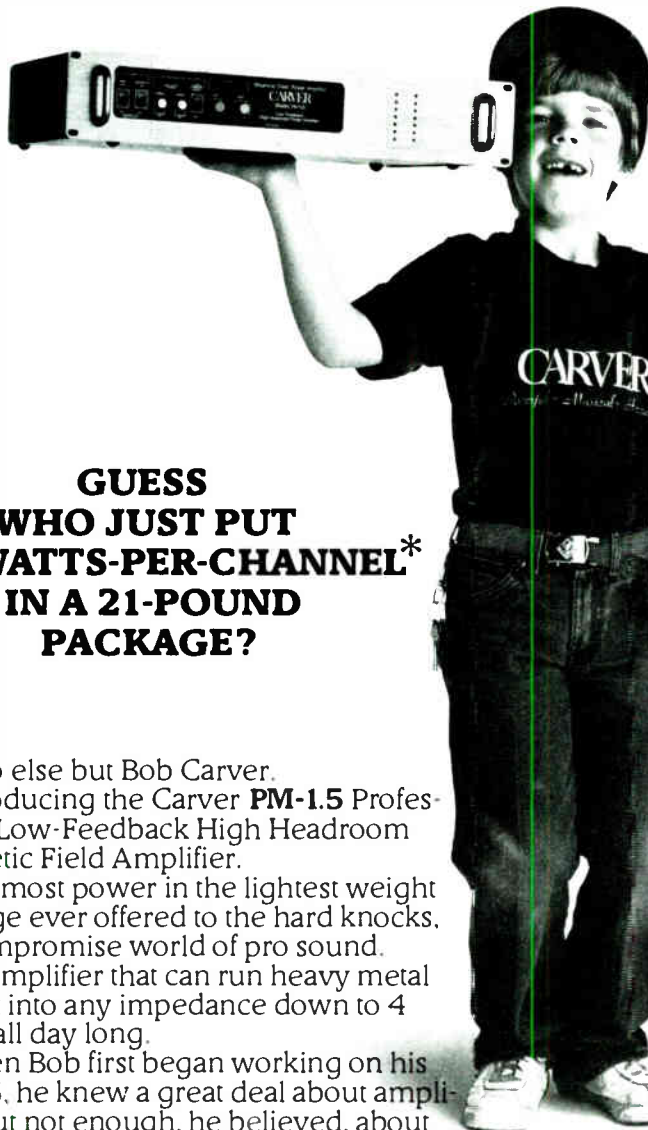
We consider the "Nick Danger" video as a visual comedy album for the home. It will not be released in any other form for the first year. If people like it they will invite their friends over and play their favorite cuts, and spread it around by "word of eye."

On film, in order to create that performance, we count very much on the cooperation of the other people who are working with us. For a record we count on Fred Jones and Peter Cutler, and whoever else happens to be around the studio becomes an audience. Basically, in a recording studio we are almost entirely in control of the finished product. We construct it around us. When we are working in film, the director is extremely important, because he, being more skilled in *his* expertise, can often help us by his conception to realize the style visually. We know exactly what it should sound like and

—page 138

(Left to right)
Peter Bergman,
Phil Proctor,
Phil Austin,
engineer Fred
Jones, still
crazy after all
these albums





**GUESS
WHO JUST PUT
450 WATTS-PER-CHANNEL*
IN A 21-POUND
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Who else but Bob Carver.
Introducing the Carver **PM-1.5** Professional Low-Feedback High Headroom Magnetic Field Amplifier.

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

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

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

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

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

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

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

protection circuits.

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



Front-panel-adjustable protection circuits.

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

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

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

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

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

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

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

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



CARVER

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we can create the dramatic rhythms for it. The director is responsible for focusing it and making it more like the way we see it in our heads. It's been enormously exciting to translate into the visual forms. We have exercised this option in theater, but there again, we have the ultimate control. We design a show a certain way and we do it live. Now we have given up a certain amount of control for much more impact.

Bergman: We have also made a series of short films—"Martian Space Party," "Everything You Know Is Wrong"—so this move was not entirely foreign to us. We've always wanted to go visual, on our own terms, within a group of people who could translate our type of vision. In the meantime, we've turned out a series of records. We're doing this new record now for Rhino/Firesign, called *The Three Faces of AI*. It's a new Nick Danger piece. We also just finished a radio special for the Global Satellite Network: one and a half hours, a rock-oriented comedy music show. And if they like it, we would do it live via satellite on a weekly basis. We also have a couple of other experimental projects in the works. One with Warner Bros. involves the digital Compact Disc. And contracts are

under negotiation right now to create a full-length animated feature. We are also having a home computer game developed – an adventure game dealing with Nick Danger.

Back to "The Case of the Missing Yolk." We've included in it some highly professional commercial parodies; "Rats in a Box," "Booby Chew," and "October Blind" (duck-flavored coffee). One of the advantages of working with Bill Dear, besides his having a wonderful sense of humor, is that he is a top-notch commercial director. He's able to bring to us all the techniques and give us a similitude that allows us to parody the stuff, so you could be tricked for a second into believing there *was* a fast food chain called "Rat-in-a-Box," or a hormone gum for teenies called "Booby Chew" that makes your breasts grow.

Proctor: We should also mention the contribution of our producer, Kevin McCormack, who has credits with films such as "Saturday Night Fever."

Bergman: And Mike Nesmith, who put together a very good organization – Pacific Arts Video. Our video will be released through Pacific Arts Video/MCA.

Proctor: Nesmith's studio is up in Carmel – lots of talented people up there.

Bergman: Since this is for a magazine dedicated to people doing audio recording and high-tech studio work, we should mention that for 17 years we've been record producers and this new direction is giving us the opportunity to put onto this video movie a soundtrack the likes of which people may never have heard before – the selective use of comedy sound effects, selective mixing of sound, many voices. We feel that you should be able to close your eyes and get a laugh out of just hearing.

Proctor: Nick Danger has really moved to the forefront of our work together. I guess it's because Phil Austin, who portrays Nick . . .

Austin: I finally got old enough to play Nick . . .

Proctor: And I have become so twisted through my nefarious work in the industry that I *am* Rocky Rocco . . .

Bergman: And I'm dressing so sharp now that I can play Al Bradshaw or Nancy, depending on where my mind is at the time.

Proctor: It's most extraordinary how the most dramatic music in the Nick Danger piece creates intense comedy out of the stuff we're doing, because everything is done with a tremendous feeling of reality.

Bob Todrank . . .

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MASTERS OF AURAL GRATIFICATION

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Austin: One of my favorite things about Firesign Theater records is how American and how real they have been over the past 17 years. We're different than most comedians in that we tend to put reality first and comedy second. Being able to do that in the visual world is even more satisfying.

Proctor: It's not even tongue in cheek. It's creating a dramatic similitude to the original forms. It might be like what Monty Python has succeeded in doing with the English forms.

Austin: But the English have it a lot easier, because they live in a funny country. You have to make this country funny.

Bergman: Also, English comedians have much more access to the BBC. Comedians here have little access to the tube. In England, they can do their original material - they aren't co-opted into a sitcom. English television is sometimes much more naive and amateurish, but it does allow the Goons, or whoever, to go on the air and do precisely what they want.

Proctor: By extension we can look at our recording career and see that after this enormous body of material that we'd created there was a distinct change in the nature of recording companies, and the success of the business in general, so that we were really forced out of the marketplace. Our records weren't expensive to create, but they became more expensive, and at a certain point the record companies couldn't guarantee enough of a return.

Bergman: The reason the Firesign Theatre did as well as it did with its major sales was not because the record companies were behind us, but because the audience was behind us. We still have the bulk of our old audience and we are building a new one with the people who have home video players. Comedy crosses demographic lines faster than anything, faster than music.

Proctor: When we investigate the revolution in entertainment, we think of music video and its effect. When you listen to a piece of music now, if you've seen the video and it's strong enough, you get the distinct playbacks in your mind of the visuals. By creating visual hooks, as well as musical hooks, it's much easier to identify what you're listening to. We feel that there could be a feedback from the video to our records. People who see the video will be able to relate it to any other Nick Danger episodes.

Austin: And no Firesign Theatre record has ever been cut out of the label's catalog. Every one is still selling, which is remarkable when you figure we go back to '68. We still

have young audiences and the upper edge of our audience is now moving into their early 50s. We have a big demographic spread and we hope the video will create the same sort of market.

Proctor: We also hope that some of the pieces will be in a format that could be played on MTV. We've designed the commercials—little comedy drop-ins—and if MTV opens into a more creative type of programming, we could supply them with some immediate and very well-produced segments, which would help promote all of our work.

Bonzai: If you could be women, who would you be?

Austin: Betsy Ross.

Bergman: I'd like to be the Goddess Diana - The Huntress. That would be fun. I'm an outdoor type.

Proctor: Dustin Hoffman.

Bonzai: Do you have any fun spots in L.A. or the world?

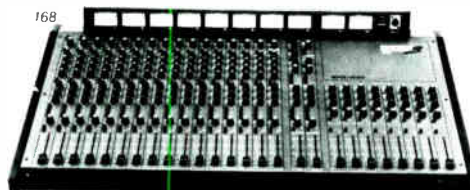
Bergman: The Huntington Library.

Austin: And the cactus garden outside.

Bergman: Yes, lying down in the cactus garden - a really good spot.

Proctor: I like Oslo, because you can get so many different things to eat - horsemeat, elk, moose, and reindeer, which is very nice, but you have to take the jingle bells off or you can hurt your teeth.

SYSTEM 8



SYSTEM 8 is the sensational new range of affordable studio and P.A. mixers from Allen & Heath.

In the value-for-money stakes SYSTEM 8 is truly unbeatable — packed with more features than any other mixer of comparable price!

Flexibility. A well-designed control layout eliminates tiresome re-plugging and lets you exploit the desk's maximum potential with minimum hassle.

Expandability. With SYSTEM 8, two or more units can be linked together quickly and easily — without sacrificing a single input or output. Need more input channels? Just add an EX8 Expander Module.

Compatibility. SYSTEM 8 gets along famously with all recording equipment. User-adjustable controls and line-up oscillator enable perfect level-matching on main output and tape return paths.

Use SYSTEM 8 with confidence. Selected high grade components and substantial all-steel construction make for a mixer that is both a joy to work with and rugged and dependable in action. In common with all professional-quality mixers, a separate power supply ensures low noise and hum-free operation.

FEATURES INCLUDE

- * External Power Supply with Phantom Power option.
- * 3 Band EQ with Mid sweep and selectable shelving.
- * Long travel fader. * Peak LED on all inputs.
- * Insert points on inputs and outputs.

The amazing 1616 with full 16 track monitoring shown here with the EX8 Expander module.



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Brighton, Sussex
England

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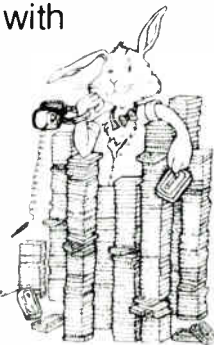
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Bonzai: Who is the Pablo Picasso of humor?
Bergman: George Carlin — he can create more out of nothing . . .
Proctor: He's a great observer. He understands the primitive origins of everything and that is what makes him so brilliantly funny.
Bergman: And fresh . . .
Proctor: Very inspirational.

Bonzai: Who is the Abraham Lincoln?
Proctor: Bob and Ray, the most honest observers of American culture to this day. We should also mention Ernie Kovacs, since we're talking about great comedians. He has had a great influence on our work. He had a wonderful sense of surrealism.
Bergman: He's the Bacchus of comedy.

Bonzai: Who is your favorite homosexual?
Bergman: Well, we have such a wide choice now with all these Congressmen coming out of the closet . . .

Bonzai: What was your first thought when you discovered puberty?
Bergman: I thought *I* had discovered it. I was so surprised when I discovered myself sexually that I thought I had actually discovered something.

Austin: Well, there wasn't any puberty before you, was there?
Proctor: I loved it up to the point that hair began to grow on the back of my shoulders. Then I would have preferred that it had just gone away.
Austin: It's been downhill since then . . .
Proctor: Yes, it really has.

Bonzai: Have you seen the smooth dangerous fat man lately?
Austin: You must mean the guy who never went through puberty — no hair on his back.
Bergman: And he's dangerous because his viewpoint of the world is so young and reckless.
Austin: And he's still looking for Bergman. He's going to get the guy who discovered puberty.

Bonzai: Do you guys have groupies?
Bergman: Oh, yes. Unfortunately, they're all in junior high and male. And then we have the groupies that are just crazy. Our groupies read into our material more than any archeologist has ever picked off the Rosetta Stone. They come to us and accuse us of the day and the time of the revolution. They accuse us of everything possible. Now that we've gone visual we're going to lose all those junior high school boys and hopefully get some nice secretaries, about 25 years old.

Bonzai: What causes lesbianism?

Bergman: Men.

Austin: Women.

Bonzai: How will genetic research affect our love lives?

Bergman: It will make people perfect.

They will begin to lose the joy of discovering imperfections in their lovers and having to live with them. That mole! That imperfectly shaped toe . . . how did she ever get toenails like that? Nobody has toenails like that . . .

Austin: What if big toes are ties to big brains?

Bergman: Well, they'll separate the genes. What do you want? Big brains, small toes? [Gruff voice] I like big toes, small brains . . .

Proctor: We might end up with ingrown brains . . . have to trim your brain every few weeks.

Bonzai: Do you have any advice for aspiring musicians?

Bergman: Yeah, get out of the music business.

Proctor: Perspiring musicians?

Austin: Send us your drugs.

Bonzai: Any advice for aspiring nuclear scientists?

Bergman, Proctor, Austin: Get into the music business . . .

Austin: And send us your drugs.

Bergman: For people who are trying to get into music, I would recommend that they also learn about video. It's going to be harder and harder to make it purely as a musician.

Austin: A musician who can handle a studio is now probably more important than the guy who can just play saxophone, and those types of entrepreneur musicians are going to have to learn about video technology, too.

Bonzai: Do you have any great fears?

Bergman: I have a fear that I've begun to develop, and I think it's very real. Sometimes I wake up in the morning and I think that I've had parts of my body swiped and changed for other people's body parts, and I'm growing them for them.

Austin: Few women want to sleep with Peter because they don't know whose body parts they're working with.

Bergman: Yes, I'm very worried about that. It's about the only thing I'm worried about, apart from how this interview is going to look in print.

Bonzai: What part of the underground culture will next gain prominence?

Bergman: I think women musicians and women video artists are going to be the next strong force. Women as leaders in the media arts. They let

women into television about ten years ago thinking that it would sidetrack them. I think it's going to bring about equality in the arts much faster. And there is a group I used to call the "techno-wimps." With the technology becoming so available to people so young - it's going to have a big effect.

One of the things that is already happening in music is synthesized sound. More and more people are becoming attracted to and adapted to the synthesized sound. Less live music; a single individual becomes the entire orchestra. I think we will come to a point where people will live entirely in synthetic sound. Real sounds, real saxophones, real sound effects will become as archaic as non-electric machines. You take a look at machines that were top-of-the-line before electricity: beautifully geared, that worked off of pulleys and steam. Overnight they became museum pieces.

Austin: Composing will become more important than playing. There will always be a place for players, but the instrument will change. There is no law in life that says playing electronic impulses is better or worse than playing vibrating string impulses. What suffers is ensemble playing. Young musicians are now trying to recreate that strong ambient '50s drum sound . . . a bass player and a drummer

playing together. There's more consciousness now, among young musicians, of how good those old Jerry Lee Lewis Sun Records tracks are than there was 10 or 15 years ago.

Austin: And actors and writers and directors who have grown up watching television have a much stronger feeling for old black and white movies than the guys who made them. I have high hopes for the present generation of people coming up. They have so much knowledge at their disposal.

Proctor: I have the same feeling, and I think there is a wave of internationalism coming, quite unconsciously.

Bergman: The only thing that keeps us from having truly international media right now is that there are so damn few countries in the world who will let you look in on them, or who will send you their signals. If most of Europe wasn't under political domination we would be getting all kinds of Czech and Polish and Bulgarian programming . . .

Proctor: All you need are subtitles . . .

Austin: Think what will happen when they crack Artificial Intelligence translation problems. It's probably 10 or 15 years away, but when it happens . . .

Proctor: Automatic translation . . . artificial intelligence . . .

Bergman: It's going to happen.

Proctor: I think the world would become more sensible. ■

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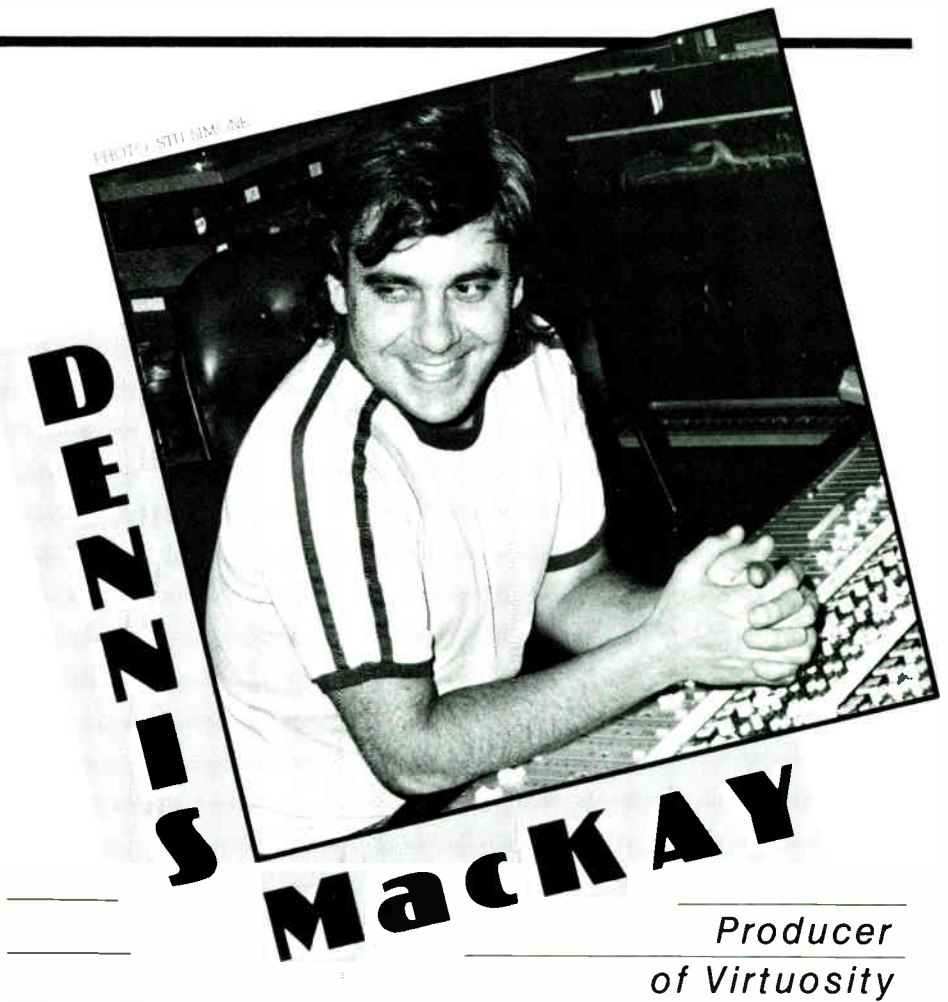
by James Riordan

Dennis MacKay has produced albums for Jack Bruce, John McLaughlin, Billy Cobham, Pat Travers, Stanley Clarke, Stomu Yamashta, Steve Winwood, Al DiMeola and many others. MacKay's story is one of a drummer who became fascinated with sound. "When I was about fourteen I really got into tuning my own drums. I used to listen to The Beatles and tune my drums to get that "Day in the Life" sound — a lot of depth. I had a friend who worked in a studio in London and he encouraged me to apply to some of the studios. I got an interview at Trident and landed the job over about eight other guys there interviewing for it. They told me that they wanted me mainly to clean the toilets and couldn't pay me very much at all — for a seven-day work week. But I wanted to get involved so much I told them I'd do it. Later, when they hired me, they said that they didn't really want me to clean the toilets. They just wanted to find out how bad I wanted the job. All the other guys refused and that's why I got the job."

During the next 3½ years Dennis became very friendly with Ken Scott and worked on almost all of his projects, including David Bowie and Supertramp. "I think that you advance much slower in the English recording studios than in America, but you get a lot more opportunities to learn before having any responsibility. In England you might spend three or four years as a tape operator, while in America you might be engineering within a couple of years."

After three more years of engineering for Trident, MacKay made the jump to freelance with his first independent project being part of the Tommy Bolin album, *Teaser*. This was followed by work with Brand X, John McLaughlin, Jeff Beck and Return to Forever during the next two years. A breakthrough came with another Tommy Bolin album, *Private Eyes*. "When the album came out I was offered nine new projects in less than ten days. There were a lot of unusual sounds on *Private Eyes*, like backwards echo on the toms and so on and I wound up getting all this work off of one album."

Soon MacKay began producing many of the acts that he had been engineering. He acquired a reputation for being able to bring the most out of the super musician. "At first it was a little



Producer
of Virtuosity

difficult, because you just don't treat a John McLaughlin or an Al DeMeola like any other guitar player. I'll usually keep any solo they like but ask them to try another. They'll ask me what I'm hearing and maybe I'll say that I think there's too many fast notes or that they already have a solo like that on the album or something like that."

Like most producers, however, MacKay sees his role as varying substantially depending on the artist he is recording. He places a lot of importance on good communication. "I think about 70% is personality. The best producers have the gift inside to know how to control the atmosphere in the studio. You've got to get rid of any bad vibes and try to get those kind of things out in the open. A lot of artists have problems at home or they may be heavy into medicinal substances and the producer has to sort out these problems before going into the studio. There are a lot of mind games that go on in the studio, and the producer has to be on top of them all."

MacKay also places a good

deal of importance on the engineer. He engineers his own records but feels that a lot of great engineers do not get the credit they deserve. "There are a lot of great engineers out there who never get the recognition. The producer always gets the credit and often it is the engineer who comes up with most of the good ideas. Top producers will often use the same engineer several times because the engineer knows the sound the guy wants and because the producer likes his suggestions. It's basically a co-production, but the engineer rarely gets credit for it on the album."

MacKay does his own engineering because, like most engineer/producers, he has a definite sense of what he wants and how to get it. "When I go into pre-production with a band and we talk about the kind of sound we want for the record, it becomes much easier for me to do it myself than to try to sit and watch someone else try to get it."

After doing a number of highly regarded fusion albums, MacKay intentionally took steps to show that he could

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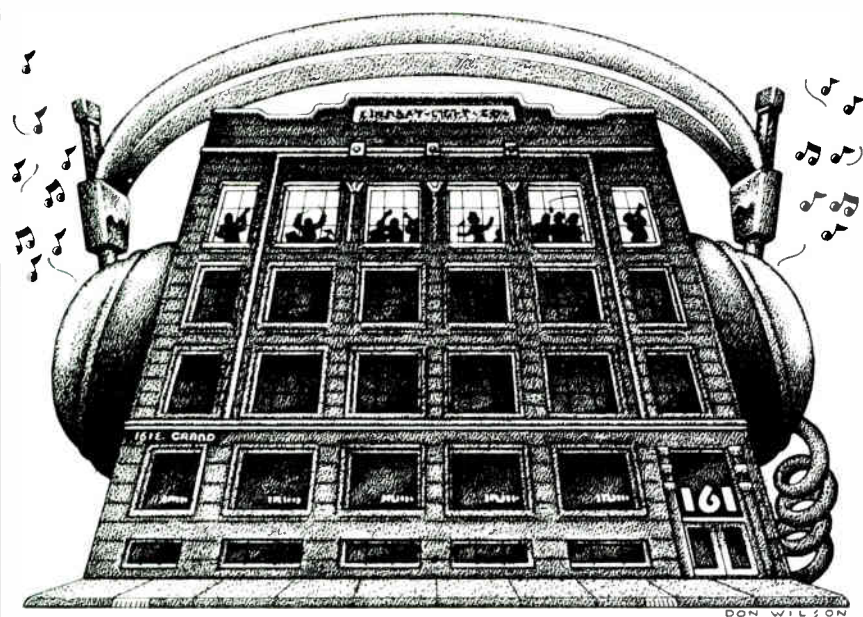
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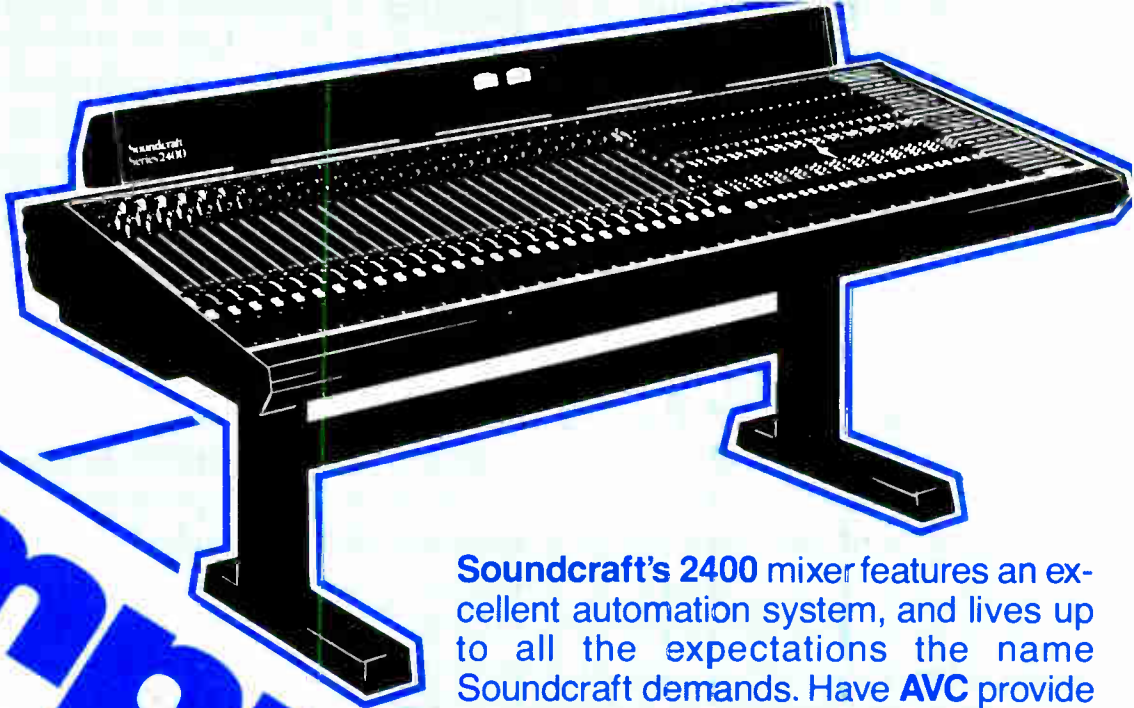
World Radio History

relate to other types of artists and other forms of music by recording Pat Travers, Judas Priest, Mick Ronson, and the English new wave band Cowboys International. With that flexibility now established, MacKay makes it clear that he still loves the fusion artists and intends to keep working with many of them. One of the projects that he is most excited about is the new Al DiMeola album.

"We're about half way through at this point and I'm really excited about the sound. It's so current. We've got Phil Collins playing on a track. Bill Bruford, Tony Levin, Jan Hammer, and a lot of great people are playing on it. We're using the Fairlight. We've got the Linn machine, the Roland machine, . . . there are a lot of electronics, but it's balanced. Al's one of the only people that can do that. I've done three albums with him, and when he turns around and says, 'This sound here is the ultimate guitar sound,' I get very excited. He's such a perfectionist, so that means a lot. I'm very sure that when the album comes out it will be a real biggie."

MacKay finds a great difference between group projects and solo artist projects. "It's much harder with one person, believe it or not. When you're working with a band you can hear what's going to happen. You can write down ideas and talk to the drummer or the keyboard player. The solo artist might sit at the piano and play you a song and ask what you think he should do with it. There is more room for the producer to contribute his ideas but the weight of responsibility is only on you and the artist."

MacKay's advice to those pursuing a career as a producer or engineer is very much in tune with today's changing music business. "They should not get involved with drugs because nowadays record companies are very picky about that. Also, remember that personality is very important. Don't be telling everyone how great you are and abuse the situation by going out and partying all the time, but try to be outgoing and very friendly. That's very comforting to any artist. Be very reliable, and always be on time. Try to listen to a lot of current music so that you are aware of what's going on. Get to know people. Go out and meet people and talk to bands that you'd like to work with. As you begin getting a lot of work it's also very important to have someone to help you. John, my manager, goes out and listens to bands, and gives me direction and advice. It's important to have someone like that. I also think it's very important to have good engineering training. A producer has to understand what he can get out of a studio. When you're mixing you can make or break a project, so you've really got to prepare yourself and be on the ball." ■

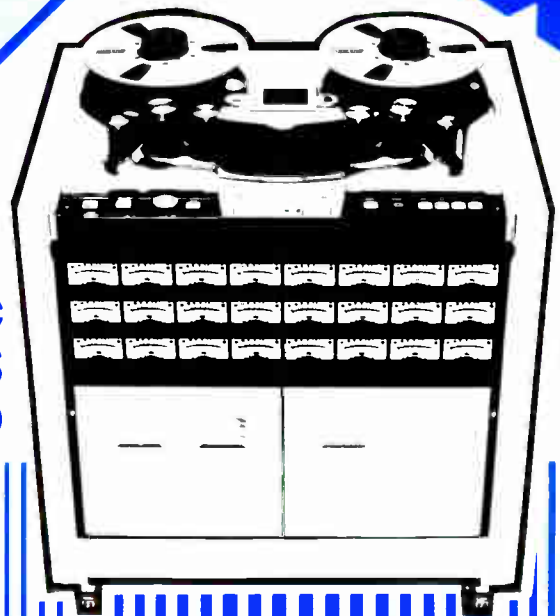


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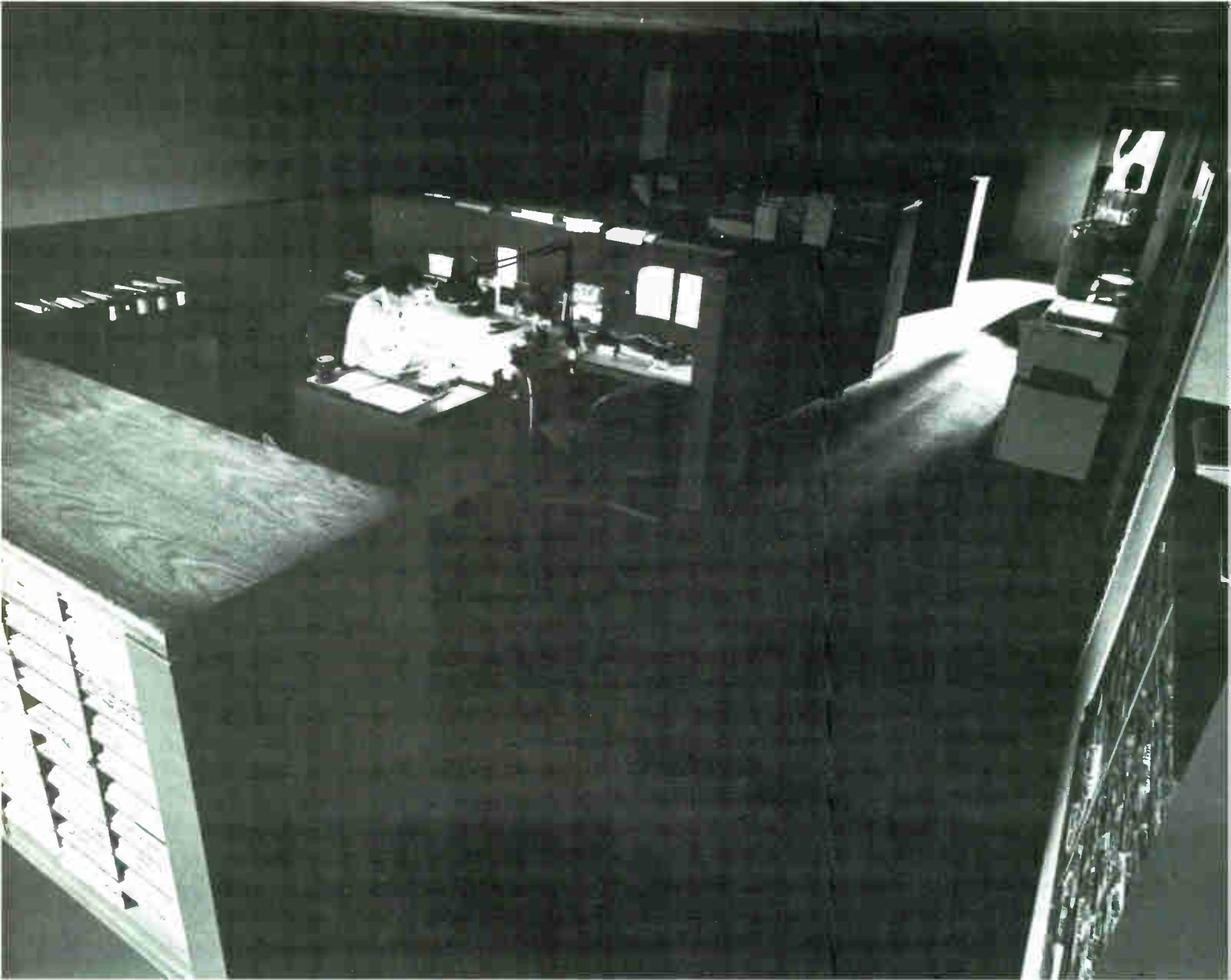
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This is a special supplement produced by and for Mix Magazine. Mix Magazine is published at 2608 9th St., Berkeley, CA 94710 and is ©1983, by Mix Publications, Inc. Mix is published monthly. Subscriptions are available for \$24.00 per year. Single or back issue price is \$3.00. Subscriptions outside USA are \$36.00.

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

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Mix

VIDEO PRODUCTION SUPPLEMENT

The recent emphasis of music television is welcome news for the recording industry. Not only is this trend creating a strong demand for new and innovative programming, but it has done more to stimulate record sales than anything in the last five years. Those who benefit most from this development are the creative entrepreneurs who see this medium as a new outlet for their ideas and experimentation.

Our intent in putting this special supplement together is to pass along some of the more progressive steps being taken in video production. We focus on the development of the Music Video as an artform, on its emerging technology, and on its marketing to the consumer. In presenting this special feature, we hope many Mix readers will find that there are great opportunities for their talents in this new medium.

FALL 1983

CONTENTS

Video News	BY MIA AMATO & GEORGE PETERSEN	150
Origins of Music Video	BY LOU CASABIANCA	160
Video Interface	BY NEAL WEINSTOCK	166
Glen Glenn Sound	BY DAVID GOGGIN	168
Homer and Associates	BY CLAUDIA BECKER	174
A&M Video	BY IAIN BLAIR	178
Graeme Whifler	BY STEVE SEID	180
Aldighieri and Tripician	BY MIA AMATO	184
Hardware/Software		188
Video Ad Index		192
Calendar of Events		193



by Mia Amato & George Petersen

The Osmond Entertainment Center, featured on the cover of this video supplement (pg. 147), is now entirely owned by Paul Jensen, who also owns Jensen Airlines and Video Luxembourg. Terrel Miller, the general manager of the Orem, Utah facility, reports the center has been steadily booked with a wide assortment of projects ranging from TV commercials for Hasbro toys and Dodge automobiles, to variety specials and music video promos. Producer Simon Fields recently completed an MTV clip for Martin

Briley's "Lay your hands on the TV" at the center.

Owner Paul Jensen cited several reasons for the center's success: "There are several companies offering similar services, but our studio is unique in that we offer complete facilities for scenery, costume construction, props, sound stage, video and film production, post-production, and audio sweetening, all under one roof. Technically we offer state of the art facilities in video and audio including 1" C format, computerized video tape editing with Grass Valley 300 switcher with DVE. In audio we have computerized NECAM/Neve

editing and two Studer 24 track machines.

High tech Memphis facility Ardent Teleproductions has some of the most sophisticated video equipment you'll ever find at a recording studio: 1" video editing, NEC E-Flex video effects, Chyron, even a Steadicam harness for hand-held shoots. Recently the company purchased an Ikegami EC-35 "electronic cinematography" camera.

While Ardent's audio recording engineers followed ZZ Top on their latest tour, a video clip for the band's tune "TV Dinner," was created in their

VIDEO NEWS



A pause in the action during Ardent Teleproduction's "TV Dinner" promo for ZZ Top.

Video control room at Ardent Teleproductions.

This is Larry Boden

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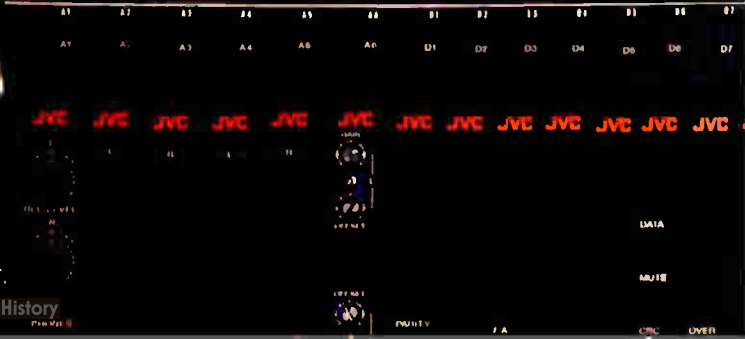
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studio. Stop motion photography was used to animate a creature "that lives in TV dinners," for the video short, directed by Marius Penczner.

Video Tracks in New York is one of the first studios to install the Sony/MCI JH110B recorder-reproducer for layback of sound to 1" video tape. For a six month period, VT's Craig Pitcairn put his audio-to-video sync gear into a portable package and travelled from studio to studio providing sweetening, syncing, and layback services. Now the firm is settled at Park South Studios in mid-town and busy with commercials, movie trailers, and the pre-recorded segments which appear on "Saturday Night Live."

The studio also supplied the audio mix for a video biography of Brian Eno produced by Edin Velez for PBS.

Eureka Teleproduction Center, in San Carlos, CA, celebrated its grand opening on September 21 and has been busy with a variety of projects, according to account executive Art Bodner. E.T.C. has just completed the sound mix and video editing of a one-hour special of the Stan Getz Quartet, shot live at the Robert Mondavi Winery. The show, slated for syndication release in the U.S. and Europe, was produced by Bob Getz (noted television producer, and Stan's brother), directed by David Sams, with assistance from lighting designer Bill Doherty and graphics engineer Jeff Van Grinsven.

Another interesting project at E.T.C. is a complete production for the rock band Vision, who recorded their 24 track album and produced a promotional video piece (directed by Patrick J. Kriwanek) at the facility.

The Crescendo Recorders' video facility in Atlanta, GA, is now entirely self-managed, and has been involved with a number of editing and sweetening projects including agency spots, soundtracks, video albums and promo clips. The band Atlanta recently completed laybacks for a video pro-

duction (produced by Larry McBride and Mylan Bogden) at the facility, which features two 24 track automated studios in addition to their complement of editing and post-production gear.

According to Lester Claypool, the Rocshire Records' 4000 square foot soundstage is now available to outside clients. The Anaheim, California-based label has recently begun a "\$500 special" for local bands, which includes a live, one hour, three camera shoot with live or lipsync sound on 3/4" video. The company has also completed the pilot and ten episodes of "America's



PHOTO: ART BODNER

A three camera shoot of Vision, at Eureka Teleproduction's 65' x 75' soundstage. The piece was mastered on 1" video with a live 32 input audio mix.

MUSICIAN AGREEMENT ON VIDEO PROMOS

The American Federation of Musicians has ratified a milestone agreement with record companies which establishes a royalty formula for all musicians whose recordings are utilized in video promos. Ratification took place on July 22nd, with a vote tally showing 1,387 ballots cast in favor of the agreement and a mere 65 against.

In announcing the ratification, AFM president Victor W. Fuentealba called the agreement "an historic one," and said recording musicians now will receive a share of the revenues earned from the use of their work in this newly exploited form. He added the contractual term runs from July 1, 1983 through November 30, 1985.

Fuentealba pointed out that video promos, originally created for use in stores to promote record sales, have been produced for over five years. However, their expanded use as

entertainment segments in cable television programming, at rock concerts and elsewhere, placed them in an entirely different recording category. And, although a number of preliminary talks had been held both formally and informally in recent years, it was not until early in 1983 that serious negotiating headway was made.

Final negotiations with recording company officials involved the Negotiating Subcommittee of the AFM's International Executive Board, representatives of the Recording Musicians Association, and representatives from AFL locals in New York, Chicago, Los Angeles and Nashville.

The agreement itself is clear-cut, and provides sideline musicians (musicians who appear "on camera") with a payment of \$115 during the first contractual year. As of July 1, 1984, the payment increases to \$125. Pension and welfare payments as prescribed by the Federation's Phonograph Record Labor Agreement will also be made.

An "arbitrary recoupment fig-

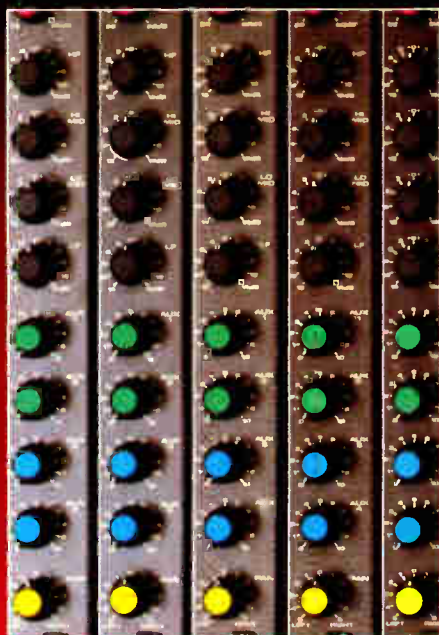
ure" of \$50,000 for each video promo selection will apply during the first year and a figure of \$60,000 will apply from July 1, 1984, after which the recording company will pay the Federation 1% of all revenues received from sales and licensing arrangements. The AFM, in turn, will distribute the money to its members involved in the original recording used for the video promo.

Most importantly, the agreement contains a special provision providing for a \$500 advance against royalties on each video promo offered as a consumer product in the form of a video cassette, disk, etc., when revenues received by the company reach \$5,000. This money will also be paid to the Federation for distribution to the original recording musicians.

The only exceptions to the new agreement will be those musicians who have negotiated individual royalty contracts with their respective recording companies.

—"News," *American Federation of Musicians*

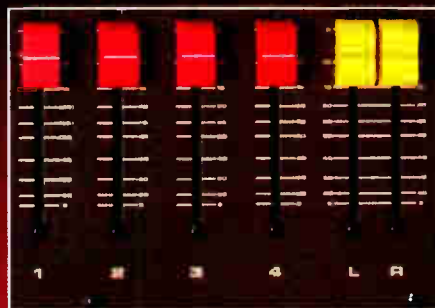
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Love Affair with Rock," a TV series for cable distribution. The half-hour shows, which feature unsigned bands, is directed by Dwight Corne, of Cal Coast Video.

Tom Hilbe has announced the formation of Eye to Ear Telecorp, a Chicago-based film and video production house. The firm's staff includes writers, directors, producers, and video/film editors. In addition to their control room and production facility on Michigan Avenue, Eye and Ear has also completed construction of a 22' mobile unit, equipped with 1" video for multi-camera shoots, and 16 track audio. The



Top: Main audio room at Skaggs Teleproduction Service

Audio control room at S.T.S. ►

house has been equipped with Ikegami broadcast cameras and a CMX editing system.

The audio facility which went on line this year at Skaggs Teleproduction Service in Salt Lake City has worked out extremely well, according to STS audio manager Palmer Pattison. The 1400 square foot, George Augspurger-designed audio studio has an excellent live room which is suited for everything from rock and roll to a 31-piece orchestra. While intended for television production (with tie lines to the 4200 square foot soundstage), dialog replacement, sweetening, and pre-scoring effects, the 24 track studio has also been booked with audio-only dates, and two albums were in progress at press time. Audio goodies include an Ampex 124 multi-track, an Audio Kinetics Q-Lock (with all available software) and a Neve 8108 console with Necam II automation.

In Vancouver, Little Mountain Sound has made plans to expand its mixing-to-picture capabilities in response to a growing demand for sophisticated audio posting spurred by an increase in the production of features, telefilms, and pay TV in Canada. Currently their ¾" equipment and BTX Shadow synchronizer has been used for numerous television programs,

commercials, and video clips for native bands like Chilliwack and the Payolas. The studio's film scoring room has completed two features: "Visiting Hours" for 20th Century Fox, and "Columbia Connection."

"We're attracting a lot of Los Angeles clients for scoring," says the firm's Roger Monk. "Not only is there a lot of talent in Vancouver, but the current exchange rate means that costs are about 20% less - and when you're talking about a \$70,000 or \$80,000 budget, that's a big difference."

Master Digital, of Venice, CA, recently completed a video clip for

Three Dog Night. The piece features Cory Wells, Chuck Negron, and Danny Hutton (the original members) playing multiple personalities drifting through the singles bar scene. The tune off their recently released EP, "It's a Jungle" was shot in 16 mm and was bumped to 1" video for post production. Roger Pryor and Paul Addis produced the clip, with Kit Hudson directing and Ed Barger handling the camera work.

"It's sports season all year long when you have a mobile van," claims Bill Graham of Carleton Productions in Ottawa, Canada. Carleton's eight-camera mobile video studio has been used



SWAGGART REACHES OUT

The new world headquarters for the Jimmy Swaggart Organization in Baton Rouge, LA, is a single facility housing video and audio studios, editing and dubbing suites, and a video duplication center. The complex, designed by Director of TV Operations Dave Cooper and slated to be on-line by mid-November, will provide complete support for the organization's syndicated religious programs.

The 42,000 square foot facility features a 60' x 80' video stage equipped with RCA TK-47 and Ikegami HL 79 cameras, and a Grass Valley 300 switcher. Two 1" video editing/post-production rooms, and two translation suites (equipped with Otari MTR-90s and Audio Kinetics Q Lock synchronizers for dubbing into Spanish, Portugese and Italian) were in operation at press time.

The audio studios, designed by Milam Audio of Pekin, IL, are also com-

pletely first class, and feature two split control rooms with 24/28 track capability for the two main recording rooms. One room has a Neve 8128 console with NECAM II, and Studer multitracks and mastering decks have been installed. Jerry Milam reports the design utilizes "extreme" isolation—with double 8" sand filled concrete blocks for the iso walls between rooms.

The Swaggart Organization also has remote facilities available for production anywhere in the world. A recent project involved taping an evangelical crusade in Africa, which precluded the use of their Peterbuilt audio-video semis. For this assignment, the crew used modularized control rooms, designed into standard "A" containers for air shipment. Renowned engineer Bill Porter (their assistant director of operations) supervised the location work, which included a six-camera video shoot with 24 track audio, as well as full PA and lighting support for the crusade.

—George Petersen



for concert production on and off throughout the year, but the majority of bookings have been sports coverage for ABC and NBC networks.

"People don't realize how elaborate audio for sports has become," Graham says. "You may have 30 or 40 mike inputs for a game: stadium positions, the different newscasters."

The Carleton truck has its own 30-input "mostly Studer" console, and a complex system of PL and intercom designed for easier coordination during live productions. New is a 12-program non-interruptible PL setup for communications between talent and control room. Custom made by Ward Beck, it allows for as many as five different directors to give instructions to crew and talent (via earpieces). It was designed especially for multilingual feeds of live sports. (Graham reports the truck is already booked for the 1984 Olympics in L.A.)

Le Mobile, the New York-based 24 track mobile audio facility, has been working its way across the continent supplying location recording for The Police, David Bowie, Kansas, Supertramp and other major acts,

winding up in Los Angeles to handle the mixing and overdubbing for a part of the Rick Springfield movie, "Hard to Hold." Guy Charbonneau and Neil Geraldo are putting the finishing touches on audio for a Pat Benatar concert for Home Box Office. Le Mobile recorded the show live in Montreal last December.

CCR Video Corporation of New York City recently unveiled their newest and largest audio/video mobile truck. According to Louis Tyrrell, CCR's president, the multi-million dollar unit (designed by CCR's engineering department) has an extremely large

3-level production area to meet the increased demand for additional production space. It features a Grass Valley 300 series switcher with Quantel DPE 5000 digital video effects, 5 RCA TK-47 B studio cameras with Fujinon lenses, 2 Ikegami HL-79 DAL handheld cameras, 4 Sony video tape recorders, and the latest-series dual channel Chyron IV character generator. The unit, known as "TV Ten," also incorporates a complete 24 track audio system with a Harrison 36-input TV-3 console.

In Phoenix, Chaton Recording opened a new 3/4" video room, and of-

VIDEOFEST: SOMETHING FOR EVERYONE

The Videofest at the Mill Valley Film Festival in Marin County, California, was established six years ago and has gained a reputation as one of the finest events of its kind in the nation. It explores the links between film and video, presents a showcase for new and

innovative works, and offers a forum on the latest in video technology. This year's Videofest, held during August, focussed on "Video: The Future of Rock," and dealt with some of the problems which face today's music video producer/director.

The music video panel, hosted by Scott Ross (from San Francisco's One Pass Video) included Emmy award-winning director Joe Dea; Anthony Paine, producer of Michael Jackson's "Beat It"; Brian Greenberg, director of "Abracadabra" and Prince's "Little Red Corvette"; and Bill Dear, director of "Elephant Parts."

One popular question posed by attendees was the problem of how to break into the music video business. Scott Ross emphasized the need for a good video demo clip to show potential clients, and he stressed the fact that producers must utilize every resource and connection at their disposal to complete that all-important first piece.

Panelist Paine agreed, but added the need for resourcefulness should not be limited only to newcomers. "Pieces of Ice," the new Diana Ross video he produced, was completed at a budget of \$130,000, but should have cost nearly double that figure.

Another highlight of Videofest was "Electronic Cinematography: The Film/Video Interface." This program examined the history, current state of the art, and the future of film-to-video and video-to-film transfers. Richard Claghorn of Image Transform presented the different methods used in the process, and director Bob Nilsson recounted his experiences with his recent feature which was shot on 3/4" tape and was released on 35mm film.

—George Petersen

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ferred local bands a free video demo with ten hours of recording time. Manager Steve Moore said several clips have already been created by in-house producer Dennis Wilkerson, lately of Aztec Video. Chaton's 3/4" facility has Panasonic decks and editing, and a Sharp XC700 camera; the U-matics are also used for audio sweetening work.

Chaton's 24 track audio truck will also be recording a 20-piece orchestra on an Arizona mountaintop as part of the soundtrack for an upcoming feature film.

Midcom rolled its Arlington, Texas-based remote truck out to the Word of Faith World Outreach Center in Dallas to provide a live stereo mix for a performance of Sparrow Records' recording artist Silverwind in concert. The event was uplinked via Westar to more than 600 affiliated churches in North and South America. Midcom also made a 24 track master recording of the performance with SMPTE time code, for later mixdown and layback to the 1" video recording for Sparrow Records, for eventual syndicated release. Engineering the event was Midcom's Mike Simpson, Mark Allison, and David Roberts.

Independent Film Studios recently opened its doors in New Orleans. Operated by Joe Catalamotto, the 130'x100' soundstage facility was the site of three film clips for Journey and both Stray Cats promos for RCA. Complete film and video support is available, as is 24 track recording on site by local producer/engineer Cosmo Metassa. Lenny Delbert, who owns Pan American, a tape editing house nearby, said New Orleans has become a draw for independent producers "on a budget." Recent clips done at Pan American include some posting for Red Rocker clips "Good As Gold" and "China" and the Charlie Daniels video for the "Stoker Ace" theme.

Postproduction on the first of several TV programs shot at the 1983 US Festival has been completed at Positive Video (Orinda, CA). "Linking Us Together" documents the historic satellite hookup between a Moscow studio and the San Bernardino concert site. At the festival, the Soviet rock group Arsenal was beamed live to large screen video projectors over the stage. Russian viewers were treated to a set featuring Men At Work. A bilateral jam session ensued, despite a six-second satellite delay. It's the highlight of the program, which was produced by Peter Grewe for Unuson Corporation.

At Red Car Editing in Hollywood, CA, Larry Bridges and associates have racked up an impressive amount of film and video post-production work in just a few short months, editing Bob Giraldi's "Beat It," "Hot Girls In Love" for Loverboy, and "When You Were Mine," directed by Julien Temple for Mitch Ryder. Clips for Eddy Grant, Tears For Fears and Bryan Adams keep Red Car rolling.

Reeves Teletape (NYC) tech people conjured up the slick futuristic look on Zebra's "What's Behind the Door" clip, which was directed by

Adam Friedman and produced by Ken Walz for Atlantic Records. Film was shot at different locations around New York City, then brought to Reeves for film-to-tape transfer. Scene-by-scene color correction added an eerie sky and surreal glow to interiors; video effects and editing were accomplished in one late-night session. David Fried was the colorist and Martin Brown edited.

The "Take Me To Heart" video for Quarterflash was shot and edited at Mincey Productions (Portland) with John Mincey directing and David Tower producing for Warner Bros.

—page 182

VUZAK ENTERS MARKETPLACE

Visual music and alternative video programming are no longer esoteric fields since the development of cable and the introduction of network music programming. "A whole new industry has developed with MTV, the USA Network's 'Night Flight' and the proliferation of this type of programming," says Brad Alesso, Director of Marketing and Sales for New York-based Vuzak. "There's a new way of looking at television, and we're seeking people who want to view TV in a new way."

Vuzak, according to Alesso, is a marketing and merchandising company that obtains advertising revenues for merchandising closed-circuit systems. The firm also markets specific programming to outlets. "We're a video coordinating company - we arrange situations for people who need things. Vuzak acts as a clearinghouse for '80s production."

The firm works with Television Music, Inc. (TMI), a Los Angeles company that obtains rights to use programming in various out-of-house, closed-circuit situations. Together the two firms coordinate programming and advertising for the Miller's Outpost Network, a chain of more than 200 retail clothing stores across five western states. A closed-circuit television system consisting of Sony monitors and Beta I VCRs is located in each store, and a one-hour tape geared toward Miller's demographic profile runs continuously during business hours.

"We work in 5 minute segments," explains TMI's Director of Programming Peter Doyle. "When someone is walking in a mall or past a store, he will stop and watch the 3

minute piece that is on, watch the commercial and wait for the intro of the next piece. The new technology is an aid to people buying. Commercials are the most important in the marketplace. They do not ruin the continuity of traditional linear programming for the home. This is encouraging a trend of improved home entertainment by providing an outlet for commercials in the proper surroundings—the marketplace—where they are not an intrusion."

Two types of programming are used on the network. The first comes from a variety of sources such as artists, small film houses, collectors, record labels, etc., and for these pieces, the owner is paid a usage fee.

The second category of programming is the more familiar promotional type.

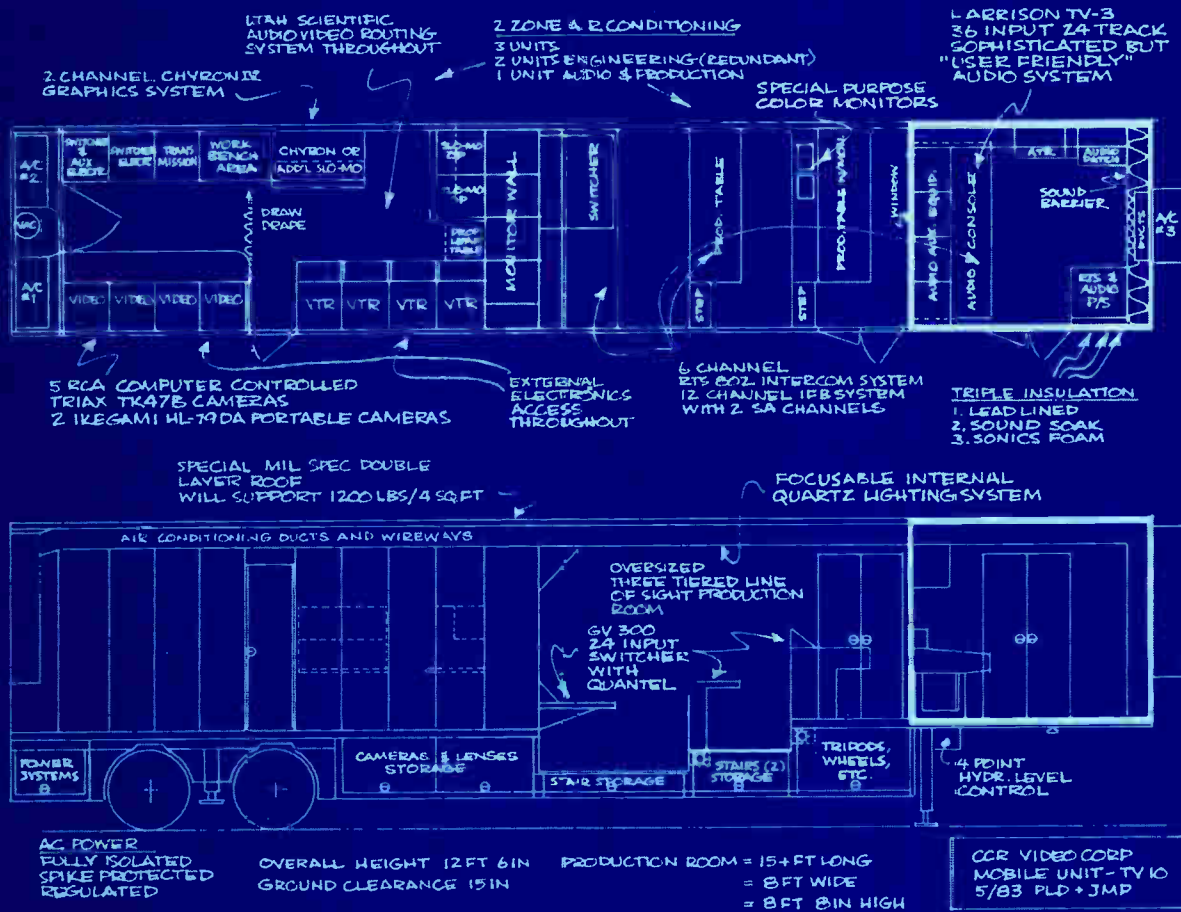
"When tied into a promotion, and the owner is not able to accept money for contractual arrangements, we will run the piece for the supplier as a promotional entity," explains Alesso, "but we understand the plight of the independent producer. We know the labels have been producing the bulk of the promotional pieces and the artists have been receiving nothing. We feel that if we're using the product in a closed-circuit situation, we should pay, but the only way we can do that is if the labels have their contracts in line. We want to take the best product, visually and musically, and market it to benefit the producer and consumer as well as our companies."

—Claudia Becker

Correction

August Video News contained an erroneous reference to the NY nightclub The Underground as "formerly Studio 54." Studio 54 is still operating in New York and is in no way connected with The Underground.

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M U S I C V I D E O P R O D U C T I O N

ORIGINS

In last month's *Mix*, we reviewed the convergence of music on film, the Hollywood musical and the first rock and roll movies, with the development of television and video art, and the evolution of the music video as a new art form. We traced the major cultural impact of the "message in the music" of movies like "Blackboard Jungle" (1955), "Rock Around the Clock" (1955) and "A Hard Day's Night" (1964). The Beatles and director Richard Lester created a climate of aesthetic legitimacy and commercial box office success, and stimulated a thirst in audiences worldwide for more with "Help" (1965), "Magical Mystery Tour" (1967) and "Yellow Submarine" (1968). We pick up last month's retrospective overview in the pivotal year of 1970.

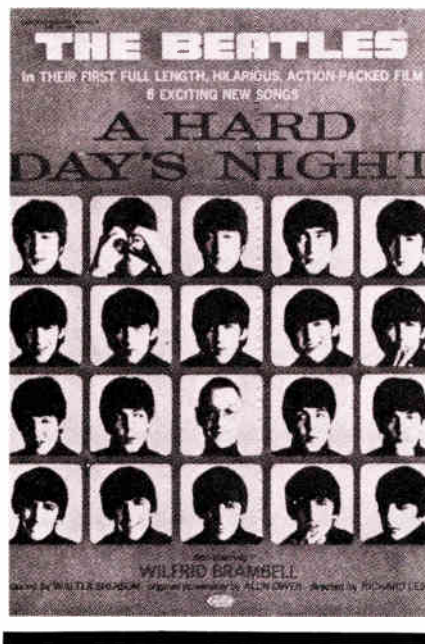
In "Let It Be," we saw the end of an era in the demise of The Beatles. The film, directed by Michael Lindsay Hogg, reveals a tension and pressure in contrast to the easy upbeat feel of "A Hard Day's Night." "Let It Be" provides us with a unique in-session point of view

"Hard Day's Night" has become a classic in the development of rock on film. Rarely seen are some of the first promotional shorts produced by The Beatles of "Strawberry Fields Forever," "Penny Line," "Revolution" and "Hey Jude." The Beatles brought to moviemaking the same originality and good natured iconoclasm they infused in their music.

of The Beatles at work which is unique to the group and at the same time generic to the recording process. However, the musical high point was an open-air rooftop concert that stopped Abbey Road traffic. In many respects, "Let It Be" is more a music video/documentary than a feature film.

OF MUSIC VIDEO

by Lou CasaBianca



Also in 1970, "Woodstock" was released. The film, directed by Michael Wadleigh with Martin Scorsese as assistant director, captured and celebrated the media crush and the almost religious quality of this epic cultural event.

Frank Zappa's "200 Motels" (1971) was the first rock concert feature shot on videotape and transferred to film for distribution. A surrealistic reinterpretation of life on the road, the film starred Keith Moon, Ringo Starr, Zappa and the Mothers of Invention. Co-directed by Tony Palmer, the movie pioneered special effect wipe and dissolve techniques, computer animation and graphics. Zappa composed the music and conducted the Royal Philharmonic Orchestra and Chorus. It would probably have received a video music Grammy if there had been one in 1971, because it surely was the "Elephant Parts" of its day.

The music soundtracks were becoming more prominent and in some cases even carried the movies for which they were created. In 1971 and 1972, Isaac Hayes recorded the soundtrack for "Shaft," Curtis Mayfield did "Superfly," Marvin Gaye did "Trouble Man" and Quincy Jones did "Cool Breeze," movies remembered more for their soundtracks than anything else. Altamont and The Beatles' breakup were the rock music counterpoint to the loose fluid funk introduced by these pioneering black artists/composers.

The essence of the sound was dubbed the "Jones" sound in music scoring circles because of Quincy's influence in establishing a new genre in the motion picture soundtrack vocabulary. It is interesting to note Quincy's incredible success with Michael Jackson ten years later. Their mutual preoccupation with film and music videos is reflected in the soundtrack qualities of their music which resulted in the hottest album in years (*Thriller*) and two of the most talked about videos of the day ("Billie Jean" and "Beat It"). But more on that later.

Vietnam, Nixon, The Beatles — gone. It was no wonder that a big part of the rock musical focus flashed back to the music of the fifties, commemorated by George Lucas in "American Graffiti" (1973). The movie wove rock

—page 162



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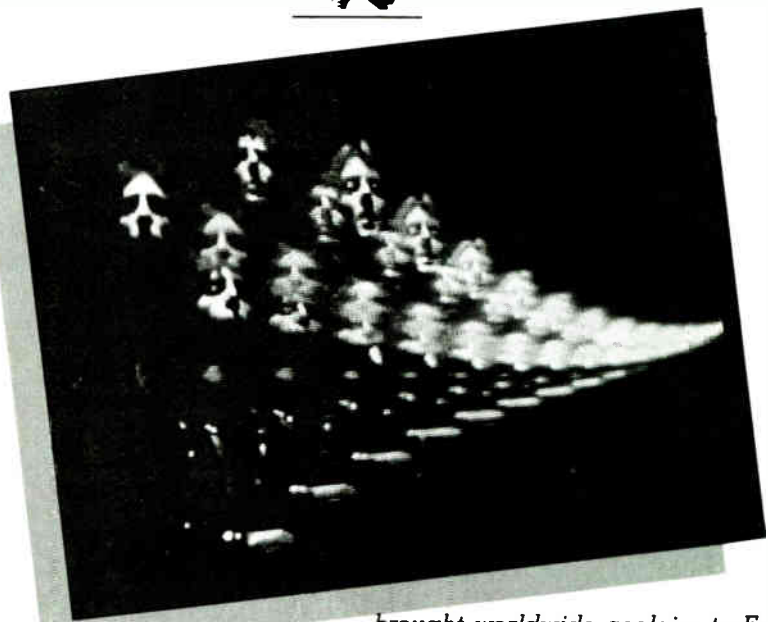
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Queen's "Bohemian Rhapsody" is one of the first concept and live concert music videos. Directed by Bruce Gowers, who in typical record business fashion had very short notice, the video visualizes the track that

brought worldwide acclaim to Freddy Mercury and Queen. Here, Gowers uses video feedback, a simple yet dramatic effect created by aiming a camera at a monitor, similar to audio feedback where guitar pickups are placed in proximity to an amplifier.

—from page 160, *Origins*
music through the unfolding day and night of a group of teenagers in a small

California town, in a way that showed the social and ritual importance, as well as the force of the music.

In contrast to "American Graffiti," where the music came spilling out of the cars, radios and jukeboxes, Nicholas Roeg's "The Man Who Fell to Earth" (1976), starring David Bowie, made the move to drama without musical performance. Bowie's music has always involved sci-fi imagery and Roeg's pre-new wave techno images complemented Bowie's enigmatic, androgynous image perfectly. It is apparent that Bowie's experience in this and other feature films has served him well in the conceptual direction and production of his music videos. He is very involved with all of the creative elements, co-writing and in some cases co-directing some of the pieces. In "Let's Dance" and "China Girl," two current music videos, Bowie's dramatic and cinematic sophistication is underscored in his performance. In "The Man Who Fell to Earth," Bowie, a futurist artist, was slightly ahead of his time.

A year later, in 1977, Robert Stigwood created *the* movie of its time, "Saturday Night Fever." The movie was a box office bonanza, and a 3-record LP became the largest selling record of all time. Just as "Blackboard Jungle" reflected and effected cultural change in clothes, hair and demeanor in the '50s, "Saturday Night Fever" created a new mass acceptance of the underlit, post-psychedelic world of disco and disco music. Directed by John Badham

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("War Games" (1983) and "Blue Thunder" (1983)), the movie was shot scene by scene in sequence, helping the novice cast gain a better perspective of their characters and greatly enhancing the realities portrayed in the film. Although leading man John Travolta delivered a strong performance and a following of many loyal TV fans, it was the Bee Gees' soundtrack that galvanized theater audiences and the music was the real star of the picture.

The success of "Saturday Night Fever" spawned a series of mega-budget rock musicals: "Grease" (1978), "Sgt. Pepper's Lonely Hearts Club Band" (1978), "The Wiz" (1978), "Hair" (1979) and "The Blues Brothers" (1979). "Grease" and "The Blues Brothers" were popular successes, and yet not necessarily better films than "Sgt. Pepper" and "The Wiz" which were not box office winners. Milos Forman's "Hair" is by far the best film of the lot and contained some of the most complicated music production sequences ever filmed. Hardly noticed by moviegoers, it was a box office dud. "Hair," "The Wiz" and "Sgt. Pepper" are classic examples of what happens when a movie's marketing strategy doesn't click.

"The Last Waltz" (1978), The Band's Thanksgiving Day Farewell Concert, produced by Robbie Robertson, the group's guitarist, and directed by Martin Scorsese, is probably the ultimate rock concert film. Shot with 35 mm Panavision equipment, "The Last Waltz" glistens with an incredible bill of musicians. The musicians represented a broad spectrum of rock and roll and pop music: The Band, Dylan, Van Morrison, Joni Mitchell, Paul Butterfield, Muddy Waters, Emmylou Harris, Neil Diamond, The Staple Singers and Neil Young.

The concert, at Winterland in San Francisco, was staged to be photographed. Most concert film footage is shot 16 mm and blown up to 35 mm; the lighting is usually underlit and the crew usually has to work around the audience. However, for this concert, the camera positions, lighting and set were designed with feature film production value.

Some segments were shot on a sound stage at MGM, and interviews with The Band members were also included. The movie is a textbook study of feature film techniques applied to rock concert coverage. Virtually every musical sequence in the film was choreographed and storyboarded in advance. Every shot and camera move was related to the music, giving "The Last Waltz" a fluid moment to moment

—page 164

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—from page 163, *Origins*

sense of reality that is bigger than life. Scorsese's film stands as one of the most successful applications of film-style production standards to concert music.

Meanwhile, music video was alive and well in England. Robert Stigwood, in most cases the producer with the Midas touch, brought Pete Townshend's rock opera "Tommy" (1975) to the screen with an all-star cast and Ken Russell directing. The artistic and financial success of "Tommy" opened the door for the rock opera on film. Sparked by the success of the stage version of the "Rocky Horror Show," record/film producer Lou Adler bought the film rights and released "The Rocky Horror Picture Show" (1975). The film's musical emphasis was drawn from the emerging punk rock music scene in London. No one could have predicted the success of the movie in creating the cult following which today still packs theaters around the country for weekend midnight screenings. The reason for its success is probably the picture's distinction as an act-along or interactive audience participation experience.

Five years later, the punk scene was exposed in "The Great Rock 'n' Roll Swindle" (1980), featuring the Sex Pistols, Johnny Rotten and the group's manager, Malcolm McLaren, who claims the Sex Pistols were a fraud from the beginning.

Claiming he was able to coin "Cash from Chaos" by manipulating the media's thirst for sensationalism, McClaren, the group and the film stirred something in British and U.S. youth which survives today in the form of so-called new wave music. The film was directed by Julian Temple and was a combination of kamikaze live performance, interview, animated cartoons and a spy adventure subplot with McClaren dominating the action with lecture/demonstrations on "How to Create a Rock 'n' Roll Media Event."

During this period, 1975 to 1980, the thriving music scene in London relied increasingly on music video for exposure. The limited radio airplay possibilities through BBC radio and the extensive costs of touring required that an alternative method of promotion and exposure be developed to secure audiences. It is virtually this same situation in the '80s which has formed the basis for the success of MTV in America. In fact, most of the footage cablecast by MTV originated in England, by English directors, to expose British bands in Europe and particularly in the U.S. Music performance films have long been presented in concert and in clubs in England as a way of breaking groups

who otherwise would not receive exposure through traditional radio outlets.

In fact, television airplay on programs such as "Ready Steady Go" and "The Old Grey Whistle Test" was, and is today, critical to major success in the U.K. So, as a matter of necessity as much as creative expression, artists and record companies in England and Europe have used and continue to use music video as a forum to showcase music in other world markets, particularly in the U.S.

The reverse was true in America. If a record looked like it had "legs" here, the international division of the label would go to its branches or licensees in other countries, generate a budget and create a video of the group in an attempt to enhance international sales.

In many respects, and with few exceptions, artists and labels have backed into music video production. If you look at the videos created in England in the early and mid-seventies, you can trace the genesis of what is considered the modern music video.

The fact is, many of today's most acclaimed videos were created by English directors; Steve Barron (Michael Jackson), Bruce Gowers (Toto), Simon Temple (Stray Cats), Keith MacMillan (Paul McCartney), David Mallet (David Bowie), Russell Mulcahy (Kim Carnes), and Brian Grant (Olivia Newton-John). English musicians like Godley and Creme from 10cc (Duran Duran), Peter Gabriel "Shock the Monkey" and Thomas Dolby "She Blinded Me With Science" have taken the next evolutionary step in music video; that of the artists as director interpreting music written to be visualized.

The body of work created by these directors and their production companies forms the criteria for today's standard of creative imagination and quality production values. This is not to say that the U.S. does not have its own innovators and master music featurette producers. Certainly there are Mike Nesmith and William Dear (Elephant Parts), John Goodhue (Tom Petty) or Bob Giraldi (Michael Jackson, "Beat It"), among others. And, for that matter, English directors are not incapable of producing bad music videos. It is clear, however, that for reasons of necessity (limited radio exposure) and of overcoming market isolation, the English artists, directors and record labels (Virgin and Island Records, et al) have created, and still create, the most interesting material being done today.

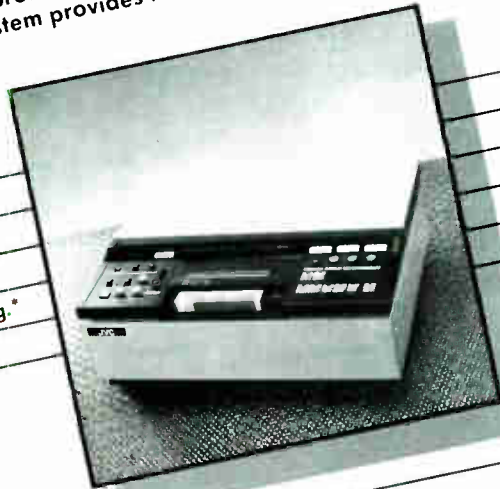
Tight economic conditions and restricted budgets have been a peren-

—page 192, *MVP*

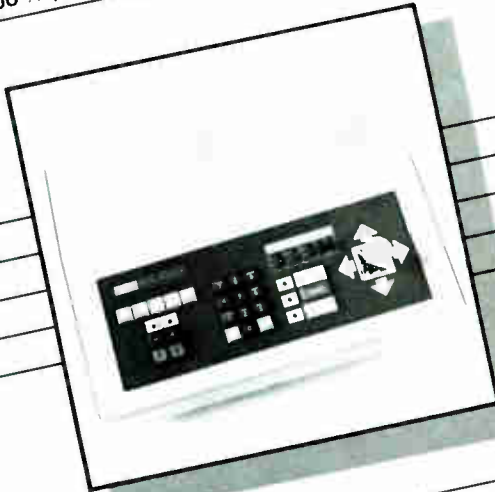
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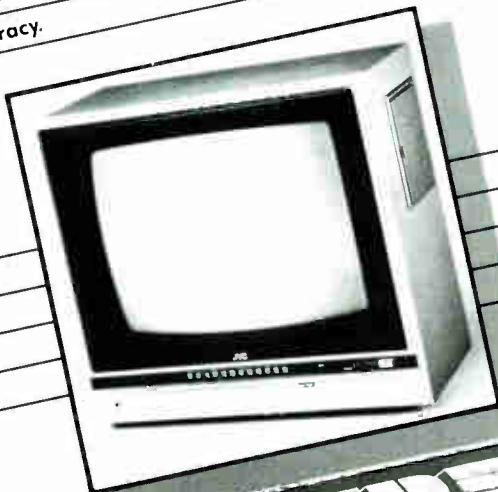
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LOCUS

COMMUNITY CAPTIONS

by Neal Weinstock



Sooner or later, most video enthusiasts find that their ambitions exceed their equipment. That's where guys like Gerry Pallor come in:

Gerry invented, and runs, Locus Communications in New York. Locus is one of a breed of "public access" non-profit equipment rental houses springing up all over the country. "Public access" is a handy generic label, since most of the productions Gerry works with are destined for a cable public access channel. Basically, anybody with an idea that requires broadcast quality equipment, in New York, has two choices: rent it for five hundred to a thousand dollars a day from any of a dozen-odd rental houses, or rent for perhaps a hundred dollars a day from Locus.

Locus had been in business for almost two years now; "It's the longest I've ever held a job," says Pallor. It is 1/3 supported by foundation grants, the rest from the proceeds of its rentals and from Pallor's own video ventures. On the day that we interviewed him, Gerry had just finalized a deal with the American Friends' Service Committee, to make a series of tapes. "They're survival tapes for Haitian immigrants," he says. "How to shop, how to deal with hospitals, all those essentials of American culture. It will be a trigger tape concept; that is, a short tape will be shown to a group to start discussion and questions."

Pallor says that when he started Locus, no video venture of its kind existed that he knew of. He was working at Young Filmmakers, a New York cooperative that fills the same role for film. (They also rent video equipment these days, following Locus's lead.)

His clients now fall into four broad classes, he says: public access producers ("they're primarily into talking heads shot in a studio"), video artists ("there seem to be less and less people interested in experimental video these days"), documentarians

("probably the largest group"), and people building up a portfolio of tapes in the hopes of making it into the industry.

There are several keys to the success of places like Locus. The first is surely the sheer volume of people who want to express themselves on video. "Our rate structure probably wouldn't work in any community other than New York," says Pallor. Because of the demand for video in the Big Apple, he is able to keep his prices as low as \$30 a day for 3/4" recorders, the same for broadcast quality camers. Another key to success, oddly enough, is that the equipment available is just barely broadcast quality.

"We fill a niche," Pallor says. "We are dealing with amateurs and productions that are not for profit. . . . Realistically, a professional with a good budget would not want to work with our equipment. They could afford to pay Camera Mart's (a NY rental house) rates." The broadcast tape standard these days is, of course, one inch; and Locus does not rent any of these. Pallor has quite thoughtfully kept his equipment away from top-flight level: "We once had a [JVC] KY-2700 camera," he says. "For a few days. It was stolen. It was too tempting, and it invited commercial business that we don't want. We do have the KY-1900, with which it is very possible to get a good, really good, broadcastable image. You really have to be familiar with the camera to get that out of it."

Locus, like any of the foundation-supported equipment depots, will work only with non-profit productions. But Pallor's definition of a non-profit production sweetens the pot a little. "What defines a commercial venture," he says, "is whether it has commercial support; that is, if somebody other than the producer is picking up the tab. If you come to me with a tape about road runners, and tell me Pepsi-co is picking up the tab and it's going on the USA Network, well, you can

afford to go to Camera Mart. But if you are doing this tape on road runners which, at some point in the production you have reason to believe will become attractive to Pepsi-co and/or the USA Network, that's just fine. . . . And the professional' rubric is not in and of itself a definition. If you come in with a project fully funded by PBS, go elsewhere."

Pallor does not mind at all if Locus is thought of as a resource center for the beginning producer. "A lot of people come in here with their home equipment, which they mix in with ours," he says. "We always ask them to bring it in because the interfaces change. If people tell me model numbers, I'm lost - there's so much out there."

Locus, again like most organizations of its type, supplies production, but no post-production equipment. They will recommend cheap places to edit, however; that's easy. People who have bought their own editing setup for 3/4" and are amortizing it by renting its use out, for in the neighborhood of \$25 to \$35 an hour, are very common in all the major cities. Gerry says, "A friend tells me they're opening as fast as quick copy shops in San Francisco." He keeps a list of editing places available in New York, "and it is nowhere near complete because of all the new ones." As it is he lists over a dozen.

The average user of 1/2" home video can be forgiven for not feeling totally confident with more professional equipment. Locus holds classes in video at all levels, and if they don't have a class to meet one's schedule, they can put the budding producer in contact with one of the other access centers that will. Needless to say, Locus is also a good place to come in to contact with people doing interesting things with video, people who would be able to crew with you, people looking for crew. The atmosphere is simultaneously more open and less hardcore professional than at a commercial rental house, which may just represent an easier way for the would-be pro to slip into the wonderful world of video. ■

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A G E N D A

Thursday, November 17th

9:00AM — 5:00PM
2:00PM — 2:30PM
2:30PM — 5:30PM

Registration

Welcoming Remarks

"Let's Get It On: The Hows and Whys of Programming"

The Conference opens with three hours of presentations of music oriented television shows and channels by their programmers, who will discuss their philosophies and explain how decisions are made.

Welcoming Cocktail Reception

5:00PM — 8:00PM

Friday, November 18th

9:00AM — 5:00PM
9:30AM — 10:00AM
10:00AM — 10:30AM
10:30AM — 12:00PM

Registration

Continental Breakfast

Introduction & Keynote Address

"Parts Of The Whole: Lighting, Art Direction and Choreography"

Experts in the field explain how, through their talents, different moods can be created and problems solved. Plenty of time for questions and answers.

"The Computer Age: Graphics and Animation"

Computer graphics and animation are creating a brave new world of video art to accompany music.

12:00PM — 1:30PM

Luncheon

"Fix It In The Mix: Audio and Video Pre- and Post-Production Techniques"

What preparations can be made before shooting takes place, and what miracles can be worked in the editing suite.

1:30PM — 3:00PM

3:00PM — 4:30PM

"A Unique Vision: Artists and Directors"

Top names in video music discuss their craft.

4:30PM — 6:00PM

6:00PM — 8:00PM

8:00PM — 11:00PM

VIDEO EXHIBITS — open to the industry

VIDEO MUSIC SHOWCASES — open to the industry

Saturday, November 19th

9:00AM — 5:00PM
9:30AM — 10:00AM
10:00AM — 11:30AM

Registration

Continental Breakfast

"An Hour or More: The Future For Long-Form Programs"

Marketing music on videocassette, videodisc, and selling rights to cable and other outlets.

11:30AM — 1:00PM

"On The Beam: Satellite Delivery"

Satellites are opening up the entire globe for concerts and other special events.

1:00PM — 2:30PM

2:30PM — 4:00PM

Luncheon

"Selling The Artist: Video As Promotion"

Label executives and managers discuss different uses for video to further an artist's career.

4:00PM — 5:30PM

"Making the Scene: Clubs and Campuses"

How is video used to keep the party spirit going? Top "VJs" and other programmers offer their tips.

5:30PM — 7:30PM

7:30PM — 8:30PM

8:30PM — 10:00PM

VIDEO EXHIBITS — open to the industry

VIDEO SHOWCASES — open to the industry

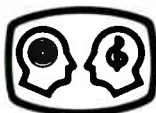
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Billboard.



Glen Glenn's new sound center

by David Goggin

Glen Glenn started his world-famous sound company shortly after arriving in California from Canada in 1929. The original operation consisted of Glen and his modified touring car with optical sound recorder and the batteries to power it. Today, Glen Glenn Sound is the oldest and largest motion picture and video sound recording facility in the world. The company has facilities in Hollywood on the CBS lot, on the Paramount lot (a scoring stage operated jointly by Chris Stone's Record Plant and Glen Glenn), and recently completed their 40,000 square foot Sound Center with three dubbing theaters, two ADR (Automatic Dialogue Replacement) and Foley stages, and two videotape dubbing studios.

Before his death in 1960, Glen Glenn pioneered new recording methods for motion pictures and the company was in the vanguard of audio developments for television as well. In

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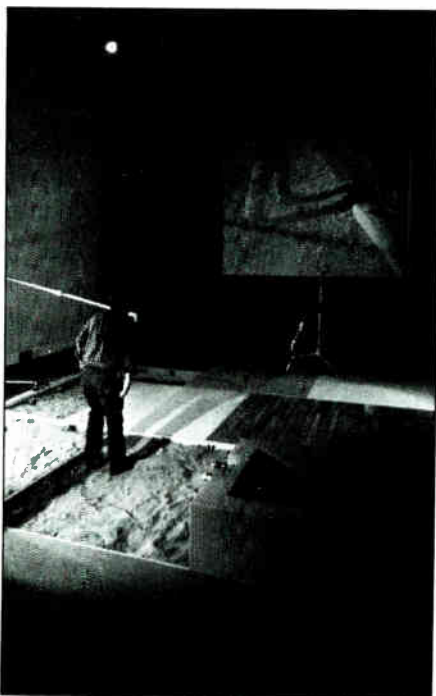
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1951, the company used 1/4" magnetic tape with a synchronization pulse to record film production sound. The system was called Rangertone and it was a first for the industry.

Joe Kelly is now the president of Glen Glenn and his 40 years in the industry have resulted in contributions which have put his company in the history books. Glen Glenn pioneered the use of Reversible Update Recording which allowed punch-ins and revolutionized the process of re-recording of soundtracks. The development of reversible VTRs with picture led to the first state-of-the-art video sweetening. Glen Glenn built the first solid state mixing consoles for the motion picture industry and received an Oscar for their efforts. The PAP (Post-Audio Processing) system of non-sprocketed electronic editing with SMPTE time code and multi-track tape recorders earned the company its second Oscar.

The new Glen Glenn Sound Center is a dazzling city of Oz for the motion picture and television industries. "This is the only facility in the world designed from the ground up solely for sound post-production," Joe Kelly remarks enthusiastically. "We had the



One of Glen Glenn's ADR (Automated Dialogue Replacement)/Foley studios being used to Foley footsteps on sand

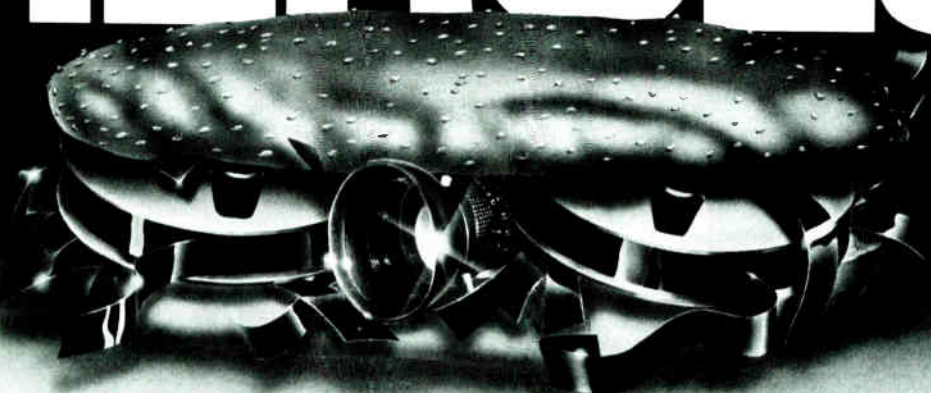
best minds in our field contribute to the realization of this project and the greatest care imaginable went into the design and construction of this building conceived to house the most sophisticated post-production installation ever built."

Key to the successful concept is the solely post-production focus of Glen Glenn. Tom Kobayashi, executive VP, explains: "We're sound specialists; that's all we are. There has been a trend in the last few years to make facilities that are all things to all people—editing, mobile operations, etc.—but we are concerned *only* with the finest post-production sound."

Architects for the project were Gensler and Associates, responsible for buildings for IBM, NBC, Xerox, and Paramount. A building like Sound Center had never before been built and the Koll Company was chosen as contractor. Construction manager Harry Abbot states, "We have used innovative building techniques and materials specially formulated to create an extremely soundproof environment."

The futuristic complex has walls almost two feet thick, including a 6" exterior shell of hard rock concrete. The entire inside structure is completely

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isolated from the outside world, with floating floors and ceilings suspended by resilient hangers. "You could land a helicopter on the roof and we wouldn't hear a thing," adds Tom Kobayashi.

Paul S. Veneklasen and Associates were the acoustical consultants for the new Sound Center. The company, engaged in studio design for 25 years, was also responsible for the Dorothy Chandler Pavilion of the Los Angeles Music Center and the Samuel Goldwyn Theater of the Academy of Motion Picture Arts and Sciences. The challenge at Sound Center was to create a unified facility comprised of 7 different studio environments with very different acoustic requirements all under one roof, yet unattached so as to avoid vibration transfer and sound leakage.

Studio One is a 200-seat, 70 mm multi-track dubbing theater with a 45' screen. Clients have the choice of Altec monitors with Boston Acoustic Surround speakers, or the new Lucasfilm Ltd.-designed THX monitoring system identical to the system used to monitor the dubbing for "Return of the Jedi" in George Lucas' Marin County, CA, center. Centerpiece of the theater is the ADM/Glen Glenn 3-position 119 x 18 audio console with automation. It features a computer controlled patch bay in each section (music, dialogue, sound effects) with display on CRT terminals.

The design of the consoles was a collaborative effort between Glen Glenn's engineering staff and ADM Technology of Troy, Michigan. Prototypes were developed jointly and tested, refined, and installed. "We wanted a new generation of audio consoles that were entirely conceived for our industry and not designed for the music recording business and merely adapted to serve motion picture and television audio mixing requirements," explains Joe Kelly. The results were so successful that ADM is now offering similar production models to the entire motion picture industry.

Automation features form a powerful extension of the PAP system pioneered at Glen Glenn. Through a high capacity dual floppy disk memory unit, the consoles are able to receive commands generated by the PAP system, and set up the console control and assignments as directed by the floppy disk command file. The lead mixer is able to preview PAP command files and, where necessary, implement addi-



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tional editing changes as desired. An external SMPTE time code reference is continuously scanned by the console computers to determine changes required. In addition to the floppy disk unit, the consoles house a master computer with a memory buffer for temporary storage of PAP commands, as well as a separate computer in each console section. Each individual mixing strip contains an independent microprocessor to monitor the mixers inputs and regulate the strip functions. These microprocessors are in instant communication with the master unit and memory.

An important factor at the new Sound Center is the contribution of the Pathological Corporation, Glen Glenn's advertising, PR and marketing communications agency. Pathological is currently producing an ambitious 70 mm 6-track Dolby stereo demonstration film for the official opening ceremonies to take place late in 1983.

"We will have a gala opening in the old Hollywood fashion," explains Mr. Stahl. "Our presentation is unique in that it is first of all an *audio* experience intended to demonstrate the sound capabilities of our mixing theater.

It's probably the most expensive and intriguing audio promotion ever made. What do you present to a George Lucas or a Steven Spielberg that they haven't already heard? Glen Glenn has authorized us to do whatever it takes."

The soundtrack for the 70 mm presentation will utilize a 100-piece orchestra and will be recorded digitally at Record Plant Studio M. Consoles at Glen Glenn are designed for digital interface and digital recording will be used in the production process prior to the final mixing to 6-track Dolby stereo. "The mastering of this technology will be as important to the motion pictures of tomorrow as Al Jolson's 'Jazz Singer' was to the films of the thirties," concludes Mr. Stahl.

The big problem faced by the leaders in audio for motion pictures is the fact that many theaters are still equipped with rather antiquated reproduction systems. Change is slow in the industry but sound has recently become an increasingly more important force.

"There is a new awareness of what sound can do for a motion picture - it sells tickets," states Mr. Stahl. "It started with films like 'The Exorcist.'

People went back to 'Star Wars' to hear the incredible soundtrack. There is a need to provide what cannot be experienced at home. When Dolby first went up on the marquee, they figured you could sell 50% more tickets. Sound for film is no longer just a toy."

As a company with over 50% of its revenues derived from the television industry, Glen Glenn is equally concerned with improving the quality of sound for TV. George Schlatter Productions inaugurated the new stereo videotape dubbing studios with an episode of NBC's "Real People."

"The opening of our video studios broke new ground for the industry as a whole," notes Joe Kelly. "This new, 2-mixer configuration videotape dubbing studio is a major evolutionary development from the traditional sweetening room. Aside from containing complete Foley sound effects facilities, both studios were specifically designed for the new generation of film-to-tape post-production technology."

The most visible innovation is the architectural and acoustic environment designed to simulate a TV viewer's living room, and the use of a perforated cinema screen in conjunction with a video projection system.

"The similarities to a motion picture dubbing studio are not coincidental," adds Kelly. "This is part of our plan to make all of our studios compatible with both the film and video media. The trend of dealing with product shot in film and post-produced in video will unquestionably call for greater technological and artistic flexibility."

Glen Glenn handles sound for all of the Steven Cannell TV productions, which includes "The A-Team." They also do sound for all the MTM television shows, such as "Hill Street Blues," "St. Elsewhere," and "Remington Steele," and Paramount TV ("Cheers," "Happy Days," etc.). In the film world, they recently finished post-production sound for "The Ostermann Weekend," Sam Peckinpah's first film in four years, starring John Hurt and Burt Lancaster. Upcoming projects include Blake Edwards' "The Man Who Loved Women," starring Burt Reynolds, Alan Carr's remake of "Where the Boys Are," and "Star Trek III."

A good way to experience the importance of sound in today's major motion pictures is to sit in Glen Glenn's 70 mm Studio One with only picture. As the mixers bring up their faders and the monitors begin to push the air with incredible force, the sound effects blast out and pan dynamically through the theater, a symphony orchestra is reproduced at front-row concert levels, and the picture comes to life. ■

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Homer and Associates

Cooking with film and video

by Claudia Becker

A video game comes to life via a blend of live action and computerized animation techniques in the visual version of George Clinton's "Atomic Dog." Varnell Johnson, vice president of A&R for black music, Capitol/EMI, says of the piece, "There's never been anything like it before." Not only is the piece a visual treat, it was also produced for far less money than one might guess.

"Atomic Dog" was created by Peter and Coco Conn, founders of Hollywood-based HOMER and Associates, a full-service production and special effects firm. HOMER differs from other firms in that its special effects system was developed in-house, and offers a futuristic answer to traditionally expensive video effects. HOMER's effects have appeared in everything from feature films to large-screen music industry convention and concert presentations to three-screen productions such as "Spirit of the Olympics." The company is particularly well-known for its promotional music clips, which include Billy Squier's "Everybody Wants You," Steve Miller's "Abracadabra" and The Jacksons' "Blame It on the Boogie." The latter two took awards at the Houston International Film Festival, and Peter Conn was nominated as Best Director by the American Video Awards for "Abracadabra."

The centerpiece of the HOMER (an acronym for "hybrid optical montage electronically reproduced") system is a 24-channel digital visual mixing console. "The console features a novel approach to image manipulation using projector control," explains Peter. Other features of the console include touch sensitive control pads and a real-time hydraulic joystick, which allow the operator flexible control in either real-



Peter Conn directing dancers for Steve Miller's "Abracadabra" video. Bryan Greenberg lensed. The 35mm film was later rotoscoped electronically on Homer's digital paint system. Effects were mixed with original footage using a Grass Valley 300 switcher.

time or frame-by-frame mode. Other hardware in the system includes the Datatron Vanguard computer running Sony 3/4" VTRs, a digitally controlled ECHOLab SE/3 switcher, an electronic paint system built around a Digital Graphics CAT-800 framestore, a custom-built motion control optical printer with 16/35 Acme printer head and a 35 mm pin-registered camera.

All software for the HOMER system is written in FORTH and was created completely in-house. HOMER's unique interactive system is totally modular and allows output to 16 mm, 35 mm and slides via a HOMER-built RGB device, or to videotape with NTSC encoding.

One major capability of the HOMER-developed system is its pre-

Peter Conn at Homer's digital paint station creating sequences for Billy Squier's "Everybody Wants You" video. Album cover art by Warhol & slides of the band were digitized, processed, printed back to film, & combined with previous footage.



visualization capacity, which allows the creator of a piece to see how the images might combine in the final edit.

HOMER's unique process interrelates frame control animation and computer graphics. With frame control animation, HOMER has access to each individual still, slide or frame, and can create various stylings in real-time. Computer graphics give the system the capability to enhance, assist and blend live action with animation by altering the original structure frame by frame. The artists who work with the firm draw or paint each frame in tandem with the computer-controlled optical printer, digitizing each frame of live action into the Digital Graphics CAT-800 and outputting a processed image or overlay back to film or slides.

For "Atomic Dog," Peter and Coco created a video game on their paint system, and then brought it to life by using live action sequences lensed in 16 mm at 30 fps. Those sequences were then combined with the 35mm animation and assembled on videotape.

"Viewers don't want regular films for visual music," says Peter. "They want something beyond, something different from anything they've seen before, which is why the combining of various visual effects with live action works so well."

Many clients come not only for HOMER's cost-effective, visual programming environment, but for the Conns' creative input as well. "We work with our clients from concept to finished product," explains Coco. "Often all we have to start with is a piece of music, a strip of film or just an idea. When the promo department at Capitol decided to do a video for Steve Miller's 'Abracadabra,' Miller was unavailable for a shoot. All we had were a few stills. Using our computer graphics system, we enhanced them in combination with original footage and created a complete, new film."

Peter adds humorously, "Given the time pressure of many jobs, we usually end up doing the storyboard, submitting it to ourselves, approving it, then going ahead and producing it. We must be doing something right. Our clients keep coming back!"

HOMER and Associates has worked on two major three-screen projects for R & R Entertainment. For both "The Great Rock 'n' Roll Time Machine" and "Spirit of the Olympics," the firm transferred a large amount of slide programming to 16 mm film, created a new closing sequence for the former piece, and a new opening for the latter. "The synchronization of the screens and the 35 mm optical work made these projects particularly challenging," notes

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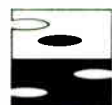
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Peter. "In creating the images for R & R, we made extensive use of HOMER's capabilities: we previewed the existing material on our preview consoles and experimented with various techniques that would combine live action and still photography." Both pieces are shown throughout the country at Six Flags Theme Parks.

HOMER's slide transfer division offers a proprietary process which utilizes a computerized optical printer, Nikon printing lenses and durable inter-negative stock. This precision process has a wide range of acceptability, and results include high resolution, low contrast and zero error registration.

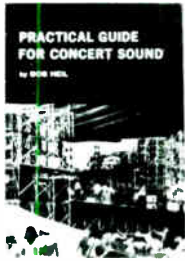
HOMER's largest design and production job to date is a 7,000 slide compilation for EMI Music Video. *Body Music* is a 30-minute video album consisting of six songs backing visual images of six British models. The slides are being recopied into sequences and animated using an array of 16 slide projectors and two film projectors for previsualization. When finished, the images of the models will be printed onto 35 mm film negative and then transferred to videotape. EMI plans to license *Body Music* to cable television and enter the home market with it, as well. A "video single" of two songs will also be released in the Beta HiFi and VHS formats.

"Visual music albums are the entertainment of the future," says Peter. "The music industry executives are looking for visual styles to create long-form video. Within the next few years, we are going to start seeing more and more video albums for cable, home and clubs."

HOMER's hybrid technology and innovative applications have made a name for the firm in the corporate and commercial worlds as well as within the music industry. Peter sees the direction of production continuing to be a blend of film and video techniques. "We will be interfacing film and video more and more," he predicts. "Although video is the wave of the future, the film tools are sometimes easier and less expensive. The capital outlay is different. Also, certain effects require multiple passes of the negative, and this is not always possible in video, where multiple passes mean a loss of generation."

"We're excited about the way we're using our graphics system and the tools we've built," enthuses Coco. "We find different applications for every shoot, and our approach has been completely different on our last several projects. We're not locked into conventional video switching effects. Artists and producers who come to us want a totally new look, which our system can give them."

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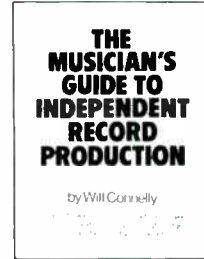
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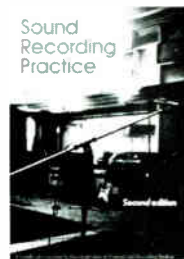
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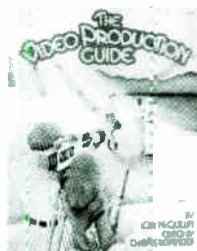
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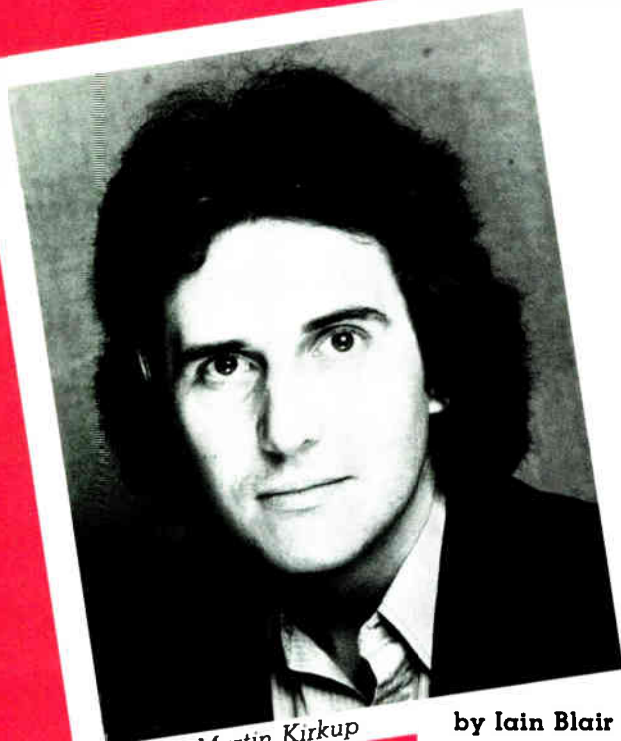
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A&M's Martin Kirkup

A&M sets record straight on video

by Iain Blair

"The marriage between visuals and music is a natural progression that's developing every day..."

Currently riding high in the charts with hit albums by the likes of The Police, Bryan Adams, The Human League, Jeffrey Osborne and Sergio Mendes, A&M Records has long been considered one of the most innovative artist-oriented labels. The company is also responsible for some of the most compelling videos currently on screen. Since it completely revamped the famous Chaplin Soundstage a couple of years back, the site has been host to such classic A&M shoots as Kim Carnes' "Betty Davis Eyes," Billy Joel's "Allentown" and "Every Breath You Take," the current worldwide number one by The Police.

The video operation is run by Martin Kirkup, an affable Englishman who first joined A&M in 1975, and who is now vice president of Artist Development with responsibilities for all video production as well as touring, personal appearances and marketing concepts. "For the last three years I've been involved in distribution and production of live concert specials," he explains. "I executive-produced The Squeeze special shot live at The Country Club in L.A. for MTV, as well as The Split Enz special shot in Toronto last year. Now, since taking over the whole department in May, I also coordinate and act as a liaison between the artist and manager and the video production team. This entails helping select the right director, working on the initial concept—and nearly all videos are conceptual now—and establishing a realis-

tic budget. It's also very important to maintain deadlines."

Kirkup aims at keeping a budget somewhere between "\$20,000 and \$40,000. I'm really into fresh talent: creative people who can keep the budget down and make \$25,000 look like \$50,000 – and it can be done, believe me! For instance, I recently hired two ex-USC film graduates, whose company is called High Five Productions, after seeing some of their work. They'd had a \$15,000 budget and made it look like \$75,000. I was so impressed with their style, etc., that I took them to meet Jeffrey Osborne. They hit it off; we worked on the concept, came up with an agreed idea and budget, and then shot it in downtown L.A. to get an 'urban' look. It should be out on MTV in late August.

"We also just finished shooting a new video of Oingo Boingo's latest single called "Nothing Bad Ever Happens To Me." Because of the song's subject matter, it demanded a fairly humorous treatment, along with an unsettling feeling as well, so it needed the right sort of director to capture all that. I think the pairing of video director and artist is an extremely important part of the overall process." In the end, Kirkup and the band chose Frank Delia, the director responsible for the highly acclaimed videos of "Mexican Radio" by Wall of Voodoo and "Psychotherapy" by The Ramones.

According to Kirkup, A&M is also gearing up to shoot their first heavy metal video for Y&T. "We start shooting some time around the end of August,



and the clip will be directed by Michael Miner," he adds. "I saw the work he'd done with Nightranger, another heavy metal outfit, and I really like his approach and style. In fact, shooting heavy metal acts is difficult because it's fairly limiting and you usually need a lot of special effects. I particularly liked Miner's combination of live performance shots and special effects, so we had several storyboard meetings, hammered out the ideas, and came up with a concept everyone liked. Other upcoming projects include a video with The Payolas to be shot by F.F. Productions, and a shoot with D-Day which is about to be confirmed."

Kirkup stresses there's no such thing as a "typical budget" on any of these projects. "It all depends on the artist and the requirements. Obviously, shooting The Police is a slightly different deal from shooting a brand new act." On a budget of around \$35,000, Kirkup broke down a recent project as follows: \$2,000 for production staff, including director, producers, writer, cinematographer and production designer; \$2,500 for operating staff, including production manager, production coordinator, gaffer, key grip, electrician, sound man and special effects if necessary; \$2,000 for talent such as extras and dancers; \$4,000 for sets and costumes; \$5,000 for equipment; \$5,000 for location and rentals; \$5,000 for stock and lab costs; \$7,000 for post production and editing; \$1,000 for insurance and transportation.

At A&M, all the video budgets come out of a special video allocation which is administered by the Artist Development department. "We then decide what projects we will shoot, and how much to spend on each one," explains Kirkup. "For instance, we just released eight records at the beginning of August, and every one of them has a video to go with it. But only three have tours, whereas in the past there were far more tours and a fewer number of videos. This change of emphasis in the tools an artist uses to gain exposure is also reflected increasingly in contracts today, so that many now specify an allotment for a video project to accompany a record rather than tour support."

Kirkup goes on to stress, "Not every artist gets a video, though. Some of the major considerations in making that decision are: what sort of video can we make? Is there a real need for it? Will it be strong enough? We also look at the overall use for the video, including the international market as well as the domestic market, because A&M is an international label [distributed by CBS abroad and by RCA in the U.S.]

So, not every artist automatically gets a video just because there's a new record out."

"Obviously, shooting The Police is a slightly different deal from shooting a brand new act."

A&M's Chaplin Soundstage is run separately as a very successful business and is the premier state-of-the-art facility in Hollywood. "I use it whenever I can," says Kirkup, "but it's so popular that we often find it hard to even get time for our own acts there!

"This year alone, acts like The Tubes, Barry Manilow, The Police, Eddy Jobson, Kansas and Joni Mitchell have used it, because they love the stage," agrees Wayne Isham, stage manager. "And there are projects they can do here that just can't be done any-

where else. For instance, we have a direct patch to Studio D, one of our four main 48 track studios here on the lot. It has a 48 track customized Trident board with computer assist, so artists can shoot their video and record live simultaneously. Joni Mitchell recorded her live video of "Chinese Cafe" and three other tracks here using that setup, and we also did the Spirit reunion album, recording it live digitally and shooting the video." Amongst many other projects, the Soundstage has also been responsible for two live broadcasts to Japan featuring The Brothers Johnson and Ray Parker, and a marathon live recording and taping session of 56 bands over a six day period for a show called "Rocky Road."

Kirkup says that the future is "obviously extremely exciting for video, if somewhat unclear. The marriage between visuals and music is a natural progression that's developing every day, and the video clip is most definitely here to stay, although it's something of a hybrid art form right now. I think that MTV and all the new music programming is the most interesting and exciting outlet the music business has had in five years, and the potential is enormous." ■



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The Magical Ingredient of **GRAEME WHIFLER**

"It's more like painting, with more color control."



PHOTO: F. STOP FITZGERALD

Graeme Whifler directing a video shoot for the band Translator

by **Steve Seid**

Smoke billows out of a ramshackle hut as Graeme Whifler tells the choking actors, members of the contemporary rock band Translator, to try it again. Timing is crucial: he wants a huge burst of black smoke to envelop the actors as they flee the mock mine disaster. A veteran director of quirky rock videos, Whifler's sense of timing is well-known. So is his wry imagistic sensibility.

Back in 1978, 31 year old Whifler found himself resident filmmaker for The Residents, a rather cryptic rock group based in Berkeley, CA. There was no simple precedent for this sort of experimental collaboration between visuals and music: MTV's glittery birth was three years from delivery. Whifler thought of his bizarre concoctions as "silent movies." With a predetermined sound track, his responsibility was strictly visual. So he created demented scenarios that drew from tacky adventure films and Hindu musicals and collided them with the sonorous artifacts supplied by such groups as The Residents, Tuxedomoon, Snakefinger and Renaldo and the Loaf.

Initially, Whifler steered clear of electronic imagemaking. "Some video people think film is the work of the devil," Whifler said with droll contentment. "They say it's old fashioned and outmoded, but personally, I like the 19th century mechanical world better

than the high-tech world of tomorrow. Every time I get around electronic equipment, it breaks down."

However, Whifler found himself mired in micro-circuitry. A recent video for Sparks' "Cooi Places" made elaborate use of the Ultimatte, an electronic matting device. Though the "video" was shot on 16 mm film, the finished project wasn't viewable until its A/B transfer to videotape. The Sparks video represented a perfect merge of media: film and video. The flexibility of video enhanced the crisp, precious face of film.

When it comes to surface beauty, Graeme is a "19th century" die-hard. "All of my videos have been shot on film, because it's a better pictorial story-telling medium than video," he insists. "It's more like painting, with more color control. If you're talking about 35 mm film, it's got hundreds of times more information and picture resolution than 1" video."

The newest mini-movie Whifler has spun out of his quixotic imagination concerns the song "Un-alone" by Translator. The scenario involves the demure Steve Barton, Translator's lead singer, searching for his elusive girlfriend. The entire band appears throughout the tape, surfacing in various disguises - grease-monkeys at a gas station, smudgy coal miners in overalls, pudgy choir boys by a steeple. Graeme is well aware that bands usually find themselves strangers in a strange medium. "For musicians, it's

hard to do rock video, because they're not actors," he explains.

"They're a weird, mole-type group, who use the side of the brain opposite from the logical part necessary for filmmaking." When pressed, Graeme will bluntly state, "If they were actors, you wouldn't want to hear what they played on their instruments. Would you?" Still, Whifler transformed Translator into an acting ensemble, airbrushing the rough edges with grotesque framing and sight gags.

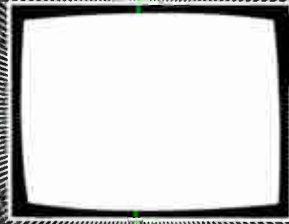
Polishing off the Translator video, Whifler was up to his neck in technology, going so far as to perform all post-production on videotape. After the film transfer, a 3/4" rough-cut and edit list preceded the on-line work. It was a swift process; Graeme doesn't use special effects. His filmmaking relies on visceral rhythms, composition and, of course, sardonic narratives.

Regardless of his deep interest in the moving image, Whifler is well aware that all the pyrotechnics of the medium rest on the mystical tune rendered visual. "It takes a magical ingredient to make a song popular. If it doesn't have that, then you could get Federico Fellini to direct a rock video and I don't think it would sell," he says with a characteristic chuckle. But then again, people have been known to enjoy Whifler's videos even with the sound off. ■

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—from page 158, *Video News*

Joe Dea shot the debut video for Shooting Star, taping the dance sequences at Centron in Kansas City and posting in Philadelphia at E.J. Stewart. That facility also hosted Richard Carey's RCA Records filmshoot for singer Robert Hazard. Background for the clip and the 150 "extras" is Philadelphia's South Street neighborhood. Paul Flattery produced the debut clip for The Difference and their four-song EP. King Sunny Adé and his 18-piece band, The African Beats, appear in a video of "Penkele." This live performance was taped during their U.S. tour by Ramen Rao for client Island Records. Videowest is supplying interviews with rock and pop celebrities for what is billed as an interactive rock quiz show. "Video Rockage" is a project of Warner Amex and its QUBE cable TV service.

One Pass Video directors Scott Ross and Joe Murray shot clips for Mary Buffet ("My Boyfriend's Back") and Ronnie Jaye ("Berlin"). Ross and a One Pass mobile crew taped a two-hour video project for Joni Mitchell, who directed herself in concert. Record Plant in Los Angeles captured the 24

track audio for the program, which includes conceptual and performance segments.

An alumnus of Rockamerica and the NY Ritz nightclub, Ilene Staple has opened her own distribution company servicing clubs with video cassette product. Zoom Video is acquiring not only clips but video art, cartoons and newsreel footage for club screenings. The New York firm also designs and installs video display systems.

The Complex Soundstage in West Los Angeles was the shooting site

for the visual version of "Planet Earth Rock and Roll Orchestra," a song from Paul Kantner's upcoming solo album. Featuring Grace Slick, the conceptual clip was lensed on film and directed by Arthur Ellis, of Limelight.

Vern Gillum & Friends, a commercial house, also utilized The Complex Soundstage, and executed a high speed, slo-mo cereal commercial where raisins and cereal falling into bowls were lensed at 2,000 frames per second. In addition, Schulman Video completed taping "People News," a new entertainment variety pilot at The Complex. ■

ADVANCED TELEVISION SYSTEMS COMMITTEE FORMS

Member organizations of the Joint Committee on Inter-Society Coordination, JCIC, (comprised of the Electronics Industries Association, the Institute of Electrical and Electronic Engineers, the National Association of Broadcasters, the National Cable Television Association and the Society of Motion Picture and Television Engineers), have formed ATSC, the United

States Advanced Television Systems Committee, for the purpose of coordinating the development of, and setting standards for advanced television systems.

The committee has defined advanced television to include "systems for the generation, distribution and reception of improved NTSC, enhanced 525-line, and high definition television." Improved NTSC refers to evolutionary and on-going changes which retain the present radiated signal standards, such as improvements in home receivers, studio cameras and television plant distribution/processing. Enhanced 525-line involves changing the transmitted signal format while retaining the present 525 scanning and 4:3 (1.33 to 1) aspect ratio. Examples of this would include the use of wider bandwidths for chrominance and luminance signals, as well as the separate transmission of these signals. High definition television (HDTV) is characterized via an improvement of both horizontal and vertical resolution by at least two to one, a wider aspect ratio (at least 1.66:1) and stereophonic sound. The committee has deemed stereo audio essential to HDTV due to its wide screen format.

ATSC intends to encourage governmental participation in committee activities, and plans to submit its findings to the American National Standards Institute (ANSI) for the adoption of national standards, and to the FCC for regulatory consideration.

ATSC membership is open to companies and organizations having a direct interest in the development of advanced television systems. For more information, contact the United States Advanced Television Systems Committee, 1771 N Street, N.W., Washington, D.C. 20036.

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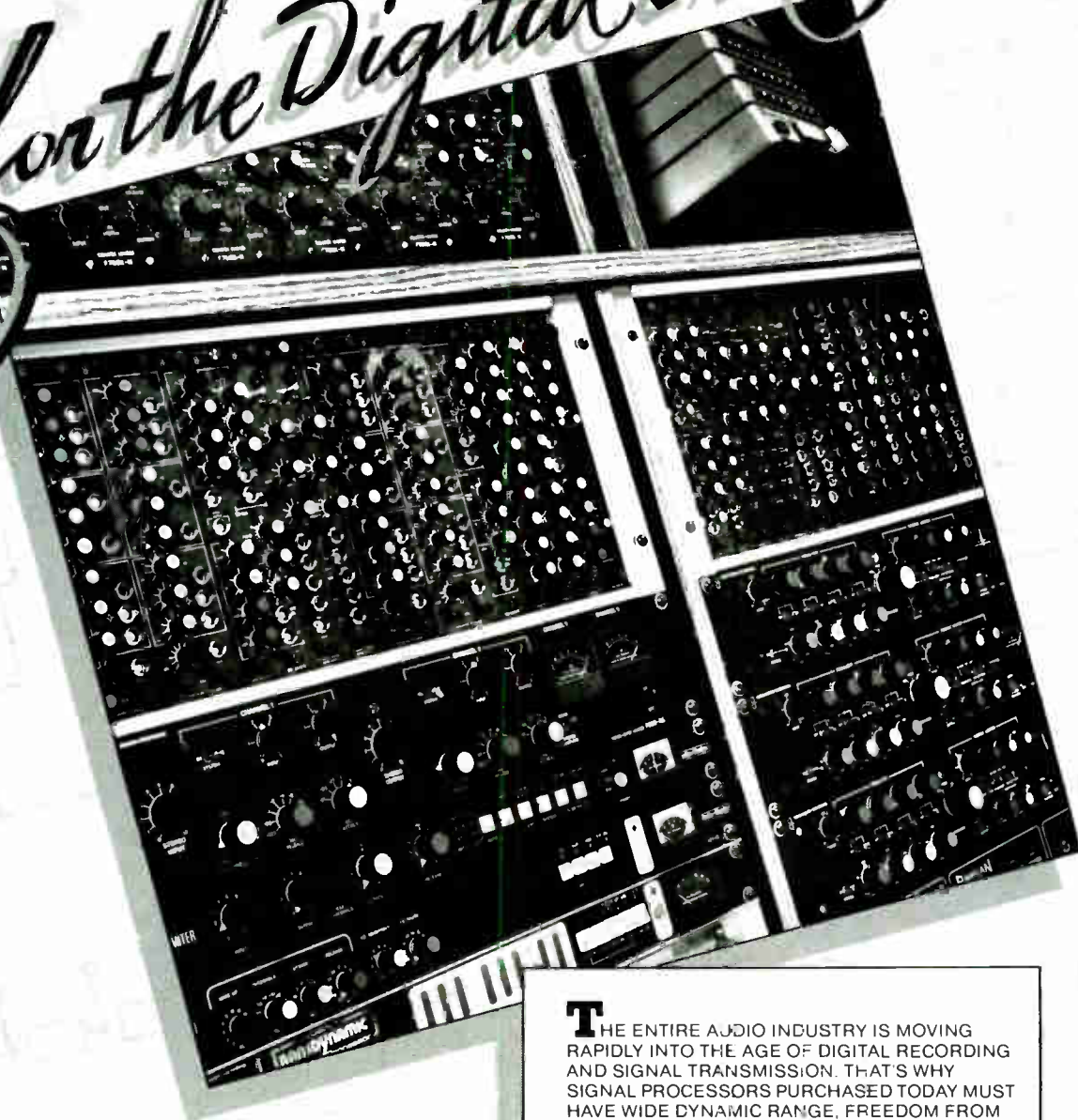


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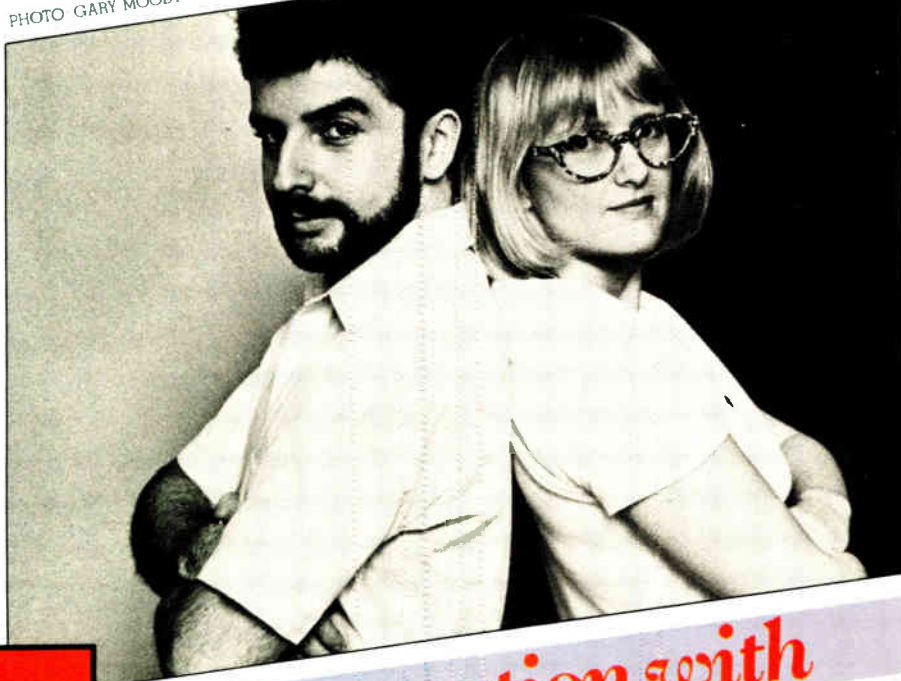
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PHOTO GARY MOODY



Conversation with Merrill Aldighieri and Joe Tripician

by Mia Amato

Rock videographers Merrill Aldighieri and Joe Tripician have teamed up with Sony Corporation to see if videocassettes of lesser-known bands can attract the home video crowd.

Just released as Sony "Video 45," their tape "Danspak" has danceable tunes by five unsigned New York acts, as well as the pair's innovative hybrid film/tape special effects. It's selling for \$15.95 in stereo Beta, \$19.95 in VHS.

Aldighieri and Tripician gave us the lowdown on how two independents managed to cut a deal with a video industry giant.

Mix: Tell us what the "Danspak" program is like.

Merrill: We produced the program over a period of two years. There are five different pieces by four different New York bands. The music is electronic. It's obviously dance music; one is a ballad. The bands are Man Parrish - the piece has been pretty

popular in the disco charts—"Hip Hop Be Bop"—

Joe: Manny has had a lot of success with "Hip Hop Be Bop"—

Merrill: The second piece is from Shox Lumania . . .

Joe: The third piece is by Richard Bone, "Alien Girl." The fourth piece is by a group called Living and the song is "Boat Talk." The last piece is another by Shox Lumanis, "Pointy Headgear." Some of these songs are only available as a video. Some are on record; Bone has an album out from Survival Records in London. It's available here only as an import. Shox Lumania has records out. None of them are signed to a major record company, and this is one way for them to get exposure.

Mix: What was your arrangement with Sony? Did you have to put up much front money?

Merrill: In a way, yes. We had to get everything ready for duplication and we were in charge of designing the cassette package. We wanted to have control over that. George Sanchez, a friend of Shox Lumania, did the artwork.

Joe: The project was like a big family.

We'd met the bands through our work at Hurrah as VJs. We were at Hurrah from 1980 until it closed.

Mix: Weren't you also involved with the video lounge at Danceteria?

Merrill: I helped open up the new Danceteria with John Sanborn and Kit Fitzgerald. I was in charge of the video lounge when it opened, for about two months.

Mix: Do you still do VJ work now?

Merrill: Not exactly. We've been putting together and curating video shows. We did one at a sushi bar in San Diego. We did the video for the Klaus Nomi benefit at Danceteria. We do special shows.

Mix: How did your front line exposure to video club audiences affect the way you produce your videos?

Merrill: It's radically changed my concepts of videos. As a VJ, I was looking at videos for at least eight hours a day. I learned what would bore me, and what combinations of sound and visuals could keep my interest up after multiple plays. We don't put things in our clips we know we might get tired of, even if it pleases us at the moment. For me, I get tired of stories in videos. With "Danspak," all the pieces are abstract and deal with a pure visual interpretation of the music. Any narrative in the song is on another level, but it's not right out front.

Mix: How were the videos mastered for the Sony release?

Joe: Everything was on one inch. Some had been shown on HBO and other cable services. We had to obtain all the audio masters to lay on the one inch; the audio has to be up to the specs of the Beta hi-fi.

Merrill: We combine 16 mm film with video. We do a lot of special effects mixing the two formats during the film-to-tape transfer process.

Joe: The effects we discovered accidentally. In an effort to economize, because transfer time is so expensive, we decided to keep the tape running; tape is less expensive than studio time. So while the technicians were setting up the film to be transferred we discovered a lot of things we would later go back and utilize.

Mix: Do you mean like adjustments to color correction?

Joe: Posterization can be done with it. You can move the film around in the gate, and so move the film image around in the frame. We could do

—page 186

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frame-by-frame animation, freeze frames.

Mix: This is the first time I've ever heard of someone using a Rank Cintel as a production tool.

Merrill: You can do a lot with it.

Mix: How were the audio tracks prepared for "Danspak?"

Joe: The audio was taken directly off two track masters. In all the cases, the bands had mastered on two track 1/4" tape. In some cases the recording was done on a portable studio, not unlike the way we work with film cameras and portable video. The bands did their own engineering.

Merrill: Actually, in Manny's case he has a 24 track audio truck drive up by his loft.

Joe: They ran the cables through the window. For Sony we took these audio masters and synched them up to the video. We then made a four track audio master to lay down on the 1". The Beta hi-fi uses four track audio, and you get tremendous quality. The audio on Beta hi-fi could stand by itself.

Mix: Was any additional processing required?

Joe: Not in running from the masters to the 4 track. We had Dolby noise reduction, though. Sony requested Dolby "A."

Mix: What kind of support and financial commitment did you get from Sony?

Joe: They are taking care of all duplication in VHS and Beta, producing the packaging, and handling the distribution. They are handling publicity, too. They did not give us much of an advance, but we will get a royalty from each tape sold.

Merrill: We're giving a percentage of our gross to the bands, also. After we've cleared our expenses, half of what we get from Sony will be divided by the bands on the tape. Had it been just one band, it would have been an equal 50/50 split. But this is a compilation so the bands will split the other 50%.

Mix: Is the program released under a Sony label or under your own?

Merrill: Both names are on the package; Sony Video 45s and Codirections Incorporated are putting it out together. Codirections was formed in 1979, when we put out our first program, "Love Among the Mutants," which was a science fiction comedy.

Joe: There will be a commercial on MTV in October. Sony is doing that.

We have no money left!

Merrill: I don't think our deal with Sony is typical, because one, the bands are pretty unknown, and two, they knew we were pretty eager to do this project.

Joe: We've been told that since we took a smaller advance, more money could be spent on promotion, which we prefer.

Mix: Why do you think Sony is taking a chance on independents like yourselves?

Merrill: I think because we were able to convince John O'Donnell [head of Sony Software] that the piece would look good. We could show that we had cooperation from all the bands and had all the rights and legal paperwork in order. In the beginning he said, "I'd like to do something like this but I'm too busy getting the big record companies and it will be quite a while before I can consider independents." So I said, "This won't take any time because everything is signed and we are ready to do it." I assumed there were plenty of people out there with comparable experience, but I guess I was wrong.

Mix: Has Sony given you any idea of how they think this program will sell?

Merrill: They said they think it's going to be a 'sleeper.' They may take Joe and I on a tour to promote this, perhaps in stores or nightclubs. Or we may do demonstrations of our production techniques.

Joe: We created some of the backgrounds on a video monitor, placing mirrors and other objects on the monitor. Or we projected film onto the screen.

Merrill: We sort of condense everything to little miniature setups, with film projectors, mirrors, little pieces of paper. We set it all up, then videotape.

Mix: Do you have any other projects in the works?

Merrill: We just finished a piece called "Electronic Luau," which is a 1/2 hour video album. Richard Bone did the music for that and it was shot in the Bahamas. We're working on a sci-fi piece called "Angel Lust." We also did a classical piece by Claude Debussy, a version with my father playing the piano and Richard on synthesizer.

Mix: Will you still do rock and roll promo video?

Merrill: Oh yes. We're doing some storyboards, and have two pieces ready for "Danspak II." If any big record companies out there want to hire us, we're available.

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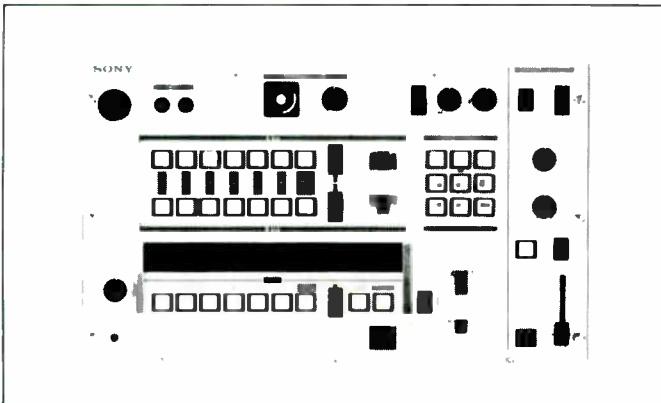
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Sony Special Effects Generator

Designed for use with Sony's DXC-M3 3-tube color video camera, the SEG-2000A special effects generator interfaces with up to 6 color cameras, playback VTR, camera for external keyer and monochrome camera for downstream keyer. It includes built-in sync generator, four black burst outputs, tally/intercom circuit, and operates on either AC or DC power. The SEG-2000A has a suggested retail price of \$4940. For more information, contact: Sony Communications Products Company, Sony Corporation, Sony Drive, Park Ridge, NJ 07656.

IVES™ Editing System

EECO's IVES system is a complete time code-based video tape editing system designed as a self-contained package to provide turnkey post-production capabilities at an affordable price. The system performs precision single-source/single-record SMPTE or control track editing and provides all the necessary pre- and post-edit functions.

IVES offers a number of unique standard features, including: EECO's VideoMaster™ control which allows the performance of seven different motion control and edit preview functions from a single control; COPY, a one button command that performs a direct copy from the play video tape recorder to the record VTR, or vice versa; STRIPE TAPE, a one button command that automatically stripes the record tape with continuous SMPTE time code, control track pulses and video black; and an internal audio mixer and monitor. For more information, contact: EECO Incorporated, 1601 East Chestnut Avenue, Santa Ana, CA 92702.

Music Video Director's Guide

The Music Video Directors' Guide lists the names, addresses and brief histories of those working in the genre. The guide, published by Richard Lowenberg and George Leonards, also includes scene painters, choreographers, hair stylists, lighting personnel and location scouts. For a copy of this year's guide, or a listing in next year's, write 327½ English Street, Petaluma, CA 94952.

Scotch Video Tape #480

#480 is a one inch video tape capable of delivering over 1000 edits from the same pre-roll point, with less than 1.5 dB of signal decay after this treatment. With a maximum of ten dropouts per minute, #480 is designed for the demands of critical production and post production applications. For more information, contact: 3M Corporation, 3M Center, St. Paul, MN 55144.

Otari Universal Resolver

The Otari Universal Resolver is a multi-purpose speed controller for all audio tape machines in film and video interface applications. The price for the UR will be less than \$2,500. It will also be available as a plug-in accessory for OTARI MTR-series Recorders starting at less than \$1,000 depending upon selected functions.

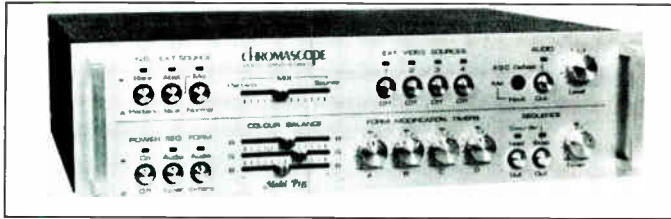
The "UR" will 'lock' an audio transport's speed control track over a $\pm 30\%$ speed range to an external or internal crystal reference source for playback speed accuracy of better than 0.001%. Internal crystal-controlled references are provided, or the unit may be referenced to the AC line, composite video, SMPTE/EBU time code or an external source. The resolver will operate with any audio recorder utilizing a DC servo motor or having a motor drive amplifier for its synchronous motor that accepts a 50 or 60 Hz. controlling frequency input. For more information, contact: Otari Corporation, 2 Davis Drive, Belmont, CA 94002.

Pacific Arts Expands Catalog

Pacific Arts Video Records has added several new titles to their burgeoning catalog of video tapes. Additional releases include: The Firesign Theatre's "Nick Danger in the Case of the Missing Yolk", a 60-minute film directed by Richard Dear; and "Mr. Bill Looks Back", Walter William's all-new production starring everybody's favorite maligned puppet. In November, the company plans to re-issue "Elephant Parts" (priced at \$39.95, it will also be available in Beta Hi Fi) and will release the infamous Beatle parody "The Rutles", directed by Gary Weiss and Eric Idle. For more information, contact: Pacific Arts Video Records, Box 22770, Carmel, CA 93922.

"Component Video" Switcher

Shintron has announced the availability of the Model 390 "Component Video" switcher and editor interface which allows M format and Beta tapes to receive a full range of editing, enhancement, special effects and post-production manipulation. The Model 390 is a triplicated production/post switcher with a built-in tandem (2xZ80) microprocessor controlled command system that communicates with the edit systems and can handle SMPTE and in-house time codes. The units standard interface port is an RS-422, but a port to communicate with convergence editors is provided. For more information, contact: Shintron Company, 144 Rogers Street, Cambridge, MA 02142.



Chromascope P135

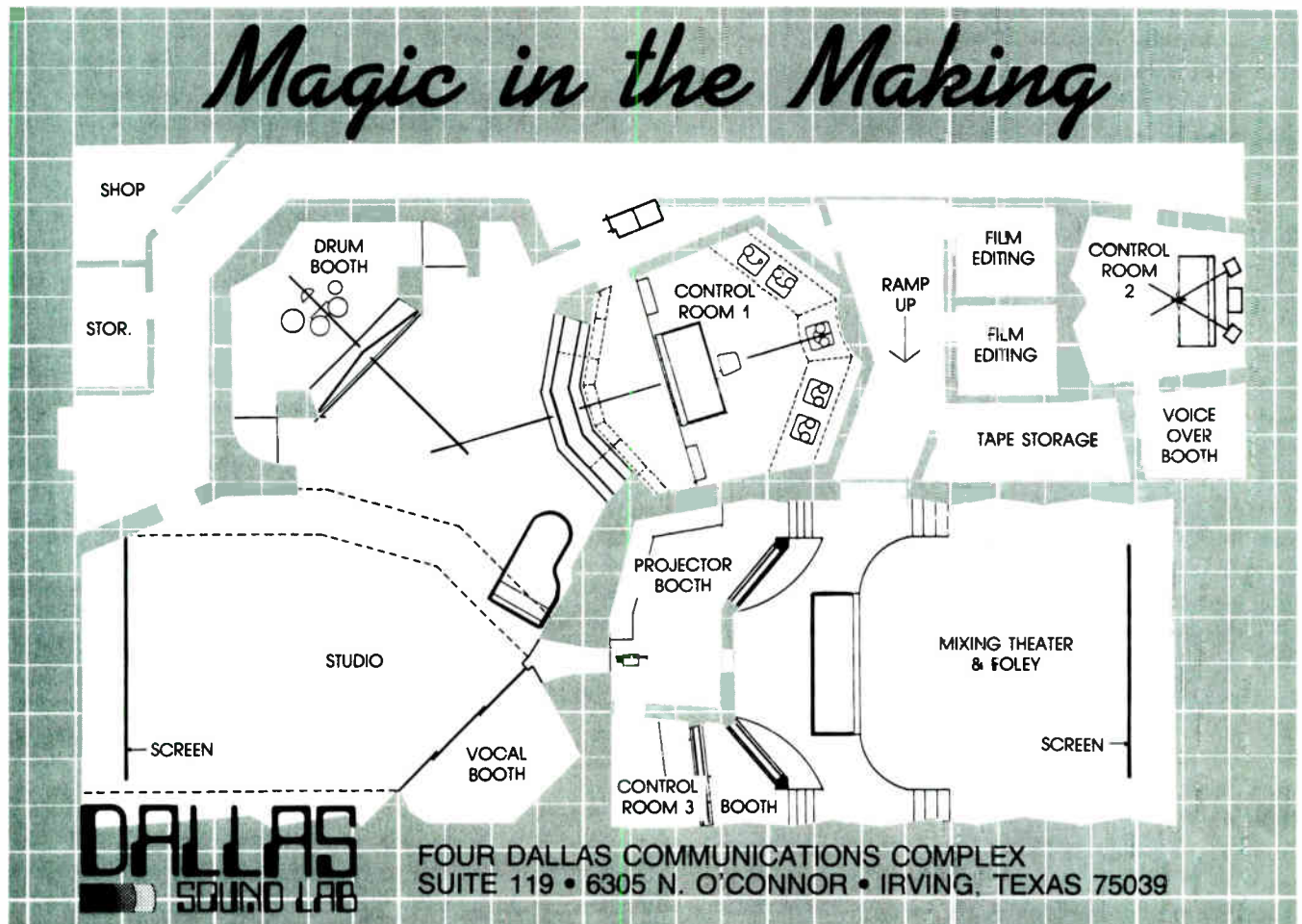
Hammond Industries calls their new product "the ultimate video kaleidoscope." Priced at \$1890, the Chromascope P135 Video Synthesizer selects from up to four video inputs and two video outputs. Audio inputs are either stereo or mono, line or mike, AGC or manual. What the machine does to the video is controlled by the audio; patterns bounced out at a rate of two beats per second up to two per minute. The pattern generation can be frozen and a color field or matte created. The tricks can be manually controlled or allowed to proceed at random. For more information, contact: Hammond Industries, Inc., 8000 Madison Pike, Madison, Alabama 35758.

Video Facility Directory

Leonard Kalikow, publisher of "New on the Charts", is creating a directory of studios, editing facilities, rental firms and special effects companies. A computerized referral service is also planned. For more information, contact: Music Business Reference, Inc., 1501 Broadway, New York, NY 10036.

FUJI Compact Videocassette

FUJI Corporation is now producing the Super HG TC-20 compact videocassette designed for use with the new VHS-C recorders. The tapes features Fuji's proprietary Super Fine Beridox emulsion and are one quarter the size of a standard VHS cassette. An adapter is required to play these VHS-C cassettes on an ordinary VHS machine. List price is \$19.95. For more information, contact: Fuji Photo Film USA, 350 Fifth Avenue, New York, NY 10118.



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Rank Cintel Digital Stills Storage System



Slide File is the name of a portable slide storage system from Rank. It can accept a wide variety of inputs, including electronically generated artwork or pictures from a slide scanner. A built-in synchronizer allows it to take frames from studio cameras or VTR, and loads them onto cartridges of twenty slides each. A total of eighty pictures can be stored. An eight inch Winchester disk drive allows for one picture change every second, with dissolves and cross-fades.

Two other features are really unique. For one, a polyphoto index enables up to thirty frames to be displayed at once in split-screen, and small numbers in each picture corner allow the operator to order and reorder them simply. For another, in the 'clean up' mode, fuzzy 'shots can be elec-

tronically enhanced by interfield interpolation. This won't help focus problems, but will cure fuzziness caused by movement of camera or subject. For more information, contact: British Information Services, 845 Third Ave., New York, NY 10022.

Q Lock Option 64

Option 64 is a software system designed for use with an Audio Kinetics Q Lock 3.10 synchronizer. The option doubles the unit's memory, and "Menu Page" program selection allows the tailoring of the unit to suit specific applications. Currently available programs include ADR (for automatic dialog replacement and looping) and SFX (sound effects assembly). A "Conform" program (which matches audio tapes to edited video tapes from an edit list) will be unveiled at the AES show. Future software releases include an edit list management program (which will require an external computer). The ADR and SFX programs are priced at \$1500 each. For more information, contact: Audio Kinetics, 4721 Laurel Canyon Road, North Hollywood, CA 91607.

America's Music Videocassettes

Video Gems has entered an agreement with Genesis Home Video to distribute a series of 22 feature productions on the history of "America's Music". Available in Beta Hi Fi and VHS stereo, the shows combine historical footage with live performances taped at A&M Records studios. The series' initial releases are "Blues 1", hosted by Brock Peters, which features B.B. King, and Linda Hopkins; and "Rhythm & Blues 1", hosted by Billy Eckstine, with Ruth Brown, Billy Preston and Gloria Lynn. Subsequent programs will focus on traditional jazz, soul, gospel, modern jazz, country & western, rock and roll, big bands, and regional music styles. These one-hour tapes are priced at \$49.95. For more information, contact: Video Gems, Box 38188, Los Angeles, CA 90038.



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VIDEO PRODUCTION SUPPLEMENT ADVERTISERS INDEX

- 176 Adams-Smith
- 151 Agfa-Gevaert
- 179 Alcon Video Film Productions
- 170 Ardent
- 183 Audio & Design Recording
- 171 Audio Kinetics
- 164 Audio Video Productions
- 167 Billboard's Video Music Conference
- 194 BTX Corporation
- 154 Carleton Productions
- 159 CCR Video Corporation
- 193 Computer Image
- 189 Dallas Sound Lab
- 162 Digital Services
- 164 Duplications Corporation
- 157 Eureka Teleproduction Center (ETC)
- 156 Federal Leasing Consultants (FLC)
- 169 Harvey Pro Audio
- 175 Leo's Professional Audio
- 186 Little Mountain Sound Studios
- 162 Metro Gnome
- 191 Midcom Inc.
- 148 One Pass Film and Video
- 187 Peak Audio
- 185 Positive Video
- 182 Howard Schwartz Recording
- 163 Shoreline Ltd.
- 187 Skaiggs Telecommunications Service (STS)
- 153 Soundcraft Electronics
- 181 Speed of Light
- 172 Take One Production Group
- 161 Tascam
- 176 Video Tracks
- 165 Walt Davis Enterprises (WDE)



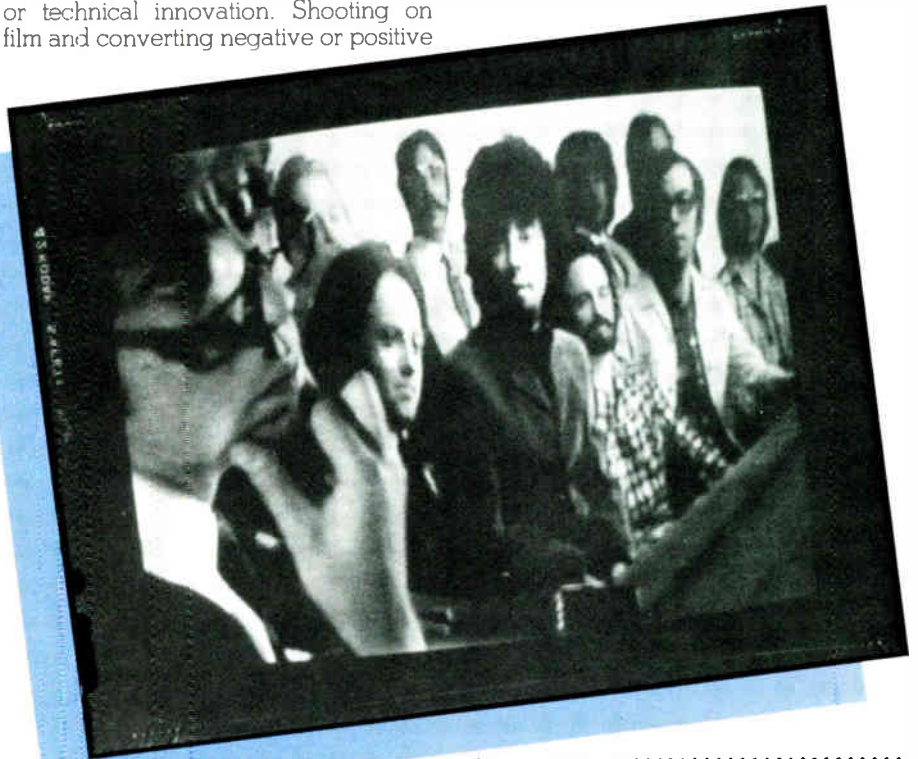
—from page 164, *Origins*

nial part of the U.K. production scene. Using film was a necessity, not a luxury. Super 8 and 16 mm were much less expensive and more flexible formats than video with its extensive technical logistics and expensive post-production requirements.

Limited resources can sometimes play an important role in creative or technical innovation. Shooting on film and converting negative or positive

film to video by computer, i.e., Rank Cintel, offers the best of both worlds: the texture and resolution of film with the flexibility and cost efficiency of digital special effects on video.

In next month's *Mix*, we'll examine the production techniques used by several of today's most innovative music video producers and the trends in audio for video music production. ■



(L. to r.) Eric Stewart, Graham Gouldman, Lol Creme and Kevin Godley

10cc was one of the first bands to use concept music video to promote their music. In "Good Morning Judge" one of the band members is put on trial for falling in love with and stealing his girlfriend's car. In this shot, multi-layered keying was used to create the jury. Using makeup, wardrobe changes and strategically designed shot placement, an entire jury was created in effect by "overdubbing" different takes of the band members. It's interesting to note that while Eric Stewart and Graham Gouldman concentrated here on the music production, Lol Creme and Kevin Godley focused on the visuals. This experience has served them well as they are acknowledged to be one of the most creative teams involved in music video production, with such pieces as "Girls on Film," Duran Duran, "Every Breath You Take" by The Police and "Rock It" by Herbie Hancock.

.....
Postscript: Many of the movies referenced in this and last month's MVP column were selected as part of the setup for the background and development of the origins of music video. Many other films were not mentioned for lack of space. If you would like to pursue some of the sources of this information independently, the following bibliography is provided for your convenience.

Rock on Film by David Ehrenstein and Bill Reed, published by Delilah Books, distributed by G.P. Putnam's Sons

Celluloid Rock by Philip Jenkinson and Alan Warner, published by Warner Books.

Art and the Future by Douglas Davis, published by Praeger Publishers.

Video Art compiled and edited by Ira Schneider and Beryl Korot, published by Harcourt Brace Jovanovich.

The Rolling Stone Illustrated History of Rock 'n' Roll published by Straight Arrow Press.

.....

Industry Events Calendar

OCTOBER 1983

- 1 **Deadline for entries in U.S. Television Commercials Festival.** Information: 841 North Addison Avenue, Elmhurst IL 60126. (312) 834-7773
- 3-7 **VIDCOM/MIJID:** International conference and exhibition for cable, home video and video games. Old Palais and New Palais des Festivals, Cannes, France.
- 4-6 **LPTV (Low Power TV) EAST** conference. Sheraton Washington Hotel, Washington.
- 6-8 **Women in Cable** national conference. "Cable in Context: The Challenge of Change." Colonnade Hotel, Boston. Information: Charles Self (202) 296-7245.
- 8-12 **Audio Engineering Society** convention. New York Hilton Hotel.
 - 11 **Technical Seminar sponsored by Bay Area Cable Club and Northern California Chapter of Women in Cable.** Gallagher's, Jack London Square, Oakland, CA.
- 12-16 **Women in Communications** national conference. "Pro/Con '83; Framing the Future." Bellevue Stratford Hotel, Philadelphia.
- 18-20 **Mid-America Cable TV Association** annual meeting. Hilton Plaza Inn, Kansas City, MO.
- 21 **New York Women in Communications** meeting. "The Video Communications Revolution" co-sponsored by New York University. New York University, Washington Square campus, New York.
- 23-25 **Televent U.S.A.** second international telecommunications conference, sponsored in part by E.F. Hutton. Information: Marianne Berrigan, Televent Executive Director, Suite 1128, 1120 Connecticut Avenue, N.W., Washington, DC 20036. (202) 857-4612
- 25-27 **International Broadcast Equipment Exhibition** sponsored by Electronic Industries Association of Japan, co-sponsored by National Association of Commercial Broadcasters in Japan and NHK (Japan Broadcasting Corp.) Tokyo Ryutsu Center, Tokyo.
- 29-10/3 **Society of Motion Picture and Television Engineers** 125th technical conference and equipment exhibit. Los Angeles Convention Center. Los Angeles, CA.
- 30-10/2 **National Over-the-Air Pay TV** conference and exposition, hosted by Subscription Television Association and National Association of MDS Service Companies. Century Plaza, Los Angeles, CA.
- 31-10/2 **NARM One-Stop Conference.** LaPosada, Scottsdale, AZ.

NOVEMBER 1983

- 1-3 **Atlantic Cable Show.** Convention Hall, Atlantic City, NJ. Information: Registration Supervisor, Slack Inc. 6900 Grove Road, Thorofare, NJ 08086. (609) 848-1000
- 1-4 **VIDEXPO '83** (third annual) and **MUSVID '83** (ninth annual). Convention Center, Acapulco, Mexico.
- 1-4 **VIDEXPO '83** third International Video and Telecommunications Market, Condesa Del Mar, Acapulco, Mexico.
- 2-4 **NARM Rack Jobbers Conference,** LaPosada, Scottsdale, AZ.
- 7-10 **AMIP-TV '83** (American Marketplace for International Programs) organized by Perard Associates with MIDEA and National Video Clearinghouse. Fountainebleau Hilton, Miami Beach. Information: Perard, 100 Lafayette Drive, Syosset, NY 11791. (516) 364-3686
- 9-11 26th annual **International Film and TV Festival of New York.** Honoring "creativity and effective communication in film, TV and audiovisual media." Sheraton Center, NY. Information: (212) 246-5133
- 17-20 **Billboard Video Music Conference.** Huntington Sheraton, Pasadena, CA. Contact: Kris Sofley (213) 859-5319.

DECEMBER 1983

- 11-12 **National Cable Television Association's National Cable Programming conference.** Biltmore Hotel, Los Angeles, CA.
- 13-15 **Western Cable Show** Anaheim Convention Center. Anaheim, CA.

JANUARY 1984

- 14-18 **Association of Independent Television Stations (INTV)** annual convention. Biltmore Hotel, Los Angeles, CA.

FEBRUARY 1984

- 9-14 **NATPE International.** 21st annual conference. San Francisco Hilton and Moscone Center, San Francisco, CA.

MARCH 1984

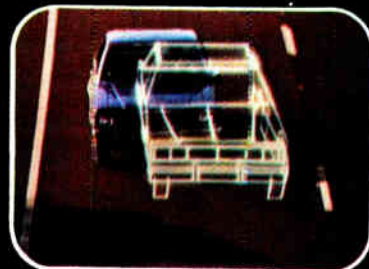
- 14-16 **International Program Marketplace.** New York Hilton, NY.

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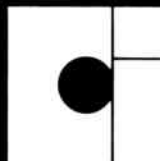
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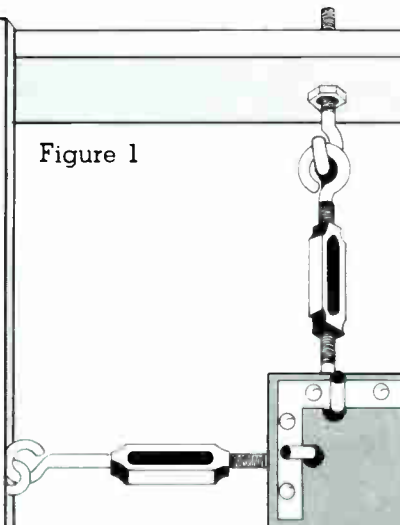


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World Radio History

Figure 1



Build a

PLATE REVERB

by Dennis Cronin

The plate reverb has long been one of the most popular reverb units for use in recording studios. The fairly hefty price tag, however, has traditionally forced smaller studios to settle for less expensive spring units. Certainly only the largest studios could afford more than one plate.

Now you can build a professional quality plate reverb for around \$300. All that is required is a little basic electronics background and some general "build-it" experience.

In spite of all the mystique surrounding the plate reverb, it is probably one of the simplest in principle of any of the artificial reverb schemes. Admittedly there are many refinements which go into the manufacture of a true world class plate. The basic elements of the plate, however, are very simple.

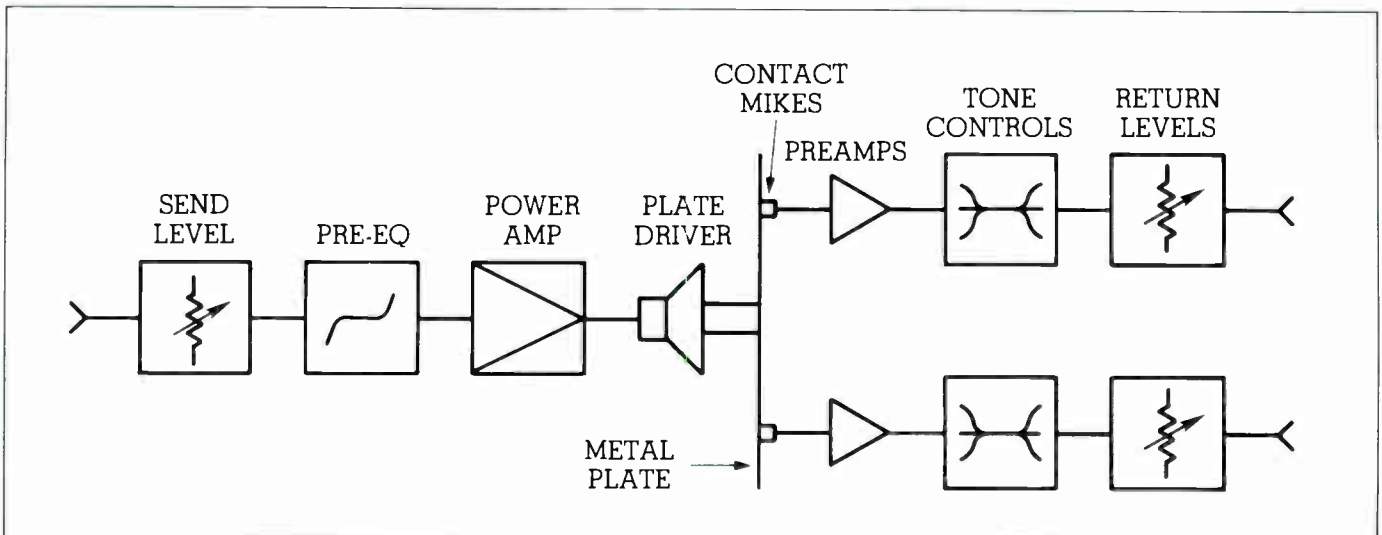
Combining these elements, even using everyday materials and construction techniques, yields a very good sounding reverb.

This plate system is capable of out-performing expensive spring units, and professional ears have agreed that it even outshines the lower priced commercial plates. Its handling of percussive material is particularly outstanding. Definitely no mere science fair project.

With today's engineers demanding more and more artificial ambience devices, even larger studios may want to consider this as a cost-effective "second string" addition to their reverb arsenals.

ABOUT THE DESIGN

A plate reverb system consists of four basic elements: a sheet of steel suspended in some sort of frame, a driver system for energizing the plate



Block Diagram

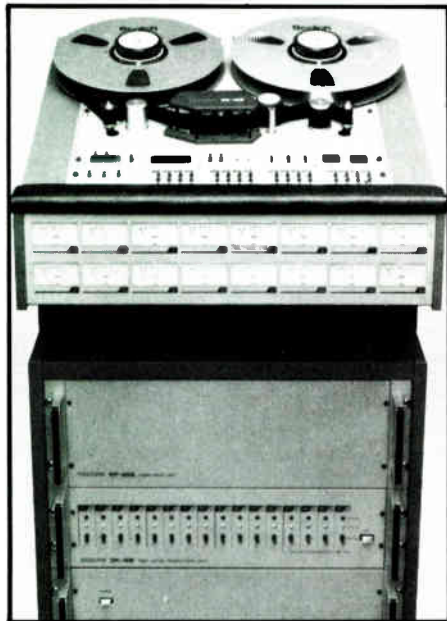
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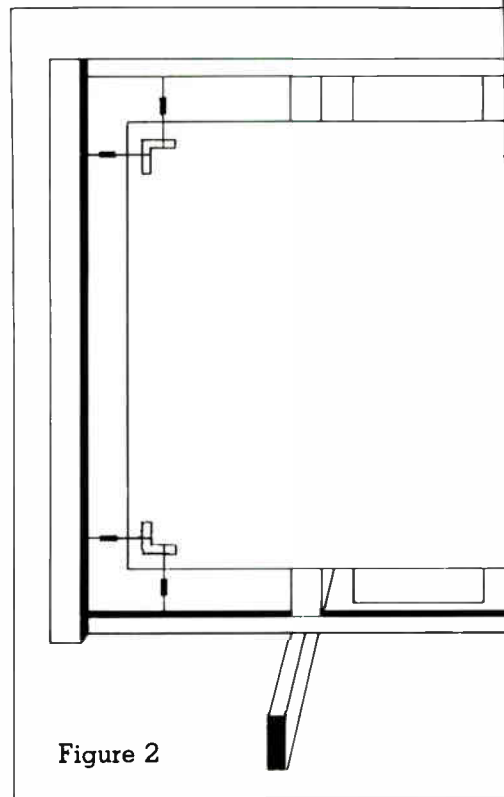


Figure 2

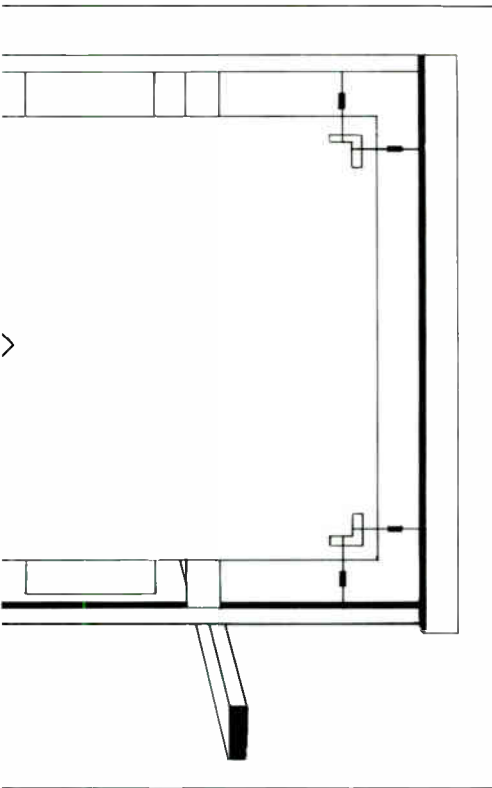
with the audio information, a return system for picking the sound off the plate, and a damping element for controlling the decay time of the plate.

We will use a 4' x 8' sheet of 18 gauge steel suspended in a simple 2x4" frame, with turnbuckles for tensioning. This obviously results in a contraption of rather large physical dimensions. This is a reasonable design compromise for several reasons. A large sheet of steel need not be under as much tension as a smaller sheet, thus allowing us the nice cheap wood frame. The large sheet of steel also makes the choice of drive and pickup elements less critical. As you decrease the size of the plate, the mass of the transducers becomes a major factor. Last but not least, the large plate naturally yields longer delays, and results in a more "open" stereo sound.

The drive mechanism I devised is easy to build and works surprisingly well. A small hi-fi speaker is mounted several inches from the surface of the plate. A small piece of lightweight rigid tubing, held in place with epoxy, connects the voice coil directly to the plate. A high power 5 1/4" car speaker is an ideal choice. Car speakers are generally quite rugged as they are designed to operate under adverse conditions.

The sound is picked up from the plate with contact mikes such as are used to amplify acoustic guitars. You should expect to spend at least \$40-\$50 apiece for reasonable quality contact mikes.

For damping, I used two 16" x 48" plywood panels covered with 6" fiberglass wool insulation. These were



hinged at the bottom and tied to the frame at the top with lengths of cord. Decay time is adjusted by tightening or loosening these cords. Obviously, more elegant methods could be devised - this is just the quick, easy way.

The electronics end of the system is quite straightforward. There are two separate units, the control room unit, and the remote unit located with the plate itself.

The control room unit has level controls for the send and each of the returns, plus bass and treble controls for the returns. It also contains a circuit for trimming the amount of "pre-EQ" applied to the send signal. Commercial plate manufacturers use carefully tailored pre-EQ curves providing as much as 20 dB or more of high end boost. This pre-EQ function is very important in determining the tonal balance of the plate. In addition, I highly recommend hooking a channel of a ten-band graphic equalizer to the send and experimenting with that as well.

The remote unit contains the preamps for the contact mikes plus a buffer and level trim for the power amp drive.

I use a channel of a spare consumer hi-fi amp to drive the plate. Any amplifier capable of providing about 25 watts or so should work.

CONSTRUCTION

The 4' x 8' sheet of steel should run approximately \$50. Before framing the plate you will want to reinforce the corners. I used small angle brackets held in place with machine screws. See Fig. 1.

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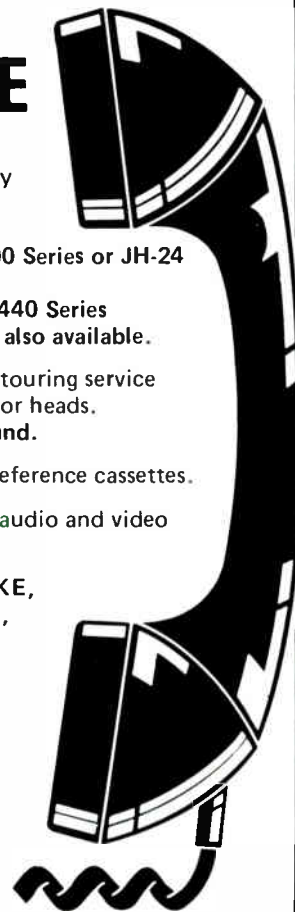
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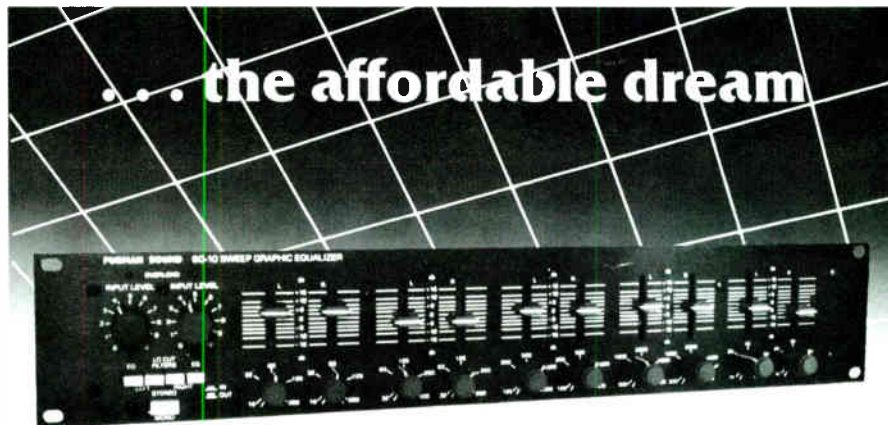


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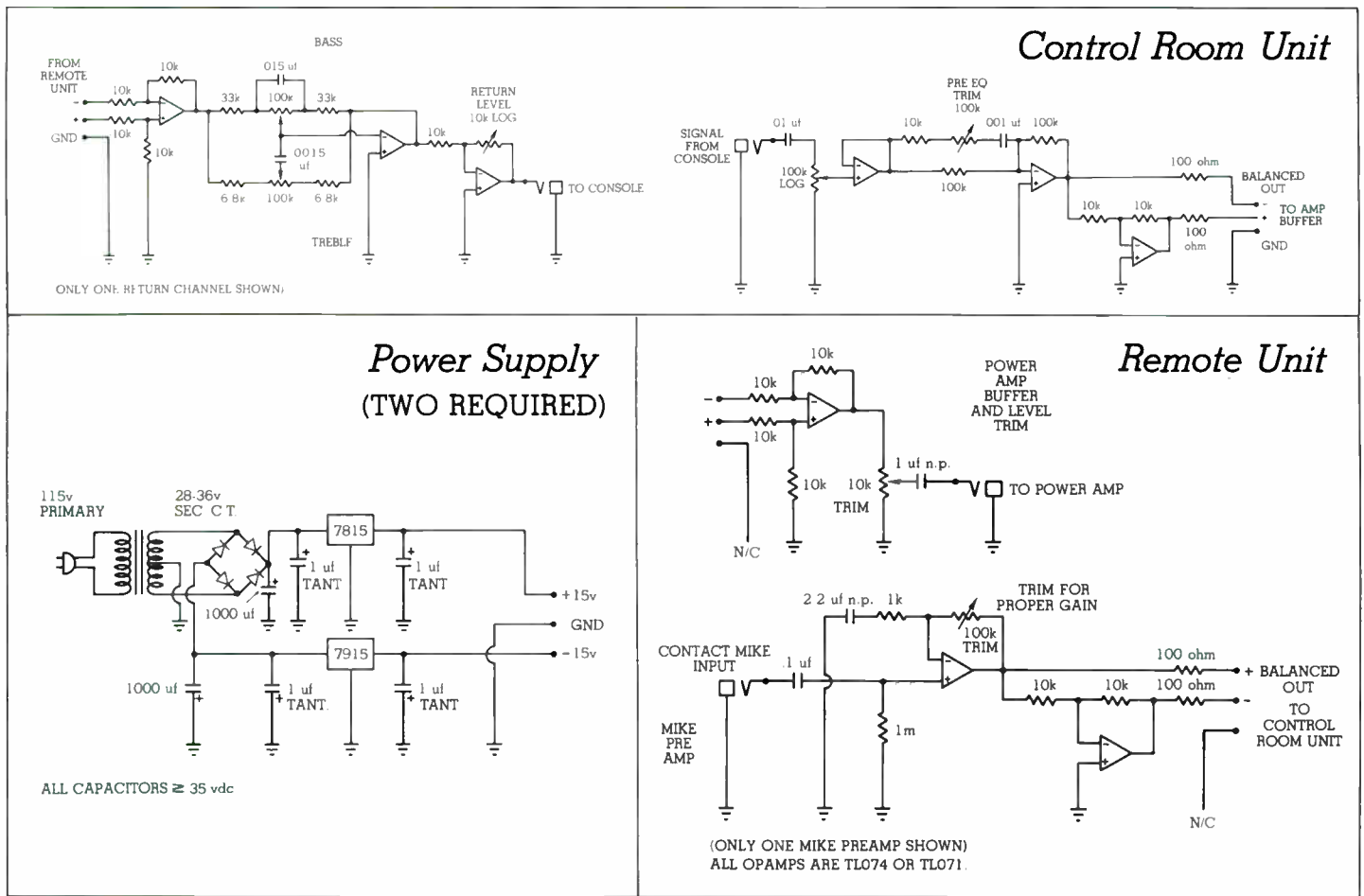
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World Radio History

Referring to Fig. 2, construct a frame out of 2x4s, making sure to allow proper clearance for the turnbuckles. Nothing about the framing is particularly critical, but it should be sturdy enough to withstand moderate tension without buckling.

Suspend the plate in the frame and begin tightening the turnbuckles. Tighten until the plate is held firm and taut. Do not overtighten. Too much tension could result in the frame warping, causing alignment problems with the drive mechanism further down the line.

Next construct the drive mechanism. Carefully cut the dust cover away from the voice coil on the driver you have selected. You will need a piece of tubing the same diameter as the voice coil. Model rocket tubing is a good choice, as it is quite light and stiff. Most hobby shops carry a variety of sizes.

The driver will be mounted on a cross brace approximately 42" from one end, and about 20" from the top or bottom. Cut a 1½" hole in the cross brace for the tubing to pass through.

Measure the distance from the voice coil of the speaker to the plate. Add another eighth inch or so, and cut a piece of tubing this length. Epoxy the tubing to the voice coil, being careful not to get any epoxy in the gap. Allow to set.

Then mount the driver to the cross brace. Fasten the cross brace to the plate, shimming with washers, so that the other end of the tubing just touches the plate. Epoxy that end to the plate. Allow to set.

Construct the damping device. As mentioned earlier, this can be as elegant or as simple as you like. You might want to use more square feet of damping material than I did to help get the popular highly damped plate sounds.

Construct the electronics. Use good single point grounding practice, particularly in the remote unit. You may need to mount the power transformer away from the mike preamps, as these are very high impedance circuits, and are therefore quite sensitive to noise pickup.

SETTING IT UP

After checking the individual pieces of electronics to make sure things are in order, hook up the system. Begin with the power amp level trim all the way down. Apply a moderately high level program input to the send, and open the send level all the way up. Slowly turn the power amp level trim up until you are driving the plate just to the point of audible distortion. If the plate seems to sound raspy even at low levels, check the driver for proper alignment.

Place the contact mikes at


either end of the plate. Begin with the mike preamps set for a gain of somewhere around 20 (26 dB). Turn up the return levels in the control room and verify that you are getting signal back from both sides. With the return levels wide open, adjust the mike preamp gains until you get equal returns from both sides. Don't use more gain than you need. It is always better to run the returns wide open with mike gains backed off, than vice versa.

After the initial setup, you can begin tweaking the system for best possible performance. Experiment with the locations of the contact mikes. In particular, experiment with different pre-EQ settings, using a graphic equal-

izer if possible. If the plate doesn't sound "airy" enough, you need more high frequency boost. Boosting the highs with pre-EQ will result in much lower noise than a similar boost on the returns.

As you begin actually using the plate, you may need to go back and make slight adjustments in operating levels. The plate should be capable of providing quite a bit of headroom with very quiet returns. Don't be afraid to experiment. A little extra time spent tweaking the plate can mean the difference between "passable" and "spectacular" performance.

Good luck, and many happy returns. ■



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(L. to r.) Larry Rosen and Dave Grusin

FUSION

ON THE BANKS OF THE HUDSON

by Melodie Bryant

The Review Room is the studio built and owned by composer Dave Grusin and his partner, engineer/producer Larry Rosen. Known best for the fusion artists they have produced (Earl Klugh, Noel Pointer, Dave Valentin, Dave Grusin, Angela Bofill), they have designed their studio as a fusion of their personal approach to recording.

The most obvious aspect of the Review Room is its size: one room, plus a small isolation chamber. Says Rosen, "Originally, it was just going to be a room to review tapes in and do 2 track editing. When we saw all the space, we decided to make it 24 track. But when we looked at our budget and our money, we found that we spent a week doing tracks, three weeks overdubbing, and maybe a week or two mixing. Normally, when you go into a studio, it

costs between \$150 and \$200 an hour and you sit in there with one guy fixing a bass or guitar part – and you're not even using the *studio*. So we thought we'd build our own studio and use it just for that function."

It all seems so simple in hindsight. The fact is, Rosen came dangerously close to having the Review Room all to himself. Grusin, a classically trained musician, came within 2 weeks of enrolling in veterinary school, when a last minute attack of guilt for all his musical training caused him to change his mind and enter the University of Colorado as a piano major. Rosen, raised in New York where he took up drums at an early age, played in bands around the city before meeting up with Grusin in the Andy Williams Band.

Their stint with Williams lasted about 5 years, after which both Grusin and Rosen took off their thirsty boots

and returned to opposite coasts. Grusin went to Los Angeles to become involved in composing for film and TV. ("The Graduate" was one of his early successes. "Tootsie" is his most recent. Credits in between are equally impressive). Rosen headed for New York, where he also became involved in film from a production standpoint.

Their first collaboration was done on a modest scale. They produced singer Jon Lucien, for whom they ended up recording three albums (two on RCA, and one on Columbia). More than once, final mixes contained whole rhythm tracks recorded at Rosen's house on two Crown 800 tape recorders. It was an experience which Rosen still considers invaluable.

Their collaboration stood both partners in good stead for the challenge of their next project: Earl Klugh. Although now recognized for his uni-

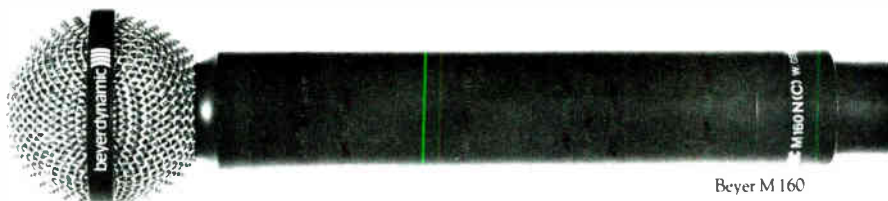
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que sound, Klugh was baffling at first to produce. "It seems so simple in retrospect," says Rosen, "but in the opening stages, we tried all kinds of ways to find where he fit in from a sound standpoint. We even had Earl playing electric guitar on a couple of things." Ultimately, however, they reversed traditional guitar functions, using electric guitar for rhythm and Klugh's acoustic up front. The uniqueness of the result—and its immediate success—were not lost on Grusin and Rosen, and they went on to produce a variety of artists whose instruments are not usually the featured item in popular music: violinist Noel Pointer; flautist Dave Valentin; trumpeter Tom Browne, whose LP, *Love Approach*, went gold;

as well as vocalists Patti Austin and Angela Bofill.

Past productions were done under an agreement with Arista. GRP (Grusin Rosen Productions) is now independent, but while the artist roster is still small (Dave Valentin, and a new duo Homi and Jarvis), the Review Room is in constant use for soundtrack albums of Grusin's work (the "St. Elsewhere" soundtrack was the most recent), as well as continued work for other artists. In addition, GRP has released two digital disks, one of the Gerry Mulligan Band, and one of the Glenn Miller Band, with licensing agreements with JVC for future release on CD.

Having logged extensive time in the studio over the years, Grusin and

Rosen have designed the Review Room with some special considerations of their own. Second only to the functional aspect of space comes light. The Review Room has two double glass doors on either side, allowing for a clear view of the Hudson River - a reassuring touch of reality in a world where the calendar is based on deadlines. According to Grusin, the doors check out at 110 dB and do not adversely affect the sound of the room.

Another unique aspect of the Review Room is its extendability: all GRP offices have been rebuilt, partitioned and insulated from the ground up, and wired for use as recording rooms. It's a setup which worked out especially well recently. Working on an album for Judy Collins, they put Collins in Grusin's office for some vocal tracks. "We were the ones who were skeptical," says Rosen. "We could only see this as a rough vocal. But she said, 'No; I love it.' She felt her performance was better. So we kept that. Then we went out to another studio in a totally isolated situation with the right microphone and everything perfect, and it wasn't as good. We ended up going back to the original vocal from here."

Since offices have a full view of the highway as well as the Hudson, there is a certain amount of unavoidable street noise. Admits Rosen, "If you listen to the vocals done here, you do hear a little bit of the low end kind of rumble, most of which we can eliminate. But once you put it together with an orchestra or a band, you don't hear any of it."

Basic tracks are usually done at A&R Studios, with the Review Room used mainly for sweetening and overdubs. Equipment includes two Ramsa 16 track consoles wired in tandem, a Studer A-80 24 track recorder and, retired in dignity, one of the old Crown 800s. Outboard equipment includes dbx 106X limiters, Orban parametrics, two Pultec tube equalizers, Lexicon PCM 41 DDLs, four Kepex noise gates, two JVC turntables for comparison of reference disks, and a McIntosh MC 2500 amp with UREI Time Align 813 studio monitors. There is also a widescreen Mitsubishi video projector with JVC videocassette player for use in scoring work (a rented BTX Shadow system is used for video to audio sync). There are, of course, plans to upgrade. These include the addition of a computerized board for mixing and a JVC 2 track digital system for editing.

"But," says Rosen, "the important thing is the performance. Without that, you can forget how it was recorded. So it's not always how much you got."

Adds Grusin, "It's where the magic is." ■

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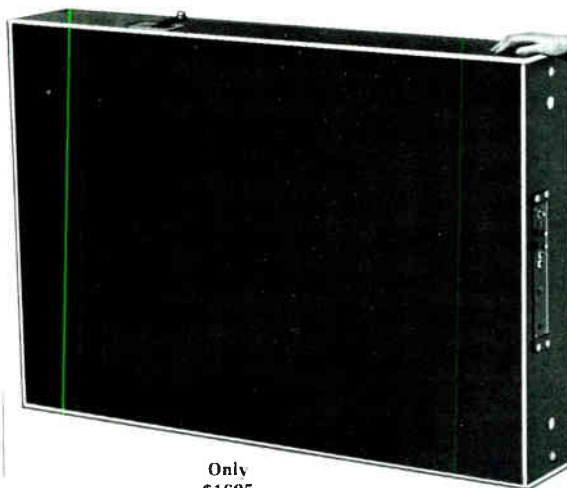
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STUDIO LEADERSHIP

by Carol Kaye

Hello again!

Musicians, engineers, producers and other folks in our business often ask me what it was like to work for Quincy Jones, Hank Mancini, Michel LeGrand, Mike Curb, Lester Sill, Phil Spector, and the industry "stars" for whom we LA session 'regulars' recorded the backgrounds. Well, most of it was just down-home hard work,



though being the only female at times was a lot of fun. I'd kid the guys, they'd kid back. I'd say, "You sure play great for a guy," and they'd retaliate, sometimes a little raunchily, but it was buddy-buddy. We were all in the melting pot together - usually trying to come up with licks to help make a raw tune come together as a "hit record."

I considered the guys in the studio as my brothers. Like a big family, we had our occasional spats, but regardless of all the fatigue, dumb music, personal problems or just plain frustration, we would put our feelings aside once the arranger counted 1-2-, 1-2-3- __. All of a sudden our whole life was to play music together, *no matter what*. I think that kind of discipline is very good for a musician - learning to put all those real sensitive feelings into the music, rather than pick at each other. Music is a healer and when you play from the heart, whether you're up, down, angry, happy, tired, mischievous - whatever the mood, it's like a breath of fresh air.

Also, I'd never think, "I am playing a D 7th chord;" rather, I had more the feeling of joining with everyone else to create a 'story.'

Good songs to me are precious ways to express emotion and creativity and each of my favorite sessions, like "Feelin' Alright" (Joe Cocker), "Wichita Lineman" (Glen Campbell), "Love Child" (Supremes), "Bernadette" (4 Tops), "Good Vibrations" (Beach Boys) and "You've Lost That Lovin' Feeling" (Righteous Bros.), has a special studio story behind it.

Last time I promised a look into a typical recording date with Mike Curb. When we recorded The Hondells (just the tracks), Mike just sort of sat there and let the date happen. Jerry Steiner and another writer had written chord charts and would explain the feel, which was similar to the Jan & Dean things we recorded. The engineers would finish setting up the date with mikes and baffling and check out their board and gear as we'd run the music down for any written errors. Jerry, or someone, would sing the lead parts to check the music with the vocal live in the room and we'd sometimes get ideas from some impromptu vocal lick. The engineer would run down the drums first, bass drum (usually blanketed heavily), snare (heavily padded for that tight sound). Sometimes a drum seat or bass drum pedal would squeak and they'd have to eliminate that. Then it would be the bass, then acoustic and electric guitars, and piano.

Mike Curb was a different kind of producer - very *quiet* and polite. He knew what he wanted to hear without much fuss and would let the delegated people do their thing - the engineer giving him the right basic sounds and the writer/leader conducting the musicians until we got just the right feel, hooks, and groove. The rest was running the music a few times until we relaxed with it and then finally grooved on in for a near-perfect hit. I say near-perfect as they are usually a few errors on every hit. Yours truly has played a mistake or two, but the groove and emotional feeling put on the record was usually more important.

The Hondells required even time consistency. Sometimes we'd get a little bored and Larry Knechtel would suddenly change the mood with a quick jam on a gospel lick on the piano. Like little kids, ol' papa in the booth would have to put us back to the original groove. But it sure would help to let the musicians jam a little to wake up the blood after a "draggy" session.

I worked with Quincy Jones mostly in movie studios, but I remember one special record date with Bill Cosby. We re-recorded the original Bill Cosby TV show theme, which we recorded for Warner Bros., at the little MCA studio. The theme was renamed "Hikky Burr" and had Paul Humphrey on drums, Milt Jackson - vibes, Milt Holland - percussion, Arthur Adams - guitar, Joe Sample - piano, saxes, etc. Cosby stoked us up by ad libbing and jamming on various percussion instruments all the way. We all liked each other and it was sure fun and easy to play well together - no picky or snide remarks there - just easy soul-type music with freedom all the way. With Bill live in his separate booth putting in his ad libs, the groove just rolled right out, even though it was the first tune of an early morning call.

Producers were usually hip enough not to call a slow groove as the first one in the morning. Even though we'd be alert from our first coffee, more fun would show through if an upbeat tune was done first.

Quincy was somewhat like Mike Curb (or vice versa) in his sense of humor and would lovingly banter back and forth with the "boys in the band," being a fine musician himself. The man who discovered me playing in a jazz nightclub, Robert (Bumps) Blackwell, taught Quincy to play trumpet in his band many years ago, so Quincy came up through the ropes and always had a healthy respect for the sidemen. He'd let mistakes go by, but if they repeated, he'd check it out with the musician. He took care of business.

In the early sixties, we recorded Dick Dale and many other rock dates with another very nice, talented producer - Lester Sill (now

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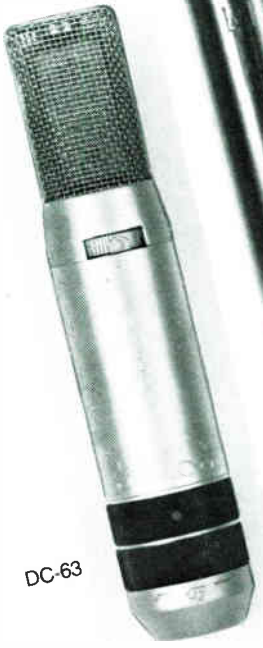
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head of Screen Gems). He also had a good sense of humor and a relaxed manner that simply coordinated everyone into doing his/her own thing. He used Hal Blaine - drums, Steve Douglas - sax, Don Randi - piano, and other Hollywood regulars like Howard Roberts and Barney Kessel for those dates.

Like Quincy and Mike Curb, Lester took his time in getting isolated sound balances of the rhythm section and the other instruments. We'd then run the chart down a few times for mistakes, changes, and the final homestretch groove. For Lester, playing an even time groove with even dynamics was most important.

For the limited equipment we had in the sixties, it might seem surprising that so many of the records came out with such good sound, as well as feel, in the music and vocal performances. It was a high degree of natural energy and leadership that allowed us to strike a groove together. The common thread in these three examples is that the producer had the courage to "let things happen" rather than try to direct the date anxiously. If we had an anxious producer, we'd try to ignore his insecurities and "put it together" anyway. Sometimes a producer who was trying to please the money man in the booth (or to impress us) would ask one of us to add more highs to his amp. Having already heard the booth playback, we'd know that that would be disastrous to the sound he had and, rather than argue over this, we'd reach back and pretend to turn an amplifier knob and play with a questioning look on our faces ("Is it okay now, boss?"). We'd chuckle to ourselves while the rookie producer would nod his head and say, "Yes, that's the right sound now."

We were always on the lookout for inexperienced "professionals" in the control booth. Sometimes the band would get zapped with horrible feedback in the earphones if the booth left a pot open on the talk-back. I remember on Lincoln Mayorga's first conducting date, he was a little nervous. And he nearly lost it when he looked down from the podium before conducting the downbeat to find Dennis Budimer (a fine guitarist) smiling up at him, waiting to play, with big wads of cotton in his ears, just in case. He looked like he was at the firing range! In some ways, maybe he was.

Those years were very special to me and I'm looking forward to sharing more of my favorite stories with you. But let me hear from you! Send in your questions and we'll get in the thick of it. So onward and upward, and remember, the bass player needs a good conga player, too. ■

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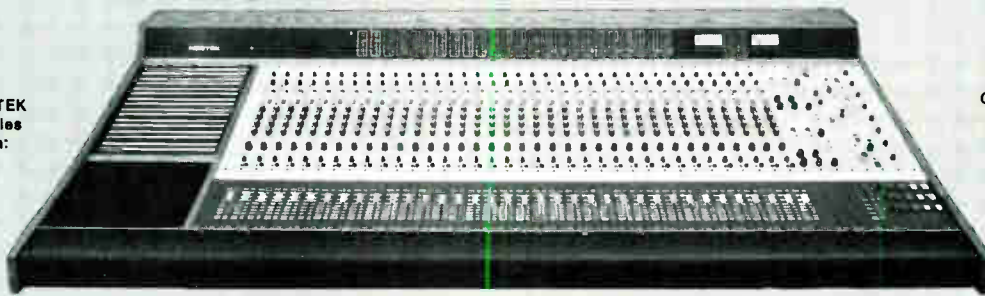
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by David Goggin

John Elafante, of the group Kansas, and his brother Dino have been planning their new studio for fourteen years. The actual construction took only a month and a half. Pakaderm, as they call their operation, is the culmination of years spent in top studios, the experience of operating an 8 track studio at home, and an attention to economy on all levels. John admits that it isn't a Rec-

THE ELAFANTE'S

PAKADERM STUDIO

outputs. We also wanted the ability to buss and monitor separate from the inputs, like a Trident." The separate 24 channel sections have pan, cue, and echo send. "It's the most board we could possibly have found for the money."

The big tape recorder is a 24 track Ampex MM1200. "We had it modified by Peter Butt," says Dino. "He reduced the crosstalk, did some work on the solenoids and it handles tape real

ord Plant, but for a total expenditure of \$170,000 they have created a remarkably versatile and attractive facility.

The spacious control room was inspired by the design of Lyon Recording in Newport Beach. John and Dino refer to the completion of the project as a collaborative effort involving friends and healthy support from Pasadena's Audio Engineering Associates.

All of the woodwork at Pakaderm is unfinished pine. "It's less expensive than hardwoods," explains Dino, "but we actually chose it because it's less reflective and it looks great." Green felt covering 703 fiberglass insulation provides the absorbent wall areas. The floor is isolated from the foundation of the industrial complex warehouse.

"We wrestled with the idea of building the studio in a home," Dino continues, "but chose this location for various reasons; it's quiet—there are no machine shops, only offices—and there are no neighbors to bother."

The studio has a large main room and isolated area with a very live environment accentuated by the oak parquet floor. All walls have a minimum 3° deviation from parallels and none of the ceilings or floors are parallel. The inner shell built within the concrete warehouse is another example of economy. "Basically, we have hotel walls," explains Dino. "It's a cheap way of getting around building twin walls. We have 2x6 studs, we used a 6" plate, and we staggered the studs instead of having them line up. There is a minimum of 12" of air space between the outer walls and the inner shell."

Isolation from the Los Alamitos industrial complex has evidently been effective; there have been no complaints from the neighbors. In the first month, the studio's inner chambers

achieved success on a Chi Coltrane project engineered by Larry Brown. The studio is already block-booked for a project with Sweet Comfort, a top-selling gospel group who were attracted by John's work with Kansas.

"They were after that 'secular' sound," comments Dino, who will be producing the project. Both brothers engineer and work as a composing/playing team. "Sweet Comfort has a good sized album budget and will book the studio on a 24 hours a day, monthly basis, which includes technical and musical assistance. If you run a business professionally it shouldn't take long to recoup the investment."

The studio is first and foremost meant to be an artist's tool, but while John is on the road they plan on keeping the machines rolling on other projects.

The console is a Soundcraft 3-B, the last one off the line before the company moved to their new 2400 series. "They had the mainframe and just enough modules to make one more," explains Dino. "We wanted a console with at least 32 inputs and 24



The Elafantes in action at the board during a recent session

nice. He also eliminated a lot of the transient noise and the low end response is a lot better now." The machine was virtually new, having only ten hours clocked by the previous owners.

The stereo mastering recorder is an Ampex ATR-100 with 1/2" head stack. For slap echo and tape copies they have a Technics RS-1500. A TEAC 3340 is on hand for 1/4" copies and additional slap echo capability.

Monitors are the latest from JBL, the 4435s. "We love JBLs," says John. "We can monitor louder than anything else and we love that. They're flat and we just like the sound of them. We listened to them at a friend's studio and said, 'Hey, those are our monitors.'"

Power amps are BGW-750s and QSC 3500s, plus BGW-100s for headphones. "We also have two White 1/3 octave equalizers for outside producers who might come in and want to voice the room in their own way," adds John.

The outboard racks at Pakaderm are lined with further examples of versatility and economy. For echo there is a Lexicon 224-X digital reverb and the MICMIX Super C Master Room spring cylinder reverb. There is Dolby for stereo mastering and playback, if needed. The Roland Dimension D SD-320 provides chorus and flanging effects and "pans at the same time," comments Dino. "It's a \$400 device that everyone wants to get his hands on. John uses it for vocals and I think you'll find it used in some way on every tune on the new Kansas album."

The rack continues: Eventide Harmonizer, EXR Exciter, and Technics SG-9010 stereo universal frequency equalizer. "It has sweepable graphic with parametric," explains Dino. "It's a

hi-fi device and we are going to buy something else, but we tried it out and it sounded great."

The Allison rack has four Kepexes and two Gain Brains. "We also have a Symetrics SG-200 dual signal gate," adds John. "If you really want to get the room mike ambient sound to shut off, they close pretty nicely."

There are also four dbx 161 compressor/limiters, two UREI LN-1176 peak limiters, and a DeltaLab 1024 Efectron.

John, who plays keyboards and sings with Kansas, has a Yamaha GS-1, an Oberheim OB-XA, Fender Rhodes, Emulator, PPG Wave 2.2 digital synthesizer, and a Yamaha 6'4" grand piano. When asked about the effect on his creative work brought about by having his own studio, he responded: "It will have an infinite effect. We don't have to worry about time, and if we're over budget on an album we won't have to go back to the record company. We can go to the limit. It's all a matter of musical discretion. If we lay something down and it isn't right, we take it off tape. We have learned how to budget our time, and we know when we're beating a dead horse."

The studio will be mainly used for in-house projects but, Dino adds, "if we ever got to a place where personal income shut down, then we would find ourselves in the studio marketplace. We're right between Orange Country and Long Beach and there is a lot of good music and lots of business in this area. This studio is easily capable of getting \$75 an hour."

There is one idiosyncratic rule at Pakaderm, which was agreed upon by John and Dino. Every three hours, regardless of the project, there is a mandatory Three Stooges break. In the lounge is a videocassette player with a library of Stooges tapes to entertain and divert. "If we don't do this, we find that we start getting Shemp and Curly withdrawals," admits Dino.

"I'd just like to add that we couldn't have done any of this without the support of our parents, although we raised most of the money ourselves," says John. "This is a family-oriented scene and we're proud to admit it. It's an artist's studio - a tool. If we had wanted to go into serious business we would have put up Elafante's Pizza Shop. We could have made a lot of money shoving pizzas through a window. My dad makes the greatest meatballs in the world." ■

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THE CRUSADERS:



STILL BUILDING ON A STRONG FOUNDATION

by Josef Woodard

In a town where friendships and alliances are always teetering on the precipice, in an industry which tends to eat its young and promises roller-coaster careers at best, the Crusaders, with 30 years under the belt, have established themselves as a virtual Rock of Gibraltar. Pioneers of what was to become the clean, taut "L.A. Fusion" sound—an accessible brew of jazz savvy, funk and Latin pulses and pop chewability—the Crusaders have hit a musical stride that shows no sign of fatigue. Although the Crusaders entity

"I saw how they got the same feeling at exactly the same time. I found out how to put together all these various parts."

has been pared down to just keyboardist Joe Sample and saxist/bassist Wilton Felder with the recent departure of long-standing drummer Nesbert "Stix" Hooper, their signature sound is as solid as ever. With a pair of solo records released this year and their umpteenth group album on the way, the venerable band is still standing tall.

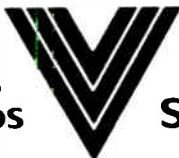
Through extensive studio work over the past 20-odd years and the influence of their own work—most notably the stretch of mid '70s albums beginning with *Southern Comfort* ('74)—the Sample/Felder touch has nudged the force of L.A.'s (and therefore the nation's) music. The contributions haven't come entirely from their own hands. Aspiring "honorary" Crusaders have gone on to individual rewards: guitarist Larry Carlton cut his teeth in the band (in the last cemented Crusaders lineup, with Robert "Pops" Popwell on bass); Randy Crawford lent her lustrous voice to the title cut of 1979's *Street Life*—

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attempted to mix in, having been dissatisfied the first time around). Contrary to the emotional impressions of their solo works, Felder seemed no-nonsense and business-minded in his discussion of the state of the music, while Sample was softer-edged, at the ready with humorous analogies - the Costello to Felder's Abbott. The two spoke in no uncertain terms about the difficulties of finding sensitive, well-versed players, about the pitfalls of the studio musician system and, cryptically, about the new Crusaders disk with guest artist Larry Graham. If their past 46 albums are any indication, the new Crusaders record will be another strong link in the chain reaction that has earned the group the title of Groovers Elite.

...

Mix: Your vast experience as studio musicians must have pushed the direction of the Crusaders.

Joe Sample: In those days [the '60s], there really wasn't a lot of overdubbing. All of those early records were done live, at least the rhythm sections. Today's music, you put down the drums first, then bass, guitar... we had live bands. I saw how they got the same feeling at exactly the same time. I found out how to put together all these various parts. I know Wilton learned about this kind of thing playing with Barry White - five guitars; they were the best in the city. And those five sounded like one big fat guitar. They were so tight, and played with so much rhythm and fire, and they did it in such an easy way. They never had that battle of the tempos rushing, the tempos falling, 'we're going to the bridge now.' Their idea was, 'Let's see if we can find catchy little musical hooks.'

"I'm going to be there 100%, caring about every note I play and how I play it."

They never had those basic hassles that drive Wilton and me nuts. We've been in that situation where you had a totally professional band, where you didn't have to concentrate on the bare essentials. That's what gets to us. You have enough problems trying to think of the note; all that primary stuff has to be in the mood. Otherwise you can't even get to what's happening. It's like a guy who can't build a house straight. 'Oh, this is lopsided.' He tears it down, he

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builds it back up again – this goes on for years. He can't even get the walls up straight because the foundation is lopsided. The meter is fluctuating. Those are the things that get us totally nuts.

"You have to have the basic, essential three – piano, bass and drums."

Mix: Wouldn't the problems of adjusting to different players be alleviated if you assembled another tight core unit?

Wilton Felder: I started playing bass on the records in order to get the basic feeling of the song out. But if we could find that full, complete rhythm section—piano, bass, drums and guitar—that understands all the feelings that we play and are compatible with one another, then I perceive no problem in getting the music played. But until then, there will be a problem. You have to have the basic, essential three – piano, bass and drums. In the early days, there were certain trios who were so tight, you just couldn't shake them loose – the Ramsey Lewis Trio, Oscar Peterson Trio. These people played together as a unit. They knew one another so well and they knew exactly what to do at the right time. That's what you need in order to have a band. Yet these same individuals have to have their musical ability and creativity good enough that you can keep advancing and progressing, going from here to there to the other. That's what we're really looking for.

Mix: Considering the studio musician again, he's usually a composite. He has to be somewhat schizophrenic: go to do a movie score here, a commercial there. Does that wear away at you after a while?

Felder: Well, you can do it all if you have the proper attitude and evaluation of what you're doing. See, selfish studio musicians come in with the attitude of just making money on a record date; they come in and play lick number one, you know, "I know 100 licks – which one do I want to play now?" Well, that type of musician won't make it. He'll make money, he'll be playing sufficiently to a certain point, but the true thing of expressing yourself in playing becomes different.

For me, I can't play without being involved in it. I don't care what it is, if I accept a date, I'm going to be there 100%, caring about every note I play and how I play it. Otherwise I don't accept a record date, because I'm supposed to be becoming one mind or person with whoever the artist is. It's not my ego that's come to bear; I'm a sideman working for a particular person. And it's supposed to be that if this person respects my playing enough to want to ask me to play. I'm supposed to help them make the best record they can make. If I do that, then the feeling is going to be right.

You have a lot of musicians that come in the studio, and they couldn't care less about what is being played. They don't even listen to the melody. I mean, they want to play lick #1 and they're grooving on what *they're* doing. And we're supposed to be playing this song.

Mix: How do you overcome that? Obviously you both are at a point where you don't have to accept dates you don't want to. Studio musicians are often forced to take jobs that they may not feel musically attuned to. **Felder:** Even if you take a job that you feel you're not musically attuned to, it has nothing to do with your attitude toward it. If you accept a job, I just believe that whatever you give your word to do, you do it 100%, because you expect to get paid for it.

Sample: Those sessions, you know . . . Certain people would call me and I would refuse the date because I knew I would not like the music. Other dates I would accept and I would go in and say, "Oh boy, I hate this song. This song is dead." So, I mean, you can't tell a guy, "You're song is dead. This band you got in there ain't happening." You put up with it.

But basically most of the calls were ones where I would look forward to going in and seeing what this writer had come up with, and I would look at it as a learning experience. Like on these movie calls. I had never actually had any university training in philharmonics or whatever. But just by going out and doing some soundtracks where I'm hearing 60 musicians around me and saying, "Oh, that's piccolo . . . oh, wow, check that out, that's cello." And when you're in those situations and you hear it live as a part of it, you actually learn something. That meant a lot more than me sitting up in a class for three years, bored every day. It's like I would learn how to fight well if I would go into the ring every week with some champion fighter and he just bounced me all around – I would have to learn

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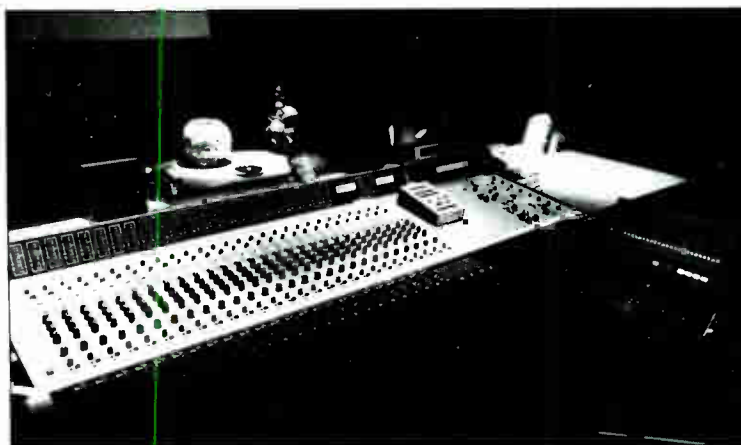
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something after he beat me up for a whole year. At least I'd learn how to run or do something. But those situations were like learning situations. I started getting bored, though, when I kept finding out that there wasn't anything new to learn; in a sense, that happened when all the fun went out of it. And that only happened after 8 or 10 years, I'd say.

play. I know a lot of musicians who let the instrument do the work instead of playing it. The thing is, if you sit down at an acoustic piano, in order to make that acoustic piano sound, you got to play it. There's no amplification; if you want it to get louder, you gotta play it louder. If you take a Countryman [piano pickup], you just put it on there and turn up the volume. Then again,

kinds of different sounds, this kind of echo and delay and all of these things that are happening. And that is advantageous also. The sound of everything is getting better. Talking about the computer board, I think we, at this particular point, are at a 50/50 state. I really haven't seen any situation that is going to aid me, just because it takes so long to set it up that I am bored with the song by then.

I see it as a cost factor. In other words, a computer, I would think, would be something that could help expedite things. It's almost like, "Okay man, now we have an airplane - now it doesn't take a week to drive from here to Boston. We can be there now in 5 hours." I was hoping that a computer would do that, but it seems like the mixing takes 8 times longer, 'cause I'm playing around with this computer.

I get bored sitting around the studio playing with all these toys. I want to get the mixing over with. And I have not seen it work in any faster manner yet. Maybe it will one day. But so far it's just been a big pain in the you-know-what to me.

Felder: It gets to the point where by the time you get the computer programmed you could have done it by hand. The only advantage is that when you have so many tracks, and you have so many mutes that you don't have enough hands to do it, it saves you. But all that time you have to put in - if it worked immediately, without all these malfunctions... that's the disadvantage of it.

Plus, there is a difference between something that's mechanical and something that's human, and when you start looking at things in terms of perfection, you start asking, "Well, what is perfection?" A lot of times, even musically, someone could play something that's right - for example, Joe might be playing something on the piano and it has a flaw in it, and he'll say, "Okay, let me do it again on another track," and he plays it perfectly right. That flaw had something about it, an emotion about it. And you choose that one, you know, if you go by what it feels like and what was there as opposed to, "Okay, now this was perfectly right." Sometimes perfectly right is not good. And other times perfectly right is good.

Sample: I think we're gonna go down here and perfectly right check out this computer we got going now.

[They leave, laughing, for another bout of mixdown.] ■

"Sometimes perfectly right is not good. And other times perfectly right is good."

Mix: Joe, you were talking about computer boards earlier. How do you feel about the way technology is rearranging the face of music?

Felder: It has its advantages and disadvantages. One advantage is that it sparks creativity. There are many more things that you can do. One disadvantage is that it has become so simple that some persons abuse it. It can come out to be so mechanical that people get lazy and don't want to

the Countryman has its advantage if you want that particular sound. It's all in how you use it and what you do with it. It's been abused, and then there have also been times when some beautiful things have been done with it. I think it's just up to the future generations to make the best use out of it. It's a valid instrument, it's a valid thing.

Sample: That's very true. When I listen to my radio now, I'm hearing all

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THE PLIMSOULS

PLAY THE BREAKS



PHOTO CRAIG DIETZ

by David Gans

It was George Burns, I think, who pointed out that the key to success in show business is sincerity. "If you can fake sincerity you've got it made," was the punch line.

With so much fake passion (heavy metal) and fake passionlessness (synth-wave) clogging the emotional arteries (not to mention the airwaves) these days, the once-pervasive notion that music can—and ought to—salve one's soul has taken an awful beating. It's just not fashionable to care too deeply about anything in pop, it seems; to deal with any but the shallowest relationships in any but the most glib of terms is tantamount to commercial suicide.

The synth boys and girls trade on their detachment and sing about hypothetical passions to trivial tunes

and one-size-fits-all rhythm patterns purchased at Riffs R Us; hyperthyroid metalosaurs turn every flirtation into a roaring dance of death, exaggerating everything and believing in virtually nothing. Everywhere we find fun for fun's sake, grim for grim's sake. Only here and there—Joe Jackson, The Police, and the spacy and insufferably introspective Stevie Nicks, to name a few—do we find a performer who projects some real personal involvement and behaves as though something in their world and work really matters.

So when I happened upon an unusually powerful expression of rock and roll commitment—The Plimsouls' Geffen Records debut, *Everywhere At Once*—I was gratified and excited. The real thing! Honest guitars! The Plimsouls put across the attitude that they live—and live *for*—their music. Peter Case writes and sings as though he'll ex-

plode if he doesn't, and his bandmates (bassist "David-O" Pahoa, drummer Lou Ramirez and lead guitarist Eddie Munoz) understand exactly what he means. "The band began to play/so we started running," Case sings in the title track of *Everywhere At Once*. "From across the way/you could hear the drumming/Thunder struck a chord up in the sky. . . ." The Plimsouls' world can be reduced to (borrowing the title of a song by their contemporary, Gary Myrick) these four elements: guitars, talk, love and drums.

Guitars and drums are what The Plimsouls' sound is all about. No artificial sounds—no computerized rhythms, no electronic drums or synthetic God-voices—just hot, sweaty music like the stuff these guys heard in the mid-'60s when they were teenagers and music rang loud bells in the psyches of young America. If you're

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going to pillage the past you'd better choose a rich lode to mine, and that's what The Plimsouls have done. The two cover tunes on *Everywhere At Once* blend seamlessly with the originals (all authored or co-authored by Case); they weren't chosen for their proven chart potency, says Case, but because "it's the kind of stuff they don't write any more."

"'Lie, Beg, Borrow and Steal' is Sixties-ish, but to me the song is so heavy it's almost Shakespearean." Originally recorded by Mouse and the Traps ("One of those '60s bands like the 13th Floor Elevators and the Moving Sidewalks," Case explains cryptically), the song popped up on a car radio while the band was touring behind their 1980 debut album, *The Plimsouls* (on

Planet Records). "We leaped into a void out there in America" Case recalls. "We were getting good airplay in some major markets. Texas was one of them, along with San Francisco, New York, and a couple of others. It was just five guys in a station wagon, striking while the iron was hot. The tour was like a baseball game, only the baselines were a thousand miles long. We'd be in Gainesville, and we'd get a call—'Go to Houston!'"

"Anyway, there was a part of that tour we called 'The Texas 800.' For some reason we were booked into Texas for weeks on end, just sort of circling endlessly. We were going through Tyler one night and heard this guy—'I'm Bugs Henderson, and I used to play with Mouse and the Traps...'"

Then they played 'Lie, Beg, Borrow and Steal.' Everybody else was asleep, but Eddie put a cassette into the machine and recorded it. It's a good thing, too, because we can't find the record anywhere."

It's just the kind of tune The Plimsouls can sink their teeth into. "When we find something like that, we like to work it into the set right away—just go for it," says Case. "It's the same with 'My Life Ain't Easy'. Eddy Grant [who is now topping the charts in his solo incarnation with "Electric Avenue"] wrote it about 1968 and recorded it with his band, The Equals—they had a big hit with 'Baby Come Back,' remember? We dug 'My Life Ain't Easy' because it has such a powerized riff, and the lyrics just floored us."

"Those two songs fit right in with the rest of the stuff we wrote for the album." The originals were written during a period when The Plimsouls were, in Case's ironic parlance, "*nouveau* washed up." They've had a lot of good and bad fortune since they banded together in 1978, and their ability to (as their song says) "play the breaks" with the best of them—and their insistence on leaning into the music when all around is shaky city—is what's kept them cruising.

Lou Ramirez was cursing his overheated ice cream truck one hot LA rush-hour afternoon when Peter Case pulled up, attracted by the loud sounds of James Brown emanating from the fridgemobile. The ensuing conversation led to Ramirez inviting Case back to jam with him and his partner, bassist Paha—a and thus, in a storybook-LA sort of happenstance, were The Plimsouls united.

Or three-fourths of them, anyway. Gigging was the thing to do, and they did it well all over southern California, eventually building a following impressive enough to attract some backing. While Danny Holloway was steering them through sessions for an EP to be released on the Beat label (titled *Zero Hour*, it included "How Long Will It Take?", which they rerecorded on the new album, plus a version of Otis' "I Can't Turn You Loose" with vocal horn lines because they couldn't afford real ones), Eddie Munoz blew in from Austin, plugged in his guitar and completed the lineup.

By the time the Great Knack Hype was in place Los Angeles was the latest and greatest (not to mention the most conveniently located) Node of Creativity in the country, and the big labels were snapping up club kingpins with a vengeance. Richard Perry signed The Plimsouls for his Planet label, and the band's eponymous debut (produced by Holloway) hit the streets with resoundingly unsatisfactory results. The aforementioned assault-by-station-wagon failed to nail the group to the

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charts, and so, "by mutual agreement," The Plimsouls' two-record deal with Planet was voided in mid-span.

"It was good for us that we didn't just take off," says Case without false bravado. "Our first album was like a lot of people's first albums: the influences were coming through in lumps. We hadn't really worked out our sound; parts of it were real Stonesy, we were into R&B—that's probably why we called the band The Plimsouls, right?—and we were doing things like 'Lost Time,' which moves from an R&B part into a Who-type thing.

"Failure was the best thing that happened to us, because we pulled our whole sound together. We've combined our Byrds, soul, rock, and all these influences and turned them into something of our own," Case asserts.

During the period following their separation from Planet the Plimsouls went back to what they do best: playing music. "We moved into a rehearsal space behind a strip joint called the Gold Diggers Club," Case recalls. "It was a really sleazy place, with guys living in boxes out front. It was the winter after our album came out, and we were without a record deal. We spent about five days a week in there, just playing all day. Every weekend we'd go out and play some strange place, and that's what we lived on."

And they worked on their music. "'Shaky City,' 'Magic Touch,' 'Oldest Story in the World'—maybe half the album was written then. We were flip-pin' out, because in terms of getting anybody to listen to us we couldn't get arrested—but we were really making good music."

When David-O was sidelined with a broken hand, friend and fan Jeff Eyrich filled in on bass; when Pahoa returned to the lineup, Eyrich stayed on as producer. "We didn't have any money to pay for the studio, so we recorded 'A Million Miles Away' in a succession of nights from about 2:00 in the morning—or whenever the last paying session let out—until the time the janitor showed up, around 6:30 or 7:00.

"That was a sort of rallying point for the band, because it was the first time we'd gotten anything on tape that sounded like what we wanted. It was exciting for us, even though nobody else [in the industry] cared." Greg Shaw of Bomp Records was sufficiently interested in "Million Miles" to form Shaky City Records in association with the Plimsouls, and Case says the 12" disc "sold more copies than any of our stuff on Planet did.

"As soon as it got on the radio we got that sort of immediate response you get from things when they're happen-

ing." Within a month, Case smiles, "we had all these labels—the same people who wouldn't answer our calls before—talking to us." When Geffen Records' offer proved irresistible, Plimsouls and company gave up their idea of keeping Shaky City afloat, "left behind our executive roles and got back into the music." Eyrich was retained to produce *Everywhere At Once* (which contains "A Million Miles Away" as well as its flip side, "I'll Get Lucky"), and the band was off and running again.

The Plimsouls are back in their station wagon—well, actually a van this time—keeping the operation as small as they can so they can move fast when they have to and last as long as they can. It's still not easy to break an album, the vaunted revitalization of the record business notwithstanding, and The Plimsouls know how rare it is to get a second chance even in the best of times.

"As long as you're happy musically, you can keep going," Case observes. "You have to turn yourself on with it—which is basically what kept us going through the point there we might have broken up. We never even thought about breaking up through that whole period, because that's when the music was at its high point." ■

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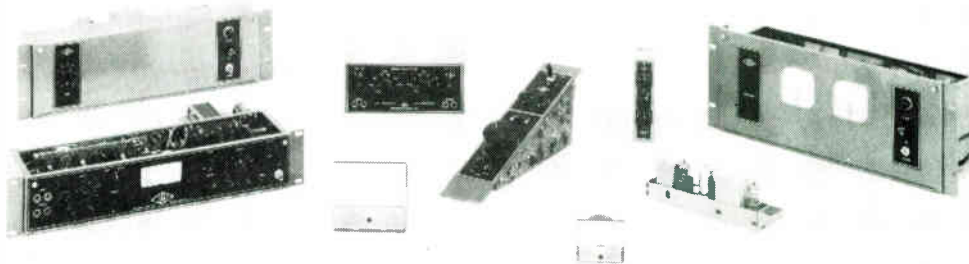
—from page 42, Putnam

set (along with its 4 employees). Larry Kessler, who also came with me from Chicago, was engineering in the studios and running Universal Audio as well. At this time, we were building the Universal Audio 100D Preamp, 101A Line Amp and the 50BA Equalizer as well as designing and constructing custom consoles.

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"Meanwhile, Universal Audio had acquired all the assets of a company called Studio Electronics Corp., and we moved this manufacturing operation to the Western building at 6000 Sunset. Later we moved it to a small factory building on Valerio Street in North Hollywood. We then purchased the broadcast division of Babcock Electronics. Through this purchase we acquired the (Jim Lawrence) patent rights to the popular LA-2A Leveling Amplifier (limiter), which evolved into the LA-3A, then the LA-4.

"We changed the manufacturing company's name to UREI, and D.F. 'Bud' Morris did double duty as corporate, executive vice president and manager of UREI until URC's sale this year. We embarked on the development of additional products and expanded our marketing worldwide. Warren Gilman, Bob Bushnell and Deane Jensen were designing new products in addition to custom consoles. In the late '60s Brad Plunkett joined us, with not only many innovative ideas, but above all a fresh and forward-looking approach to product design and development.

"UREI always strove for product diversity and innovation. In 1974 UREI acquired the assets of National Intertel Corp. through a bulk sale purchase. This became the Teletronix division of UREI. The marketing of Teletronix products is now handled exclusively by the Tel-Med multiple-line telephone information system hardware. This is the only area of manufacturing at UREI which is separate from the audio field.

expand the product line, we expunged it, and Waveforms is no more.

"UREI accrued a large inter-company debt to United during its early growth stage, but we kept the faith and this turned out to be a well-founded decision. The expansion and healthy growth of UREI allowed me the continuing opportunity to develop new products when time permitted. The satisfaction of this activity has been one of the most rewarding parts of my life. I used to refer to this as my spare time activity, but it was really given a higher priority than I realized. From this came the 1176 FET Limiter; 1108 FET Preamp and Remote Feedback Equalizer; the first Microfoam Module; the Cooper Time Cube in conjunction with Duane Cooper; the 813 family of speakers in conjunction with Ed Long; and, oh yes, one I would like to forget about, the Electrostatic Reverberator. Other innovations which were the result of this facet of my personal activity were the early control room design specifically for stereophonic recording, first published in the AES Journal in 1960; the introduction of the '120 Mastering Process' and most recently, the Horn Coupled Control Room, published in the AES Journal in 1983.

"Bud Morris, Ray Combs and Dick Siminsky, together with Brad Plunkett's great creativity and engineering talent, led UREI from a tiny, struggling infant to a major force in the professional audio industry. The innovations which germinated and blossomed from this combination of companies and people later became URC (United Record-

ing Corporation] companies. The result was a one-of-a-kind amalgamation of small companies in the recording studio business, combined with a growing electronics manufacturing company. From the studios came new product ideas which were born out of a need or desire to find better ways of doing things. The collection of talent offered by this combination resulted in a very meaningful, synergistic effect.

"I am frequently asked to comment on how I see the future of the industry. The coming direction and form of the recording studio business will be dictated by how fast the Compact Disc captures a substantial share of the market. The Compact Disc is an important and vital development that can revive the industry as stereo did in the late '50s. It means that the hardware market for professional studio gear will be revitalized. Existing analog studio equipment will not be acceptable and its life expectancy therefore has been reduced dramatically. Just imagine, for the first time we have a situation where the potential quality of reproduction, at the terminal point of the end user, exceeds the capability of the average professional recording studio in its present technical state.

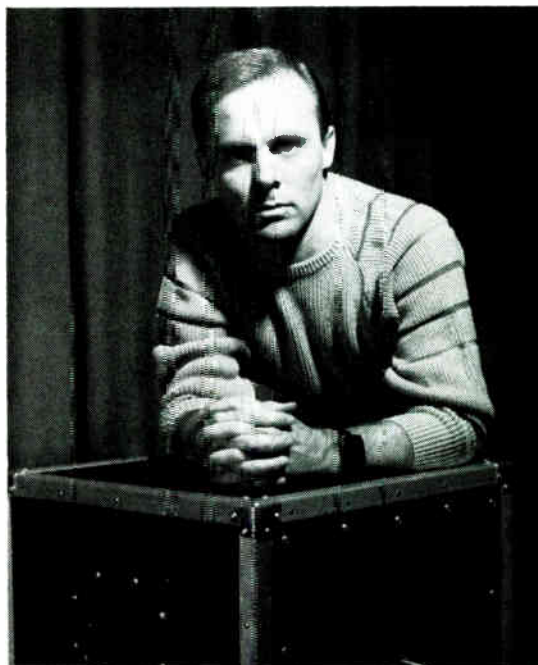
I've been very fortunate to be involved in many areas of activity that have brought me a great amount of enjoyment. I enjoyed the challenge of running a business, but above all I enjoyed the association with my colleagues. I also appreciate the opportunity to tell the story of Universal, United and the URC Companies. I would be less than honest if I did not explain that intrinsic to this story is a deep sadness, from the loss this last year of my wife Miriam Putnam. 'Tookie,' as she was known by her friends, grew up in the record business under the tutelage of a very famous man in our industry, the late Dave Kapp, who was president of Kapp Records. She later went to work for Frank Sinatra in Hollywood when he started Reprise Records, and it was through Frank that we met and were married over twenty years ago. It was my exceptional good fortune to have the closeness of our relationship, as well as a wife who knew the business. She understood what *it* was all about, and what I was all about. This kept her so enthusiastically helpful, supportive, and very much involved in everything I did over the years. Most important of all she gave me two great children, Bill and Jim. I wish this could have been written with her help, and it is to her that I dedicate this story, with all my unending love and devotion."

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PHOTO: DAVID GANS

by David Gans

The pop world is desperately short of lasting talents these days. It's hard to imagine "Tainted Love" or "Back on the Chain Gang" carrying the same historical weight as songs by The Beatles, Randy Newman, Paul Simon and The Rolling Stones. One prerequisite for lasting artistic impact would seem to be awareness of the continuum of music from then to now and beyond. The vicissitudes of commercial success have little to do with art in most cases, and if you concentrate on one pursuit you're likely to find yourself short-changing the other.

Joe Jackson is one of the small (but, one hopes, growing) number of recording artists who has found himself on the charts while having followed his own self-determined artistic path. *Night and Day*, released in 1982, differed im-

mensely from his previous album, *Jumpin' Jive*—which in turn represented a major shift in musical focus from *Beat Crazy*, and so on. *Night and Day* reflected a sensibility which refuses to exclude any musical influences for reasons of commercial stylishness, and it paid off with the hits "Steppin' Out," "Breaking Us in Two," and "Real Men" in other countries as well as in America and his native England.

Jackson just completed nearly a solid year on the road, performing across North America, Europe, Japan, Australia and New Zealand. He managed to steal a day here and there to work on the soundtrack for *Mike's Murder*, a Jim Bridges (*Urban Cowboy*, *The China Syndrome*) film which stars Debra Winger. Jackson wrote and produced the album himself, played saxophone and all the keyboard parts, and sang all the lead vocals; other musicians on the soundtrack are bassist Graham Maby, drummer Larry Tolfree and percussionist Sue Hadiopoulos, all of whom played on *Night and Day* and in his touring band.

—page 228



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—from page 226, Joe Jackson

The following interview was conducted during the *Night and Day* tour, before the completion of the *Mike's Murder* project. "It's not too soon to know, but it's too soon to tell," was Jackson's comment on his future; what we talked about had more to do with his attitudes toward his art in general than with the specifics of the work in progress.

Mix: Let's talk about recording. There's a very rich feeling to the piano sounds on *Night and Day*; Joy [Askew, one of two keyboardists in the touring band] said you doubled some of the acoustic piano parts with a [Yamaha] CP-70.

Jackson: We did that sometimes, and sometimes it was an acoustic piano double-tracked - and a lot of the time it's just a plain old acoustic piano. The engineer's good and he knows his studio [Michael Ewasko at Blue Rock Studio, in New York's SoHo district].

Mix: And you play all the keyboards on the album?

Jackson: Yeah, because it's so much quicker. We started with banging down a basic track with Larry, Graham and Sue, and me playing the piano. Then I just overdubbed all the keyboards.

Mix: It is very impressive how well it translated to the live situation.

Jackson: Everything I do is geared to live performance rather than recording. I write for that. It seems we're at a point where most people regard recording as the important thing—and the thing they want to do most—and touring as the necessary evil. I'm really more the other way around: I see the contact with the audience as the most important thing and *recording* as the necessary evil. You have to try to get the same feeling in a room with just five of you staring at the walls with no audience. I find that very uninspiring.

The way to do it [record] is to have everything rehearsed, bang it down as quickly as possible and get out. That's the way I record.

We didn't get a chance to do gigs before we recorded *Night and Day*, but that's the best way. We did that with *I'm the Man* and *Beat Crazy*; those two are very much band albums, much more so than *Look Sharp*. If we could have been on the road for a year before we recorded *Look Sharp* it would have been an immensely better album.

We rehearsed *Night and Day* and learned it pretty quickly, then we went in and did it. I never had any doubt that it would translate to live performance; I was sure we could do everything we did on the album using two keyboard players. If anything were going to be left out, it wouldn't be anything vitally important.



Mix: I felt *Night and Day* used electronics very subtly and appropriately, not just for its own sake. It wasn't a high-tech situation, but also not low-tech.

Jackson: It's just using the right tools to do the job. I didn't want to make a synthesizer album. I saw the Human League and Depeche Mode in the same evening once, and by the end of the night I was so sick of rhythm boxes and synthesizers that I went home and listened to Duke Ellington albums to cheer myself up. It wasn't that I disliked either of those bands—I think they're good at what they do—but I think synthesizers and rhythm boxes have become as clichéd as guitar, bass and drums, and even more quickly.

I'm just going to use a bit of synthesizer here or there if I think it sounds right. I don't want that all-electronic, rather sterile sound—I want it to sound a bit more real and gutsy than that. That's why there's more piano and percussion up front. The vocal is the most important thing, really—the melody. I have nothing against drum machines or synthesizer bands, but I want the music to sound human.

Mix: Yes, melody. I've noticed that you use fairly long melodic phrases a lot. You'll often have a phrase in the vocal line that runs one and a half melodic phrases, or that'll go the whole length of a four-bar musical phrase and then spill

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over into the next change. Is this something you're conscious of?

Jackson: Now that you mention it, yes. There are a lot of things I do, and that would be just one.

Mix: That may owe itself somewhat to the influence of earlier music.

Jackson: I think that's something we've lost: the melodic and harmonic richness of the standard songs—Gershwin, Cole Porter and so on. A lot of people these days only care about a hook. They'll have verse, chorus, verse, chorus, guitar solo, chorus; the verse is about three notes [sings] for about eight bars—melodically very boring. The standards have melodies that soar!

Mix: Melody does seem to be missing in action lately. A lot of rock and roll is harmonically pretty unambitious.

Jackson: Don't different kinds of music do different things? I personally thought The Clash were fucking great when they started, and that wasn't something where you were even supposed to listen for harmonic interest.

I guess what I like most in music is a rhythm you can dance to and a melody that resounds in your head—a *real* melody, not just three notes.

Mix: Your concert set is a pretty seam-



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less blend of a number of styles – even more so than *Night and Day*, which covers a lot of ground all by itself.

Jackson: Well, it's all part of the same thing, you know? I keep my eyes and ears open all the time. That's the kind of person I am.

Mix: Your recording career has made a couple of gigantic zig-zags—

Jackson: So they tell me.

Mix: I'm not complaining! You're keeping yourself challenged, and in the process you're keeping your audience and the critics challenged, too.

Jackson: I can't understand why people get so amazed just because you try to incorporate different influences.

Mix: Do you ever think about long-range career plans? For example, doing an album of '40s music [*Jumpin' Jive*] might have been commercial suicide.

Jackson: I knew that, but I think that if you don't take risks you really get boring.

The only long-range plan I have is to be fairly loose, because to a certain extent you have to take opportunities as they come. You have to leave yourself open to some extent. I do have some long-range plans, but I also give myself enough room to maneuver if circumstances change.

Mix: Were you intimidated by the presumption that *Jumpin' Jive* represented?

Jackson: You mean, "How dare I do this?" [Los Angeles *Times* critic] Leonard Feather said, "It's ironic that Joe Jackson could fill a hall doing this stuff when Louis Jordan played to about twenty people on his last gig." Like it was my fault! But it wasn't my fault – no one could be more sad about that than I am, because I think Louis Jordan was fucking great.

I think that *Jumpin' Jive* did a greater service to jazz than [the critics] with their snobby reviews. A lot of jazz critics have a chip-on-the-shoulder attitude that says, "I play jazz and you're too stupid to understand it, so just go away." And people do think they're too stupid. That's really sad.

Mix: People who say they're exploring style and technique often indulge in a lot of phony experimentalism. Didn't that concern you?

Jackson: It annoys me. *Jumpin' Jive*, that sort of thing, is meant to be fun, and to show that music 40 years old can still be fun. It doesn't deserve to be heavily criticized or agonized over – it's just a fun album. You can pull *Night and Day* apart and criticize it, but with *Jumpin' Jive*, why bother?

When I heard reviews that said, "Joe Jackson did a pretty good job here,

but he doesn't sing these Louis Jordan songs as well as Louis Jordan did" . . . *Of course* I didn't sing them as well – I didn't even try to. That's such a dumb criticism.

Mix: You seem to have been misunderstood by the press quite a bit.

Jackson: It would be rather precious to say I've been misunderstood by the press. I've been misunderstood here and there—everyone gets misunderstood—but I don't think I'd say [in an interview], "The press has misunderstood me."

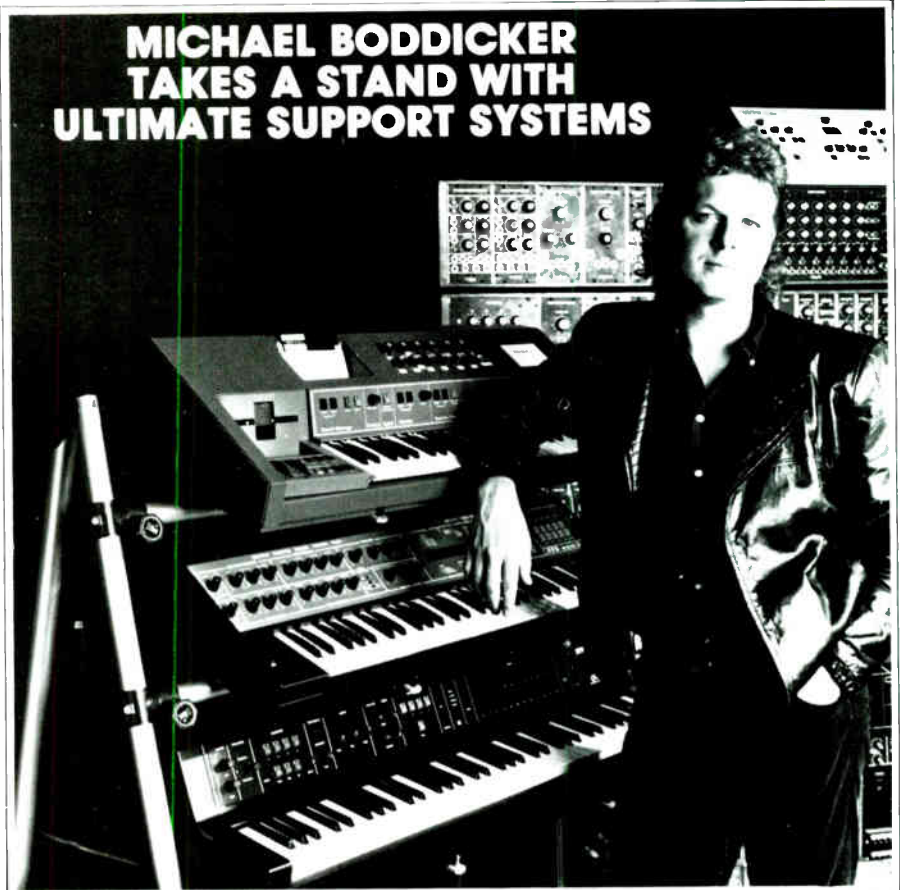
A lot of people who write about music don't particularly care much about music, and don't know very much about it – both of which seem to

me to be prerequisites for being a music writer. That's particularly true of the British press – I don't know as much about the American press. All I know is the reviews I read; sometimes they're pretty fair, sometimes they're very silly, and sometimes they're very unfair. Sometimes they're favorable but still misinformed.

Everybody runs around trying to work their own angle on the music—"What's this? How do we fit this in? How do we describe it?"—and they usually fall back on very simple, boring things, like, "He's the guy who got compared to Elvis Costello. Okay, let's compare this with Elvis' new album."

Is it really worth talking at length

—page 232



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about the press? Who cares, really? Every now and then I read a review that hurts me or upsets me, but not often. I try not to lose sleep over it, because the fact is that people are buying the records and coming to the shows and enjoying them.

I'm just concerned with writing the best possible songs I can write and making the best possible records I can make, and keeping it interesting. Right about the time we were doing *Beat Crazy* [released in 1980] I was kind of confused about where I was going stylistically and who my audience was and what I should and shouldn't be doing. Then having done the album and gotten it off my chest—and having then done *Jumpin' Jive*—I realized it's not really worth worrying about all those things, and that if I worry about them they're only going to hold me back.

Mix: If you start reacting to what you think the audience expects from you next—

Jackson: You're trapped. You're trapped.

I've never believed in the attitude of "give the people what they want," because people don't really know what they want.

Mix: It also eliminates the possibility of doing anything new.

Jackson: Yeah. If I made an album I really didn't want to make and it bombed, all I'd be left with would be a shitty album that I'd be ashamed of for the rest of my life. You've got to satisfy yourself first, because you can't be sure of anybody else.

Mix: It must be gratifying, then, that *Night and Day* has done so well.

Jackson: Are you kidding? It's scary, almost. I just didn't expect it. I thought, and hoped, that we had a shot at a single or two, because I felt the songs were accessible enough. But then again, so many radio stations are just playing heavy rock, and we definitely don't fit into that. So I really didn't know how it was going to do.

Mix: You could probably go berserk trying to figure out how the music industry thinks... so you do what makes sense to you and hope it finds an audience so you can afford to do it again.

Jackson: Exactly, yeah. But I also believe in working very hard to get it across to an audience. I don't see myself as the kind of artist who creates in the attic and expects the world to beat a path to my door. I don't compromise artistically, but I'm prepared to work very hard to get across. A four-month American tour is fucking hard work, let me tell you. But that's all right, because that's my job. I can't expect everyone to

—page 234

Dr. L. Subramaniam VIOLINIST WITH A VISION

by Linda R. Reitman

Violin virtuoso Dr. L. Subramaniam, writes critic Lee Underwood, "stands at the forefront of the continuing evolution of improvisational music in the West." At the same time, he is universally acknowledged as one of India's finest classical violinists.

Dr. Subramaniam is named after Shiva, the son of God in Indian mythology, but the "Dr." is medical rather than philosophical. Born in Madras, India's fourth largest city, Mani (as he is called by his friends) studied to be a physician—but by the time he finished his studies his musical career was well established.

The 36-year-old violinist's many and varied accomplishments have resulted in much praise and little free time. Although his ten-month touring schedule finds him in an Indian classical format 80-90% of the time, more and more fusion settings are filtering in. Speaking in a deeply resonant voice modulated by a delightful south Indian accent, Mani notes that "I'm still doing the same number of classical performances, but I've increased my performances of fusion. Between producing albums—both Indian Classical and Western Classical—and my composing for different projects, my commissioned projects, touring for my Indian Classical and duet projects and doing my fusion concerts, it's like driving me crazy!" When Mani says he'd rather "play violin all day than sleep," one suspects he probably *does* work more than he sleeps. It's obviously a labor of love for him.

When he was two years old, he had already fallen under the sway of music. His father would hum a melody, and young Mani would sing exactly the same notes. Mani was five when the family moved to Ceylon, where his father became a professor of music. He was already considered a child prodigy at the age of eight when he performed at Ceylon's major music event, The Subramaniam Temple Festival. After his performance, one of the organizers commented: "It's unbelievable—it's as though God himself came and played through this small child."

After a serious outbreak of riots in Ceylon, the family returned to India. Subramaniam was eleven years old in 1958 when he and his two brothers—L. Vaidyanathan and L. Shankar—formed The Violin Trio. The trio recorded two albums on EMI (India) and are still performing together. Every January 1st over the past several years, The Violin Trio has performed at the Parthesarathy Sabha, a large temple in India.

—page 236



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—from page 233

Subramaniam's greatest musical inspiration came from his family. "Everything I have done has been inspired by my parents, especially my father, who taught me violin. I'm very fortunate, because my family background was a very positive thing for me. That is what made me very strong, striving to be better," he emphasizes. "From the time I got up in the morning until I went to sleep, I was all the time listening to music - listening to somebody practicing or practicing myself."

"My father was a master violinist and a renowned professor at the Jafna College of Music in Ceylon. He also taught me vocals, harmonium—which is a keyboard instrument—and Indian drum. He taught me various theories to increase my knowledge, and gave me serious instruction on the violin. My mother used to be a vocalist. She's a fantastic singer, and she plays veena, the oldest Indian instrument. My older brother, L. Vaidyanathan, played violin before me. He now writes film scores in Madras. Of course, my brother, L. Shankar, also plays violin, and was a member of John McLaughlin's group, Shakti." Subramaniam plans a family collaboration, perhaps a tour or record,

but said it won't come until he's finished some of his various projects.

His recordings of Indian classical and "neo-fusion" music presently number over 35. Between his current projects—which include several classical and neo-fusion albums and tours—it's a wonder Subramaniam knows whether he's coming or going.

What exactly is this "neo-fusion" Subramaniam has coined? He describes it as "a new kind of fusion music which incorporates Indian classical elements—the modal and microtonal aspects—takes folk and Third World music elements, and also uses Western classical and jazz elements." It is a venture which he insists he's doing for sheer enjoyment rather than material motivation. Subramaniam feels no conflict in performing it with passion equal to his Indian classical music.

"I'm trying to create music that will be long-lasting, and yet at the same time will sell well. "But that's not my basic goal - to make an album that sells. If I were only interested in money," he emphasizes, "I would just be practicing medicine, writing movie scores, or doing rock albums. I don't do anything that I don't want to do. Indian classical music is one of my main loves. I've created many things and expanded the technique. I'm considered a pioneer in that field. I feel that Neo-Fusion will prove to be a very powerful musical idiom over a period of time, and I can express myself as a composer in Neo-Fusion, which I cannot do in the classical area. I'm trying to create my own musical expression. Although Indian classical and fusion music are almost like two different languages—I don't play Indian classical like I play fusion, or vice-versa—the inner spirit is the same."

Spanish Wave, Subramaniam's current neo-fusion release, is enjoying both healthy sales and critical praise. Guest artists featured on the LP include Stanley Clarke, Tom Scott, George Duke, Emil Richards, Larry Coryell, and Alla Rakha. A new Milestone album, tentatively titled *Indian Express* and slated for release in early '84, will include Clarke and Richards, plus Hubert Laws and Stix Hooper. The upcoming LP is cause for much excitement, as it includes some complex rhythm patterns, with many polyrhythms. "There will be a lot of harmonic changes which we'll be soloing over," Mani reveals. "It will be very challenging."

Subramaniam has been accorded several honors, including the President of India award and the title

—page 238

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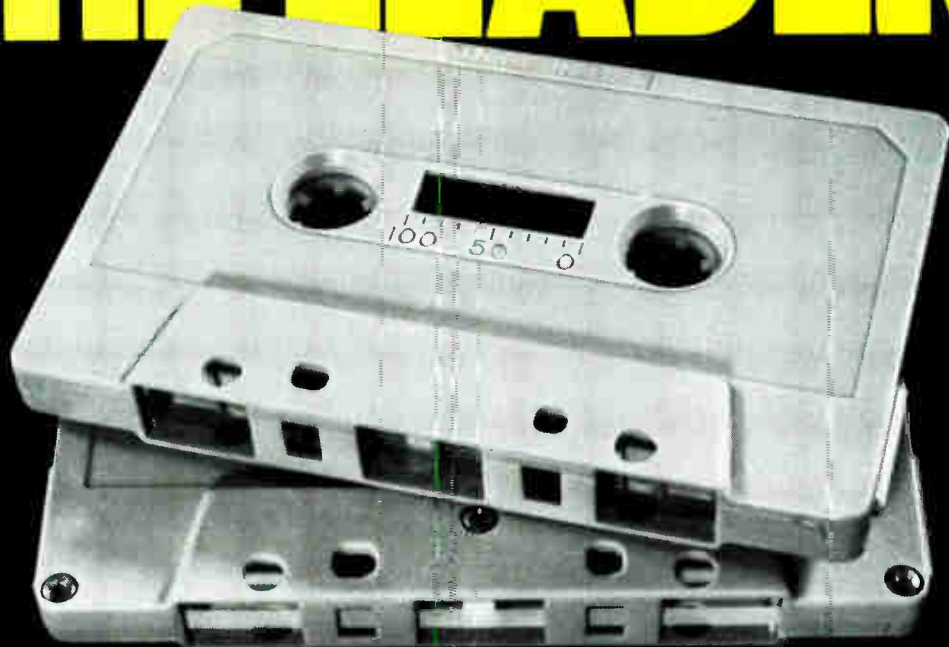
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tour with Ravi Shankar and George Harrison. Harrison was the main attraction, with Subramaniam as the featured soloist in Europe and Shankar in the U.S. Two tours and two records followed. Subramaniam's solo career took off later when he returned to Europe to play solo concerts.

Mani's love affair with fusion came about as a result of demands from his musician friends. "They had heard me in a strictly Indian classical setup, so they approached me and asked to study with me. They also wanted me to perform with them and compose some music for them. That's how the album for Stu Goldberg [*Solos, Duos, Trios*, with Subramaniam, Goldberg, and Larry Coryell] came about. Later, Larry Coryell approached me to do an album with him. After that, I recorded the *Garland* album in Copenhagen with Svend Asmussen. We both played acoustic and electric violins; it was later released in America on Storyville Records. My first American fusion album, *Fantasy without Limits* [Trend Records], followed it." Leonard Feather, who gave the album five stars, cited Subramaniam's "brilliant, tensely exciting performance." Mani can also be heard flexing his fusion muscles on Crusader Joe Sample's *Voices in the*

Rain as well as his own *Blossom* (Crusader Records).

There have been discussions of a possible collaboration with Stephane Grapelli, which would put Mani in a more straight-ahead jazz format. This would be a welcome addition to the Indian classical and Neo-Fusion settings with which he is more often associated. Of course, finding time for such a collaboration is another thing. On the average, he's involved with 5 to 6 albums a year, most of which he produces as well.

What follows is just a handful of the various projects Subramaniam is presently working on. He is compiling a four-album anthology of Indian music. He has recorded an album with noted south Indian flute player T.R. Mahalingam which is scheduled for release in October, after which the two will also perform duets together. Subramaniam has produced several Ali Akbar Khan albums which are due for release shortly. He will participate in a tribute to Martin Luther King next January at L.A.'s Music Center. Mani has also been commissioned to write the scores for two documentaries, and there are possibilities of a play and a major feature film. Additionally, he is already preparing a major piece, incorporating

Third-World musical elements, for presentation during the Olympic season.

Just where does Subramaniam get the energy to take on project after project? "Practicing music is my meditation," he responds. "That's my spiritual practice. Occasionally I visit some temples, but I don't go regularly because I don't have time. Whenever I play my music—classical music—that in itself is like a prayer, because beyond a certain point in my playing I forget myself and meditate through my playing. I get to a deeper level. When I really start playing and get into it, I totally forget myself and end up playing a long concert. Afterward, I get this tremendous amount of energy; my thoughts are overflowing and my mind is so bright, it's as if I had slept for days."

Does Subramaniam view his musical career as Karmic destiny? "Yes, I feel like that," he confirms. "In fact, a very famous Indian singer, whom I used to perform with a lot, would tell me that I was destined to play music. He suggested that I needn't take my final medical exam, because I wasn't going to continue as a doctor. He was a very powerful spiritual man, and he kept telling me I was meant to play the violin. I was born for that." ■

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—from page 81, *Digital Discussions* are turning their attention from electronics to photonics, in which light is the information carrier instead of electrons. Fiber optics has shown itself to be one of the first products of this new science and has already revolutionized the communications industry. Similarly, laser technology is advancing rapidly. Applications to the audio industry will soon be forthcoming; everything from fiber optic microphones and guitar pickups to laser speakers will introduce yet another technology into audio evolution. Who can say? At some future time we could record and store audio signals in terms of yet-to-be discovered photonics principles.

At the far end of the spectrum is the stuff that science fiction is made of. Computers are achieving meaningful artificial intelligence in which the nature of problem solving evolves from computation to reasoning. It is not unlikely to expect a symbiotic relationship between computers and brains. And the perception and enjoyment of music occurs in the brain — could this be directly accessed through a properly interfaced digital music/thinking device?

As for now, we are just entering a new era in audio. I think the opportunity for the development of digital audio technology is as exciting as it must have been in the very first days of analog audio, which saw the fast and furious appearance of startling inventions. Surely the microprocessor circuits which we have examined in these discussions will eventually appear as antediluvian as the hand crank on the first phonograph. It will happen much sooner than we might expect because of the accelerating nature of technology. A simple time line through which we can trace the development of technology over the centuries is no longer applicable. The multiplicity of inventions and their interactions almost precludes the possibility of an algorithm to follow their developments. The time it takes to complete any project is undermined by technology's advance.

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Everything that technology affects has to be reevaluated as quickly as technology changes our perception of it.

When Edison first publicly demonstrated his new phonograph one morning in 1877 in his lab in Menlo Park, reciting "Mary Had a Little Lamb," witnesses were amazed to hear Edison's high pitched voice "almost perfectly reproduced." Recently, in a review of the Compact Disc, the author exclaimed the music was "almost perfectly reproduced." And a hundred years from now, someone else will listen to a new audio invention and say music is "almost perfectly reproduced." That's the problem with being mortal — we lose all sense of perspective. Perhaps that's why we are compelled to record music, to overcome that limitation.

With the distinctly un-binary number of thirteen, we come to the end of my contribution to these Digital Discussions. Now I would like to turn these pages over to my colleagues, so that we can share in their views and insights, which may be far more worthy than my own. I hope that this series of articles has fulfilled its intended purpose, which has been to introduce readers to the philosophy and technology of digital audio recording, and to illuminate some of the great potential of this young science. ■

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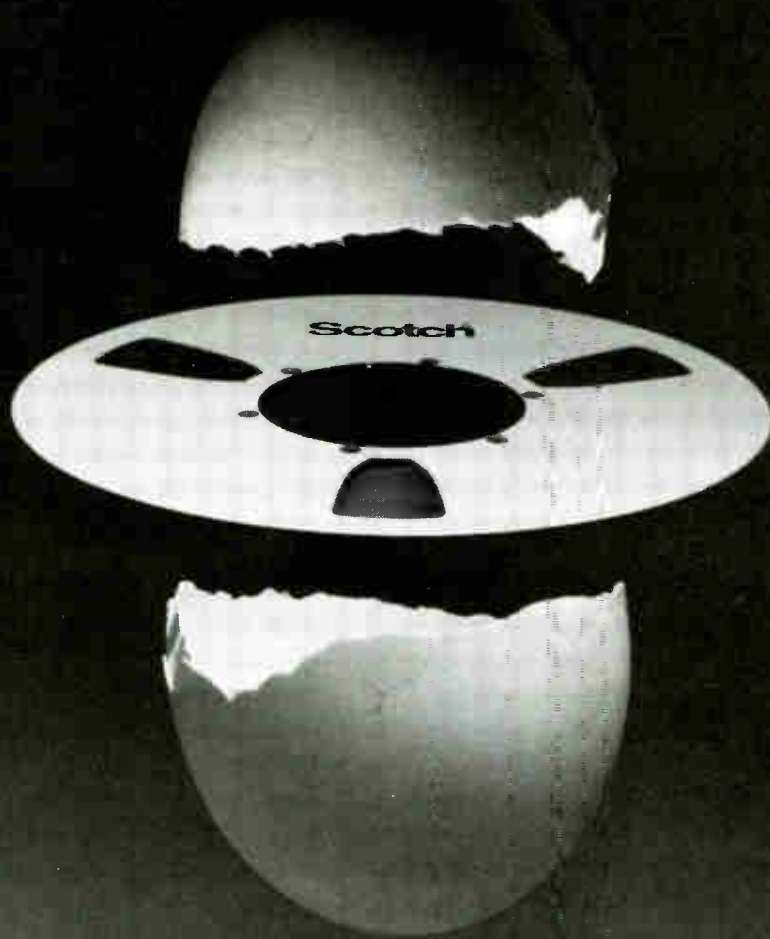
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Translator: No Macho Posturing

People talk about the war between the sexes, and nowhere have the battle lines been more clearly drawn than in rock and roll. We have gotten a clear, albeit one-sided, picture of the difference between men and women from almost 30 years of predominantly male rockers. According to the lyrics in most rock and pop songs, the Polaroid looks like this: the man is strong, single-minded, knows what he wants ("my baby") and when he wants it ("when I want it") because, quite simply, "I'm a man, I spell M-A-N, man." If the object of male affection does not respond to our hero, there's something wrong with *her*—she's a tease, or a bitch, or a "Run-around Sue" headed for the "cheatin' side of town." Rock and roll, being a powerful, aggressive musical genre,

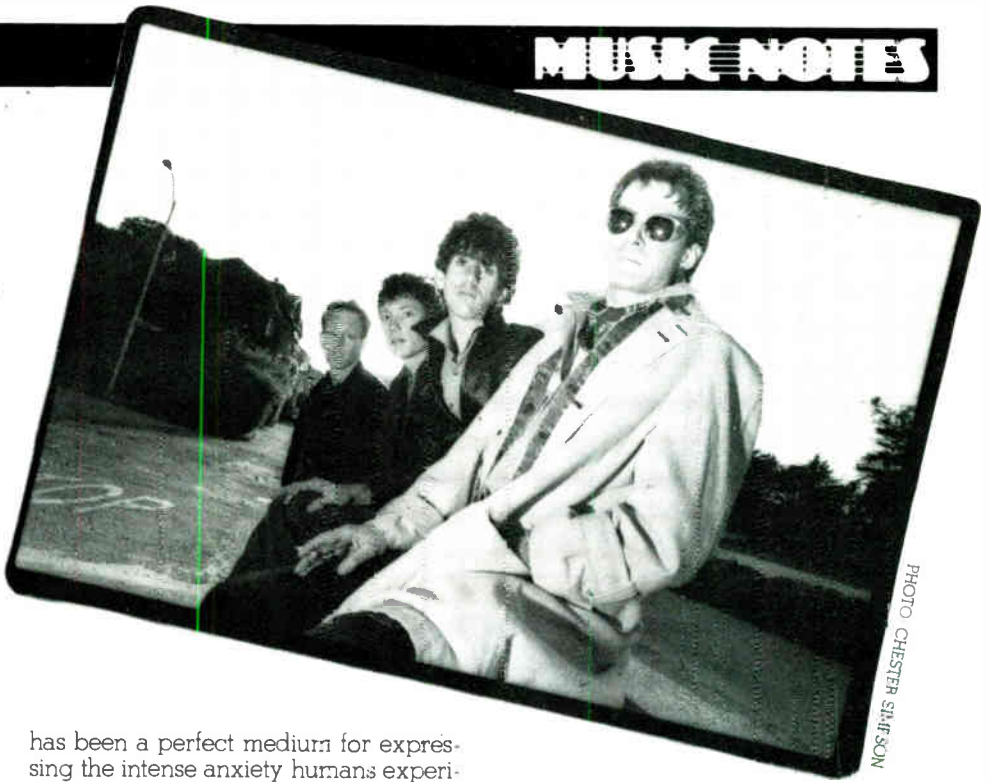


PHOTO CHESTER SIMPSON

has been a perfect medium for expressing the intense anxiety humans experience in their struggles with the opposite sex. Unfortunately, however, it often becomes an expression of hostility

toward women and self-righteousness on the part of men.

Enter Translator, an altogether different type of rock band. Formed in L.A. four years ago and now based in San Francisco along with their label, 415 Records, this foursome is the antithesis of everything described above. There is no macho posturing and, most interestingly, their lyrics are characterized by a rare element in rock music: male vulnerability. Sure they sing about relationships, but the man isn't always on top (no innuendo intended). On their catchy 1982 underground hit,

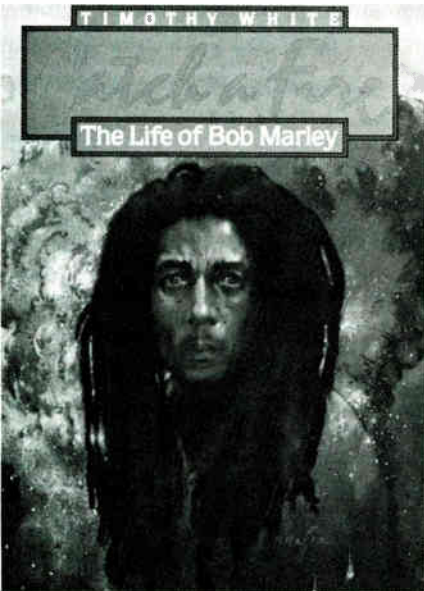
—page 244

Bob Marley In Context

CATCH A FIRE: THE LIFE OF BOB MARLEY
Holt, Rinehart and Winston,
380 pp., \$16.95

When Bob Marley died of cancer in May, 1981, it wasn't just the world of reggae music that felt his loss. Marley was arguably the single most important musician the Third World has ever produced, his albums selling over 20 million copies worldwide and his image and influence apparent from Zimbabwe to Rio de Janeiro to London to San Francisco. No one could be expected to fill the gaping void he left as reggae's, Jamaica's, the Third World's standard-

—page 245



THE FAR SIDE By GARY LARSON



"What? . . . Another request for 'Old McDonald'?"

More CD Commentary

Interviewed recently on the subject of his new solo album, *Planet Earth Rock and Roll Orchestra*, Paul Kantner commented, "I'm *never* happy with anything I record. It's always a struggle to overcome technological restrictions.

"You can only get 20 minutes on one side of an LP, for example.

There are other formats than 20-minute sides, just as there are formats for songs other than 3-minute singles. On the new digital discs, you can get an hour on one side."

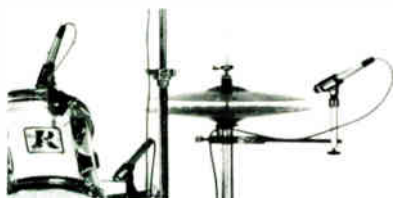
That would make for a very long format, wouldn't it? "Well, it didn't bother Dostoevski."

—D.G.



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Here we have the oh-so-appropriately yclept Juergen Blank (far left), Vice President of BASF Systems Corporation Audio/Video Division, and Richard C. Howland (far right), BASF's PR Manager, presenting racing jackets and a plaque to *The Police* in celebration of the millionth copy of their *Synchronicity* cassette. It says here that nearly half the nearly triple-platinum sales of the album have been in the form of BASF Pro II Pure Chrome audio tape. Read about drummer Stewart Copeland's adventures in film scoring—on Francis Coppola's *Rumble Fish*—below.

COPELAND AND MUSYNC Score *Rumble Fish*

The soundtrack for Francis Coppola's new film, *Rumble Fish*, is the first film score project for Police drummer Stewart Copeland. "But I'll be doing a lot more of it," he says.

Copeland's dabblings in film before *Rumble Fish* include directing "a few homegrown Super-8 films just to bore the neighbors," he jokes. "But on a more serious level, I directed a 16-millimeter film about the decay of English society, with punks as the paradigms." So when the call came from Coppola—"just the way everyone dreams of it, I suppose"—Copeland hopped on a plane and joined the production company in Tulsa, Oklahoma.

Rumble Fish, based on the novel by S.E. Hinton (whose *The Outsiders* Coppola directed before starting this project) stars Matt Dillon, Mickey Rourke, Vincent Spano, Diane Lane, Diana Scarwid, Nicolas Gage and Dennis Hopper. "During the year that it took to shoot the picture, Francis and I talked a lot and developed our concepts," says

Copeland. "By the time we went into the studio [Tres Virgos Studio in San Rafael, CA] to record the music we were fairly well attuned.

"One of the first things Francis and I discussed was how to use music, photography and dramatic action to capture the idea of time passing and running out. I suppose the reason he called me was that I'm a rhythm expert—a 'rhythmist.' But it developed from here, and I actually ended up writing the entire score and not just the rhythms."

Copeland pauses for a moment, cogitating. "Rhythmist—I like that title. It makes me sound like a mad scientist or something."

Copeland used a lot of mechanical sounds in his score. "They are so much a part of these modern times—there's a lot of rhythm coming from different places—broken air conditioning systems, faulty machinery, and so on. You can click off the moments with the sound of a refrigerator. All these different rhythms help to convey the passing of time."

Copeland was aided in his task by a new tool called the Musync. "It's a computer that maps out the film for you so you can write the music accordingly," he says.

Robert Randles, who created the Musync, has used some of its components in the making of trailers and

MUSIC NOTES

teasers for *E.T.*, *Outland*, and *Blade Runner*, as well as parts of *Conan the Barbarian* and for a Universal Pictures logo. But *Rumble Fish* is the first score to utilize the entire Musync in its most advanced state of development.

"The composer is interested in where the beats occur in relation to the picture," Randles explains. "The Musync is a way of putting the beats where he wants them." Visual cues, displayed on a video screen, allow the composer to anticipate beats, a feature which comes in especially handy when the tempo is changing. (The Musync can read from 1/40 to 40 times the sync speed, and works with either film or video; tempo changes can be programmed anywhere in that generous range. Watch for more on this interesting new device in a future

—page 250



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—page 249

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PHOTO: DAVID GANE

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It's a Tug of War

The battle over home taping lurches on. Apparently unable to arrive at a satisfactory compromise, the various factions—record labels on one side, tape and hardware manufacturers on the other (and the hapless consumer in the middle)—are seeking remedies which could have drastic repercussions.

The somewhat hysterically-named Coalition to Save America's Music! has been monitoring the progress of the "Betamax Case," which pitted video cassette recorder makers against film studios over the legality of taping copyrighted material off the air without compensating the copyright owner. The outcome of the case, which is bouncing up the judicial ladder, could set some important precedents for the recording and computer software industries. The RIAA (Recording Industry Association of America), tired of waiting for a definitive decision in the video case, recently called for an im-

—252



PHOTO: DAVID GANS

CAN YOU SAY, "PUBLICITY STUNT"? Huey Lewis (left) and Plant Studios' General Manager, Paul Bruceck, are here seen modeling the latest in in-joke fashions.

—from page 247, Miles Davis

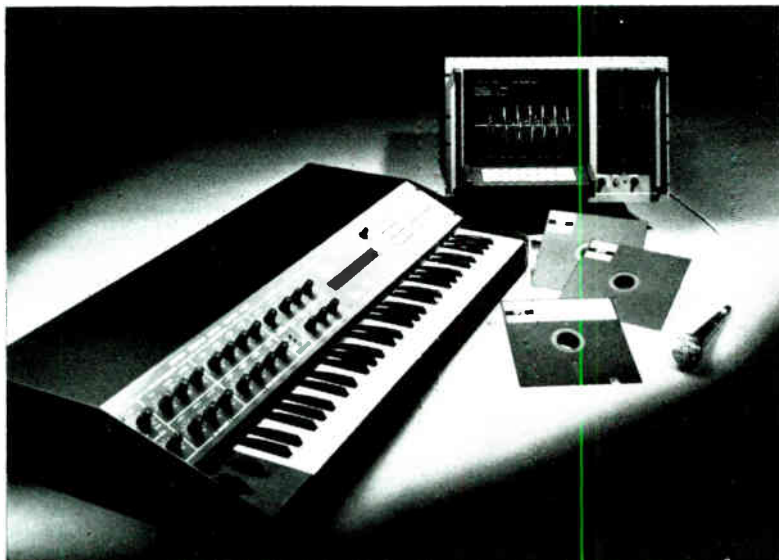
The lion's share of the crowd was there to witness the latest ravings from the sire of jazz-rock fusion, but what they got was Miles reclaiming the

holy ground of his musical ancestry: the blues. He turned in a shining set, giving his horn the rude, stately workout his legend is built on, and he flaunted what

—page 256

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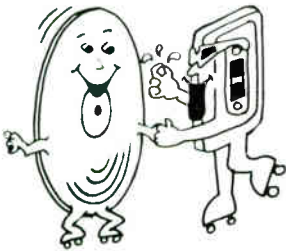
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PHOTO: LINDA MATLOW

Gene "Daddy G" Barge (right) and his latest client, Big Twist.

Daddy G: Still Producing After All These Years

Situation Wanted: Renaissance Man.

Gene Barge hasn't had to resort to the classifieds. But he has, in his time, been called overqualified. Thirty-three years' experience as a rock and blues saxophonist, producer, arranger, session man, jingle writer and even movie/TV actor, and suddenly he's a folk hero. But that and \$2.95, it sometimes seems, will buy him a copy of *Billboard*.

"The record industry has been left in the hands of accountants and lawyers instead of craftsmen," says Barge, stressing his membership in the latter group. "What's the use of having promotion men all over the streets and

secretaries typing if you don't have nothin' to put on the shelf?"

The reasoning isn't exactly computer-age. Then again, Barge still feels the best way to make a record is from the ground up. It's only after stringent rehearsals and meticulous arrangement of horns, rhythm and vocals that Barge went into the studio with his latest project, the first Alligator LP by Big Twist & the Mellow Fellows.

By the time he came to Chess Records as a session producer in 1964, Barge had accrued enough recording experience to last a lifetime. He had graduated from West Virginia State College and served a hitch in the U.S. Air Force by 1952, when he returned to his native Norfolk, Virginia. In the course of gigging locally, he happened to meet touring bluesman Chuck Willis. They became fast friends, and the singer invited him to come up to New York to do some recording; Chuck was

—page 254

—from page 247, *Rumble Fish*

issue of *Mix*). "It's a means of making film scoring less technical and more intuitive and creative," says Randles.

"As a player in a band I've always thought in terms of songs, where you have a lyric and a hook and everything blazing away for three minutes," Copeland notes. "In a film, there's no song. The main focal points are the action and the dialogue. The picture is the top line, and music has a very different role. It points out the emotional content of the scene—whether you're supposed to be laughing or feeling serious.

"You can achieve great dramatic effect with just a few little elements, because the picture does a lot of the work," Copeland observes. "I really enjoyed working on the film, and I'm going to do more soundtrack work." He says he hopes to write, direct and score a musical—and he hasn't ruled out the possibility of getting in front of the camera someday. "Maybe I'll do a screen test and see if I'm any good. I would suspect not, though, because I'm a very self-conscious kind of person. I'm okay when I'm sitting behind a drum set or in a studio, but in front of a camera—that's not my art form." ■

DOCTOR CLICK

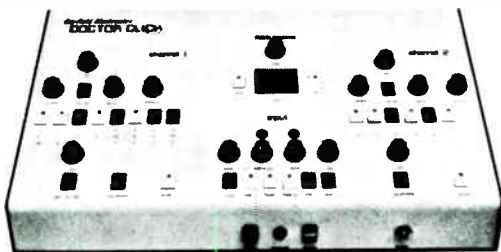
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The ability of the Doctor Click to connect to many units at once coupled with its footswitch control capability makes it ideal for multiple sequencer, drum machine, synthesizer live applications.

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

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

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

done with virtually any sequencer, drum machine or synthesizer.

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

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

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

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

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



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Dear Puzzlers,

OO P S—Apologies to any of you who lost sleep, hair or sanity on last month's puzzle. We accidentally printed the wrong grid. This is what it should have been:

—from page 249, *Tug of War*

mediate "congressional solution" to the problem of home taping of music, claiming it costs RIAA members a billion dollars a year.

Stanley Gortikov, president of the RIAA and a co-founder of the Coalition to Save America's Music!, is pressing Congress for enactment of "The Home Recording Act of 1983," calling it "a fair compromise of the interests at issue..." The Act would levy a royalty on blank audio tape—the exact amount to be "established by voluntary negotiation among all the parties," according to a release from the RIAA, with binding arbitration the court of last resort. The consumer electronics and blank-tape industries are, not surprisingly, opposed to such a levy.

In his newsletter *Rock & Roll Confidential*, Dave Marsh takes the record business to task for failing to promote cassette sales adequately. Marsh cites "the commitment on the part of the largest corporations... to outmoded technology (the disk) when a new form (cassette) was in greater demand, the direct result of the huge corporate investment in LP pressing plants." That's food for thought, but what about the staggering startup costs involved in digital Compact Discs? And what about the cassette's rising share of the market, as evidenced by *Synchronicity's* nearly 50/50 split between disk and chrome tape?

Meanwhile, there's a Record Rental Bill progressing through Congress. At the end of June the Senate unanimously approved S.32, which insures that the owners of copyright in both the sound recording and the underlying musical works have the right to authorize commercial rental of their creative works. Roughly translated, this means the labels and artists get a piece of the record-rental action.

Does anybody really want Uncle Sam taking responsibility for redistributing the money? The only thing we're likely to see in that case is an increase in the price of tapes and records — plus more squabbling, and more money wasted that would be better spent elsewhere.

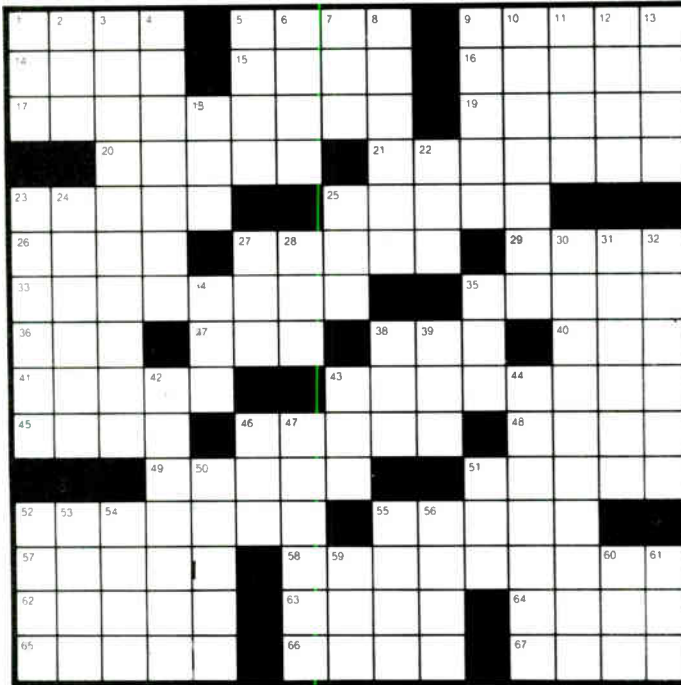
The most interesting comment I've seen on the subject lately was printed on a t-shirt, of all places. Terry Del-

—page 254

MIX WORDS

ACROSS

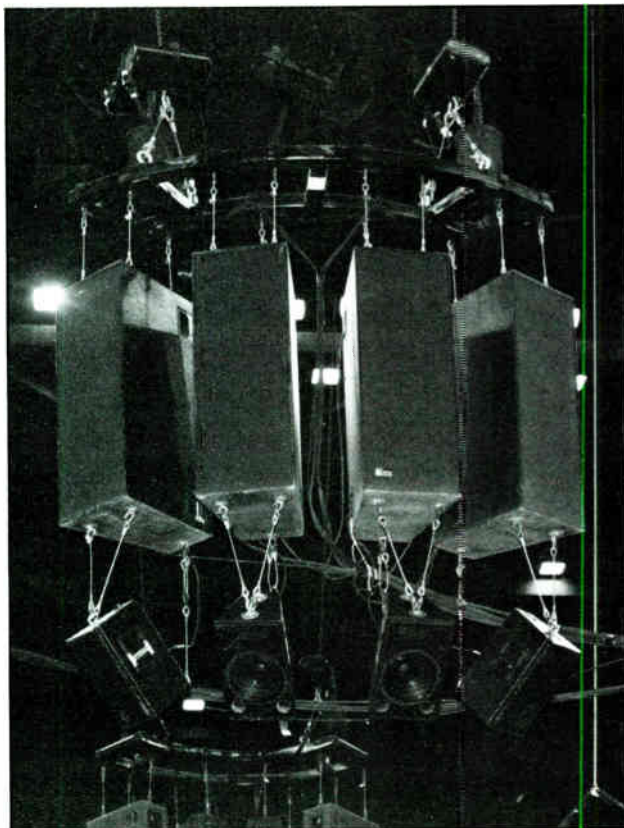
1. Certain synthesizers
5. Kitchen todo
9. Describing carbine caliber
14. Legend
15. Catamount
16. Eggy
17. To be found in future studios
19. ____ the tape (Took a listen)
20. College figures
21. Least like Getty
23. Racetrack denizens
25. Establish
26. Prefix meaning bow-shaped
27. Angle
29. Desire
33. Place to make connections
35. Beside
36. Pre-compressed input
37. Scull
38. Common biped hominid
40. River duck (Var.)
41. Run off
43. Something to clean your wire?
45. Sand hill
46. "____ at the office."
48. ____ d'oeuvre
49. Turn of the ____
51. Clean
52. Color again
55. Liverpool hoosegows
57. Organic compounds
58. The act of reproducing or exhibiting artistically
62. Surprise
63. Archaic oath
64. Not atop
65. Past or future
66. Drunkards
67. Name in St. Lo



DOWN

1. See 50 down
 2. Arabian avian of lore
 3. Blanket term for studio activity
 4. Language group
 5. Made thread
 6. Stock terms
 7. Jacques' anima
 8. Game fish
 9. Inert gas
 10. Layer
 11. Not well, for sure
 12. Greek letters
 13. Bucky
 18. Dance step
 22. Gone
 23. Did a maple-sugaring job
 24. I-Ching, e.g.
 25. Elf
 27. Federal loan grp.
 28. Household god
 30. Able to react
 31. Chess men
 32. Become uneclipsed
 34. Garden implement
 35. Black bird
 38. Contemporary music marketing vehicle
 39. 100 sq. meters
 43. Adage
 44. Love potion for signal sweetening?
 46. Prefix meaning colorful
 47. Categories
 50. With 1 Down, menu phrase
 51. Louis XIV, e.g.
 52. Musical space
 53. Italian family of note
 54. Mr. Getz
 55. Midge
 56. New stations giving airplay
 59. This is no problem in recording sessions
 60. Unclose, to Dickenson
 61. Direction
- (Solution next month)

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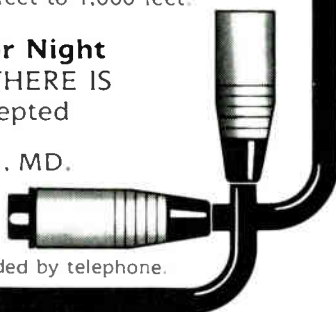
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—from page 252, *Tug of War*

sing, former General Manager of The Plant Studios in Sausalito, California, created an excellent device to promote The Plant's recent separation from The Record Plant. Above the studio's name, address and phone number is this simple phrase: "Tape a record, go to prison!"

—D.G.

—from page 250, *Daddy G.*

set to cut "C.C. Rider." The producers were Ahmet Ertegun and Jerry Wexler; second engineer, Tom Dowd; guitarist, Kenny Burrell. Though reluctant to take a seeming greenhorn into a big-time studio, Wexler and Ertegun agreed to give him a shot. Barge's sax style, which he describes as having been like that of luminary-to-be King Curtis, "sort of set a precedent for that style of horn work on record."

After the Willis sessions Barge returned to his old neighborhood in Norfolk. His home was just down the line from a roughneck black commercial artery called Church Street, where Barge found a small store called Frankie's Birdland Records. A conversation with the owner revealed that a neighbor kid—Gary "U.S." Bonds—had made a record for the shop's Legrand label. The song was called "New Orleans," and it was breaking nationally.

As their dialogue advanced, Legrand owner Frank Guida offered Barge a recording pact of his own. The initial result was an instrumental called "A Night with Daddy G." The disk didn't explode, but did have two positive upshots. For one, Barge acquired a more buoyant show-biz name ("Daddy G"). And Bonds called him from the road—something about some lyrics Barge had written for the instrumental. The song was re-recorded on 2 track as "A Quarter to Three;" Bonds cut his vocals in the studio's bathroom. It became a smash along the eastern seaboard beach towns Barge and Bonds had worked (and listening to it in Asbury Park, NJ, was a pre-teen named Bruce Springsteen, who would later have a tremendous impact on Barge's quarterly BMI statements).

The Church Street terrors cut five more singles for Legrand, but nothing caught fire like the first. By '64, Barge had discovered that Virginia, being a half-dry state, might not be the best place for a musician to make his living. "I think they believe the things they read about themselves in the history books," he says. So he picked up the

phone and dialed Chicago, specifically Phil Chess of Chess Records, for whom "Gene Barge & His Orchestra" had cut a 78 in 1955. Phil hadn't forgotten.

The call was placed on a Friday afternoon. On Monday morning, Daddy G was present for work, sax in hand, for a Fontella Bass session - the one that would yield the hit, "Rescue Me." The Chess "A-Team" was checking this easterner out, and he checked them out too - players like Maurice White (now the leader of Earth, Wind & Fire), Leonard Caston (who later produced for Motown), Louis Satterfield ("probably tied with James Jamerson of Motown as the premiere bassist in America," says Barge) and Gerald Sims (who has since bought and renovated the old Chess studio).

To augment his livelihood, Daddy G blew sax in the live outfits of Bobby King and Buddy Guy. "I was ostracized by them to some extent," he says of his early dealings with Chicago bluesmen. "I played funky, and they were more into classic blues styles. None of them were conservatory-trained musicians. But I always seemed to learn something from those guys."

By the top of the '70s, Chess was facing some tough times. Leonard Chess, the president, had died; his VP brother Phil, who'd hired Barge, had retired; and offspring Marshall Chess, disgruntled with the label's degeneration, had split to head up the fledgling Rolling Stones Records. Chess was sold to the GRT Corp., of Sunnyvale, CA, whose management, Barge recalls, "were very insensitive to those who had made the label what it was." Only a handful of artists remained on board, but Barge stuck around to watch GRT "dismantle Chess piece by piece."

"I even put in a bid for the position of President," Barge recalls. "The Chairman of the Board politely turned me down." Len Levy was given the job instead - and, according to Barge, "finished it off."

Black giant Stax/Volt eventually recruited two ex-Chessmen - Little Milton as an artist, and Daddy G as A&R Director for Custom Labels. Ironically, the producer never did get to work with Milton at the new shop, but he did sign Richard Pryor, whose one Stax LP sold 800,000 units.

When Stax went the way of Chess some years later, Barge updated his resume and got back in the job market. He instantly put his finger on one source of the real money in Chicago music: jingles. But, as he'd anticipated, he found that "the ad agencies are more interested in that little old lady

—page 256

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—from page 255, *Daddy G.*

in Iowa than the gut urban community." He has, however, landed an occasional jingle assignment for Burrell, the city's largest black agency, and produced a spot for Hamm's that featured Chess' king bee, Muddy Waters.

It was through the Hamms gig that Daddy G stumbled upon the producers of the film *Stony Island*. Though he hadn't acted since a couple of operettas in high school, he managed to clear the auditions and land the part of a benevolent funeral parlor owner who provided rehearsal space to a young R&B band.

Later, he was tapped to play a street musician busking outside the Chicago stockyards for *Killing Floor*, a PBS special that depicted the forced integration of the Meat Cutters' Union in the '20s. Unfortunately, the project fell prey to budget cuts; Barge's part will be reduced to five seconds, "and even that could be edited out.

"It's very hard to sit in Chicago and get a part in a movie," he laments. "Even actors who are recognized are having a tough time finding scripts. And if you think that's bad, try being a *black* actor.

"Everyone fantasizes about acting," he adds philosophically, "but personally I'd prefer to be a very busy producer." So he hit the pavement in

search of more production work. Instead, he landed a gig that nearly everyone in the music business dreams of: touring with The Rolling Stones. Five years ago, Ahmet Ertegun had come to Chicago with Mick Jagger in tow, searching for some young blues talent. Daddy G took them around, and when the Stones played Chicago late in 1981 they left a backstage pass in the name of Gene Barge.

"I told them half seriously that if Ernie Watts couldn't make the European dates, I was available," he recalls. Watts couldn't, the Stones called, and Daddy G packed his sax for Holland, Germany, France, Italy, Ireland and Scotland. "I managed to get on well with the Stones," says the surprisingly energetic 57-year-old. "In fact, they were concerned about *their* ages, wondering whether 40-year-old men could still play rock and roll. I think they were pleasantly surprised to find the kids didn't care." Even if the critics did.

Gene Barge never expected that his sax work—still very similar to what he developed in his Norfolk days—would be viable before an audience of rabid kids in 1981. After all, it had been three generations since the beach dates with Gary U.S. Bonds. But, as the song says, it's all in "A Night with Daddy G."

—Cary Baker

—from page 249, *Miles Davis*

looks to be the fleetest and most unified band he's had in years.

I couldn't get over the change in his extramusical stage habits, though. Once a militant non-entertainer who virtually disregarded his audience and played hour-long shows without pause, tonight he started at 8:00 on the nose (surprisingly, he opened the show — a bow of reverence to Gil Evans, even though the latter hasn't anywhere near Miles' commercial clout?) played tunes with tops and bottoms, and sent chipper waves of his hand to the smitten throng.

Is this a new Miles, a mellowed animal? Not if you judge by his recent LP, *Star People*, from which most of the concert's material was drawn. He's still steeped in enigmatic melodies and his patented rhythmic deluge, but the blues is the foundation of the new record. The influx of tradition and sedition makes *Star People* soar above the two other LPs released since he ended his five-year hiatus.

In concert, too, this heavy-weight brings his fury to bear anew. The show opened with a blistering funk vamp, then suddenly segued via dron-

ing piano chords into a slow, grinding blues. Miles sauntered to the front of the stage and shared some pithy lines, impish and cool to a fault, muttering and then bending over to pick up some high notes that flaked around the edges. Miles was undoubtedly in control this night, verifying the oft-heard wisdom that even his modern electric bands stem from the '50s Miles brew, a sort of hazy and fluid style that's more palpable in feeling than actual musical density. He plunked sinister chords on the Oberheim OBX he's recently begun to champion — e.g. an unrelated triad that added angularity when held over blues changes.

The band, though it tagged along a bit tentatively at times, was in fine shape for the outing. Drummer Al Foster, percussionist Mino Cinelu and bassist Daryl Jones held fast to Miles' rhythmic directives—stop-time orders and high signs—while soloing duties were wrestled deftly by sax player Bill Evans, a proponent of hard bop and Wayne Shorterisms, and guitarist John Scofield. The latter, who shared guitar spots on the new album with the heavy-handed Mike Stern, was allowed to fly

solo in concert and proved an inspiration to Miles. Combining the flames of urban blues, oblique phrasing and Jim Hall octave warmth, Scofield's solos exhibited great tensile strength. Leaning back on the beat, he tends to coax the strings instead of brutalizing them the way most of Miles' guitar players have done. He's on the crest of what's meaty in modern jazz guitar.

Scofield and Evans closed the show with a serpentine melody while Miles led the rhythm section in and out of focus on this unfamiliar tune. It was an evolving and intricate blues melody, hard to put a finger on, but the sensuous texture of the tune stuck with me for weeks after the concert. Maybe that reflects on the mythological return of Miles, whose best moments—now, for instance—are timeless and without explanation.

Gil Evans' set, on the contrary, seemed to lack the cohesion and adventure that Miles' swam in. Despite some fine big-band arrangements of Jimi Hendrix tunes (featuring the orderly Hiram Bullock on guitar) and Mingus' "Orange Was the Color of Her Dress," the net effect was stylistically unbalanced, with players of vastly varying capabilities and hipness seemingly canceling each other out. I was left with the sad impression that Gil's coups are mostly in the past tense.

—Josef Woodard

PRODUCT NEWS

Two-Way Sound Reinforcement from E-V

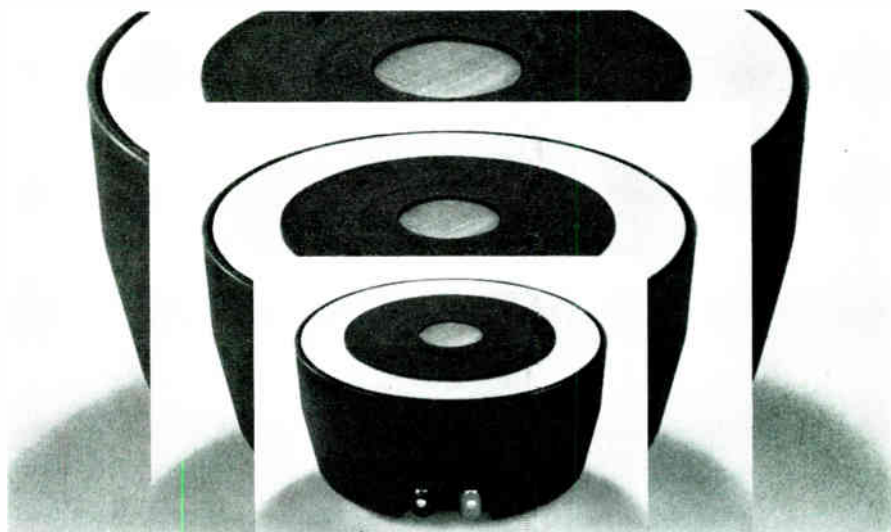
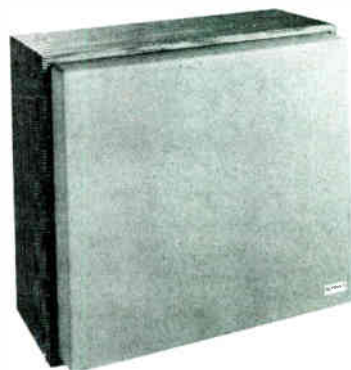
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—page 259



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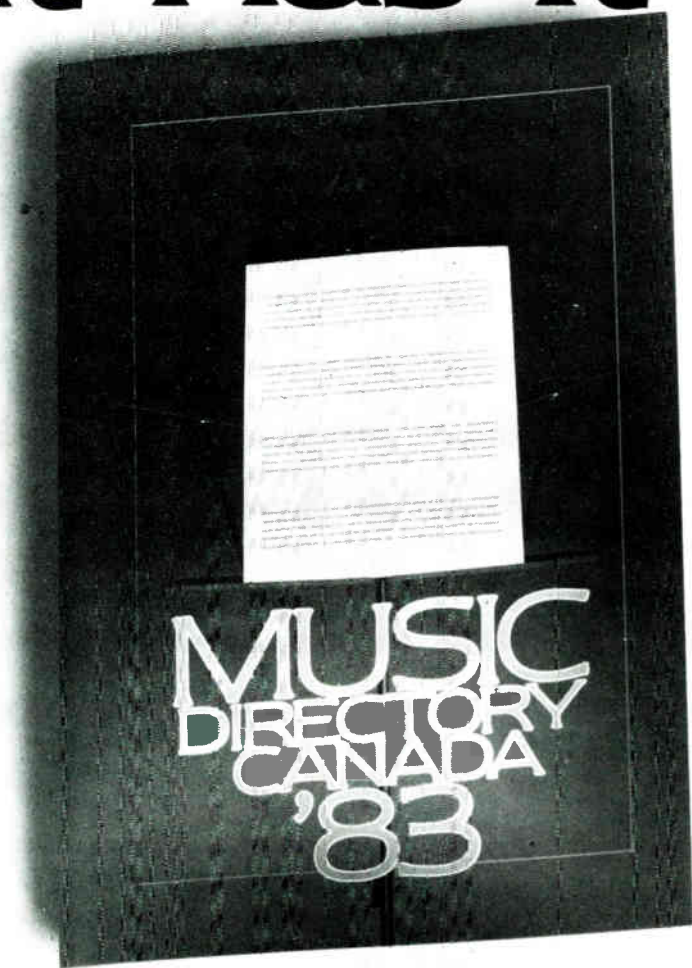
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—from page 257, *Product News*

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Circle #187 on Reader Service Card

—from page 245, *Marley*

know Marley on Jamaican terms — as defined by the religion and culture of Jamaican society.

"Bob Marley came from somewhere," White told me during a recent interview. "Everybody seems to miss that. I was always amazed how nobody ever wrote about the patois or the folk maxims — the real richness in his music."

To get to the heart of Marley and his music, White devotes nearly the first half of his book to a history of Rastafarianism, the life story of Haile Selassie, the most complete accounting in print of the inner workings of the Jamaican music industry, and Marley's childhood years in the village of Nine Miles in the rural parish of St. Ann. Indeed, in *Catch a Fire* Marley doesn't even enter a recording studio (in 1962) until page 142.

White's approach will no doubt

lose some casual readers. Others will have problems with a book that essentially accepts the controversial—to non-Jamaicans, anyway—belief systems of Marley and his milieu. In our interview, White offered a strong defense of his method: "I felt you can't research a belief or refute faith. If people in rural Jamaica believe in duppies [spirits of the dead], you're not going to say that duppies don't exist. If Bob Marley's mother and wife tell me he had Selassie's ring, and that sometimes it used to burn his hand like fire, or if Bob tells me he has prophetic dreams, it's not for me to say that he doesn't have them. If duppies exist, if Selassie were God, what would that be like? So I just sort of encourage people to cross that threshold for a minute."

By crossing that threshold, fans of Marley and of reggae in general will gain much additional insight about his music and lyrics. Marley's songs were filled with local expressions and folk idioms, many of them dating back to Africa and the early days of slavery and colonial domination.

For example, White analyzes one of Marley's most memorable songs, "Small Axe," and shows that in addition to its allegorical warning that the Third World will one day cut its oppressors down to size, the song also refers to the Jamaican recording industry (the "Big Tree" recording studios: Dynamic, Federal and Studio One) and carries images resembling slave tales about toppling sacred silk-cotton trees.

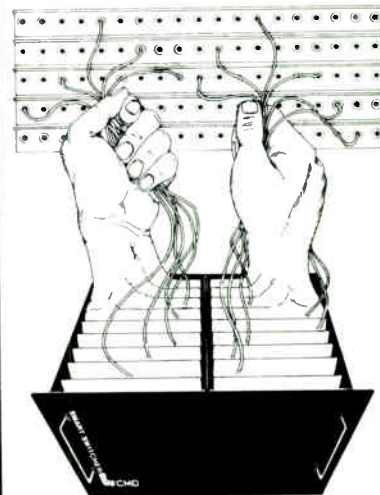
Marley's ability to speak cleverly and eloquently in the language of his people led many Jamaicans to regard him as having mystical powers. In White's words, Marley was regarded as "a shaman, a duly appointed apostle of Jah, scolding the sinful, threatening the pernicious and reaching out to the righteous with arcane language the untrained ear could not completely decipher."

Catch a Fire is, of course, much more than a foreigner's roadmap to the culture of Jamaica. It includes detailed commentary by Marley and many of the people close to him about his life and career. Its tracing of the growth of the Jamaican recording industry—shedding light on many unheralded pioneers—is unsurpassed. And it includes a massive, pathbreaking discography of Marley's abundant recorded works.

Other books, such as Stephen Davis' forthcoming *Bob Marley: The Biography*, will surely fill out the gaps in *Catch a Fire*. But it's hard to imagine another book that could go as deeply into the roots of roots music.

—Bruce Dancis

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CORNELIUS BUMPUS QUARTET
Beacon
Broadbeach 5

Produced by The Cornelius Bumpus Quartet. Recorded and mixed at: Mobius Music Recording, San Francisco - engineer: Oliver DiCicco; and Different Fur, San Francisco - chief engineer: Stacy Baird. Second engineers: Howard Johnston, Dale Everingham. Mastered at Fantasy Studios, Berkeley, CA, by George Horn.

Trying to make something new and fresh out of "jazz fusion" might seem as hopeless as trying to wish the New York Mets back into the World Series. On his second solo LP, Cornelius Bumpus strives less for musical innovation: than for a clear personal and quartet stamp of identity in a music where identity is all too often lost in the commercial shuffle. The results are an always pleasant and frequently invigorating album which proves that players who care can fill a generally empty genre with music that matters.

Even before the breakup of the Doobie Brothers, who had brought the multi-talented Bumpus into their fold in 1980, Cornelius had been extending his reach with the first record under his own name - *A Clear View*. Now the 37-year old saxophonist/flautist/singer can throw himself even more devotedly into his own concepts. On *Beacon*, he comes up with an eclectic pop-jazz not far removed from the mainstream fusion of Grover Washington or Weather Report but dipping down into rootsier forms as well.

Half of the album's six tunes fall within the rather unremarkable boundaries of the instrumental pop music which dominates TV themes and the least progressive jazz radio stations. But the stylish yet unaffected treatment which the quartet—including Paul Nagel, keyboards, Marc van Wageningen, bass, Bobby Rosenstein, drums—gives "I Know What I Mean," "Inside You" and "Maybe Later" carries the routine material.

The remaining tunes illustrate the command and versatility of the current band, with Paul van Wageningen replacing the late Rosenstein on drums. "Eye to Eye" wafers a rolling tropical mood upon Marc's singing bass lines and Nagel's spare Prophet-5 textures. Bumpus states his tenor sax lines in a melodic, straightforward

fashion, allowing the simple beauty of the song to speak for itself. On "Waltz for Little Buddy," Bumpus' feathery flute and Nagel's lyrical acoustic piano swirl and dance through the delectable tension generated by the van Wageningens. Paul's drums skitter crisply against the elastic notes from Marc's bass.

The nine-minute closer, "Who's On First," begins with a lightly funky theme which opens up into a freer dialogue between all the players. Bumpus digs with a tight Texas vibrato into his post-hard bop tenor influences and proves that he and the quartet could appeal to fans of Wayne Shorter and Jaco Pastorius as well as those of John Klemmer. Although he rarely ventures far afield in his solos, leaving unmet the wish that he would take a few chances and improvise with more risk, he makes his points with a refreshing economy and lack of bluster.

The band produced the record itself cleanly and spaciouly, retaining both warmth and intimacy. Many tenor saxophonists who are 20 years Bumpus' senior have had to content themselves playing in organ combos on the chitlin' circuit, working standards in a relatively straight-ahead manner night after night. Many of Bumpus' peers bid for bigger markets with by-the-numbers elevator fuzak. But Bumpus is still exploring and growing, balancing an emotional directness with a smooth pop appeal, never really cutting loose but allowing the light of *Beacon* to shine on a very promising jazz quartet.

—Derk Richardson



GRAHAM PARKER
The Real Macaw
Arista AL8-8023

Produced by David Kershenbaum; engineered by Philip Thornalley, assisted by Butch Yates, Anjali Dutt, and Chris Ludwinski; recorded at Rampart Studios, London; mixed at Eel Pie Studios, London

In the pre-punk doldrums of the mid-'70s, Graham Parker's voice rose in articulate protest with a biting edge that raked ears with deftly controlled acidity and consciences with cutting exposés of human nature. His eloquently-

bared dissatisfaction made us uncomfortable.

The Real Macaw, Parker's eighth album, finds Parker working with Rumour guitarist Brinsley Schwarz and textural keyboardist George Small to produce his most refined, elemental sound to date; the lyrics shine clearly in the mix, as they deserve to. Although less urgent in tone, the shifted attention is nonetheless incisive, with edges that are now more like cut crystal than broken glass.

There's still plenty for Parker to aim his subcutaneous laser at, like the dehumanization encouraged by super-technology covered by "Beyond a Joke" and the frailty that bonds even the most macho molecules in "Just Like a Man." The chilling funk of "(Too Late) The Smart Bomb" subtly points to the results of the scientific irresponsibility that creeps up faster than we can register to vote.

One of Parker's personal scourges, the lack of radio airplay, is nestled in a bed of baroque guitar in "Passive Resistance," which details the process that determines the narrow list of songs that reach the public through the airwaves. "If it's not for them, then it's not for you," cries Parker amidst images of armchairs in padded cells, demographics and stacks of unaired records that "hired ears" take home to their kids.

On "Sounds Like Chains" Parker proves that, despite the sort of mellowing which colors his delivery and the musical arrangements on *The Real Macaw*, he is still no pushover. The tension is held up by a brash ska backdrop against which Parker barks about oppression; he's ready to bite off the hand that fed it to him.

The man who sang about searching for an idealized lover on *Heat Treatment's* "Fools Gold" seems to have ended his quest. The love songs that make up the bulk of *The Real Macaw* show that the man who could verbally twist the knife in all the unfaithful lovers of his past shows us he can dish out praise with equal finesse.

Unlike artists for whom discomfort is a staple motivation, Parker wears his success at love well. Optimism pervades this side of Parker; from the bouncy pop of "Life Gets Better," where the myths of aging are dismissed by a squeeze of his lover's hand, to the powers of trust romanticized in "Last Couple on the Dance Floor," Parker is not so much disarmed in his battle with life as strengthened by an emotional peace treaty. He lowers his defenses and recognizes that vulnerability can be an asset on "Glass Jaw," but he also sees it as a two way street as he admits a bit of insensitivity on "You Can't Take Love For Granted," a mild salsa accentuated by eerie keyboards. On "Anniversary," Parker's musical gift to his wife after one year of marriage, the sentiments are so explicit that sensitive listeners may feel like they're eavesdropping.

If Graham Parker seems unusually sentimental here, consider the possibility that after being tossed on love's horns for so long, the man might deserve a bit of room to be saccharine.

—Susan Borey



LESTER BOWIE
All the Magic
 ECM 23789

Produced by Manfred Eicher; digital recordings June 1982, Tonstudio Bauer, Ludwigsburg; engineered by Martin Wieland

As with jazz trumpet ecclesiast Lester Bowie's last album, *The Great Pretender*, and his work with the infinitely rewarding Art Ensemble of Chicago, *All the Magic* shoots musical tentacles into the past, present and future and winds up an adventure in emotive sound. True to the family archive photos on the cover—the Bartonville Cornet Band (circa 1911-1915), with Bowie's uncles, the high school band directed by Bowie's father (1900-39)—Lester's latest double album makes the history of black American music its marrow and modern sensibilities its muscle.

Record one features the semi-gospel/out band we saw at last fall's Kool Jazz Festival in Los Angeles, a sort of extended musical family affair, juggling passages of furtive free playing (roots in the subconscious) with moving gospel numbers (roots in the soul). So, "For Louis," a Louis Armstrong ode, is played and sung by Fontella Bass and David Peaston with surging feeling only to be turned asunder with the haunted "Spacehead," like a romp through some allegorical swamp. This harmonic mire then eases into the grinworthy melody of Albert Ayler's "Ghosts." Bowie has always been as eclectic as all get-out; he is adept at creating dramatic tension through galling musical contrasts. His magic reaches flashpoint by combining equal parts emotional heat, artful formlessness and a sense of whimsy, like a sub-sonic chuckling beneath it all. But the chemistry falters in Bowie's sandwiching of a cloying version of "Everything Must Change" between free outings; this pop sentiment and tonal catharsis make odd bedfellows.

Of course, Bowie mates unlikely elements with the hope of depicting the nonpartisan compatibility of music in its myriad forms. These ecumenical inklings, though, seem almost elementary once the man gets down and plays, which he does brilliantly on the second record (subtitled *The One and Only*). Solo trumpet has rarely sounded so seductive as here, where

Bowie plays in open sweeping statements into a piano and gets responding overtones, then pulls comic grunts and snorts on "Miles Davis Meets Donald Duck." The completely individual Bowie approaches the trumpet the same way he does music in general: eloquently and wackily — a learned, white-smocked, giddy musicologist.

—Josef Woodard



LONNIE BROOKS
Hot Shot
 Alligator AL 4731

Produced by Lonnie Brooks and Bruce Iglauer; engineered by Fred Breitberg at Red Label Studios, Winnetka, Illinois

One new development that's helped make blues exciting again is its rediscovery by a black audience via black radio. It started up again at a few tiny AMs in Louisiana a few years ago, backtracked its way up the Mississippi to WXOL-AM, Chicago, and now beams to 38 states and 12 foreign nations from clear-channel KAAY-AM, Little Rock. This Renaissance has re-instilled a sense of purpose in bluesmaking.

Spearheading the black blues revival are a few familiar names—B.B. King, Bobby "Blue" Bland, Little Milton and Z.Z. Hill—as well as the cream of the Windy City taverns. On the latter frontline, guitarist/singer Lonnie Brooks is the man of the moment. And evidenced by *Hot Shot*, his third Alligator LP, he hasn't had to compromise in order to win back the South.

Brooks has been on the Chicago blues circuit only since the late '70s (though his rendition of "Sweet Home Chicago," his concert rouser, is heard above all others nowadays). Before that, under the *nom du disque* of Guitar Junior, he combed Texas and the Bayous, playing country and Zydeco as well as straight blues. Brooks' guitar playing, to this day, possesses definite Lone Star characteristics — his style is as indebted to the swingtime seamlessness of Lowell Fulson or Gatemouth Brown as to its raunchier Chicago counterpart (Buddy Guy, Son Seals).

Hot Shot at once distills and rarefies Brooks' early influences. His approach remains pure — rough 'n' tumble taproom blues dominate,

and Brooks excels on J.B. Lenoir's "One More Shot" and his own "Messed Up Again." "Don't Take Advantage of Me" is the album's lone bastion of Hi Records rhythm (the sound made immortal by Al Green and Ann Peebles), which, now that the legendary soul label has been defunct for 10 years, appears to be the newest trend in Chicago blues (refer to other recent Alligator LPs for evidence). And for those who *really* want to turn back the hands of time, Brooks revives "Family Rules," his 1957 regional hit. The New Orleans/Houston hotline rings with remarkable clarity here; distinct echoes of Guitar Slim, Fats Domino and even Freddie Fender are heard well over the limitations of Brooks' sadly lackluster quintet. Only the tenor sax of Abb Locke, a Chicago club fixture in his own right, adds any pepper.

If any criticism of his own performance comes to mind, it's the realization that Brooks sticks to rather safe musical terrain. He shies from bringing blues to its ultimate permissible refinement level yet serves it up in a far more poised, premeditated fashion than the comparably roughhewn Magic Slim.

Within Chicago blues' "middle of the road," nobody does it better, or with a greater scope of time and geography. There are more stylistic references on *Hot Shot* than fuel stops on a propeller air taxi between Peoria and Shreveport. And happily, Lonnie Brooks is back on the air in *all* his hometowns — for the first time, in many cases, since a younger Louisianian first cut "Family Rules."

—Cary Baker

New and Noteworthy

Phil Rosenthal, *A Matter of Time* (Sierra) — What are we going to listen to when there's no juice for our drum machines and Prophets? If we lived down the road from Rosenthal there'd be nothing to worry about. I started to write, "They don't write 'em like this any more," but that's not it—they just don't *press* 'em like this any more. This music is sweet, sentimental, and—strike three!—unamplified. The instrumentals have warmth to match that of Rosenthal's vocals, and his songs—especially the opener, "Our New England Home"—have a resonant rural charm that's all-American and unforgettable. Available for \$6.50 postpaid from Sierra Records, P.O. Box 5853, Pasadena CA 91107-0853.

Was (Not Was), *Born to Laugh at Tornadoes* (Geffen)—Another heapin' helpin' of hot hilarity from the talented team assembled by the brothers (not brothers) Was. The ten tracks herein are as stylistically varied as the guest list would indicate—featured are Doug Fieger, Mitch Ryder, Ozzy Osbourne (no kidding) and Mel Torme (still no kidding)—and that's just the visiting *singers*. Funky, funny, danceable, listenable, ambitious, outrageously good.

—David Gans

ADVERTISERS INDEX

PAGE ADVERTISER

62 A Step Above Recording
 113 ADA Signal Processors
 176 Adams-Smith
 76 Advanced Music Systems (AMS)
 151 Agfa-Gevaert
 117 AKG Acoustics
 214 Alagatronics
 179 Alcon Video Film Productions
 139 Allen & Heath Brenell
 50 Alpha Audio
 101 Amek Consoles, Inc.
 11 Ampex MTD
 216 Analogique
 246 Aquarian Accessories Corp.
 170 Ardent
 199 Ashley Pro Audio Equipment
 245 ASI/Abadon Sun
 228 Athenia Industries
 254 Auburn Sound Corporation
 183 Audio & Design Recording
 140 Audio Engineering Associates
 171 Audio Kinetics
 240 Audio Processing Systems (APSI)
 164 Audio Video Productions
 98 Audioarts Engineering
 242 Audiovision Studios
 145 AVC Systems
 252 Avid Studios
 234 Kenneth A. Bacon Associates
 125 BASF
 64 Bear Tracks Recording Studio
 201 Beyer Dynamic
 167 Billboard's Video Music Conference
 61 Blank Tapes
 95 Bruel & Kjaer Instruments
 81 Bryston Vermont
 194 BTX Corporation
 236 C-Tape Developments
 205 Camera Mart
 127 Capitol Magnetics Products
 154 Carleton Productions
 137 Carver Corporation
 219 Carvin Corporation
 86 Castle Audio
 159 CCR Video Corporation
 61 Celestial Sounds Rec'g Studios
 42 Cetec Gauss
 222 Chaton Recordings
 193 Computer Image
 259 Concert Music Design (CMD)
 89 Crest Audio/DMI
 96 Crown International
 189 Dallas Sound Lab
 57 Chips Davis
 63 Dawn Audio Rec'g Technology Institute
 45 dbx, Inc.
 82,267 DeltaLab Research
 9 Digital Entertainment Corporation
 162 Digital Services
 250 Diskmakers
 109 DOD Electronics
 21 Dolby Laboratories
 72 Duncan Electronics
 164 Duplications Corporation
 232 Dyno-My-Piano
 162 East Coast Lighting & Sound Corporation
 228 East Coast Sound
 257 Eastern Acoustic Works
 29 Electro-Voice
 213 Emilar Corporation
 250 Entertainment Sciences
 157 Eureka Teleproduction Center (ETC)
 30-31 Eventide Clockworks
 107 Fairlight Instruments
 141 Fantasy Studios
 156 Federal Leasing Consultants (FLC)

PAGE ADVERTISER

207 Flanner's Pro Audio
 196 Ford Audio-Video
 227 Fostex Corporation of America
 112 Full Compass Systems
 197 Furman Sound
 251 Garfield Electronics
 241 GLI Integrated Sound Systems
 50 Gold Line
 256 Guitar Showcase
 72 David Hafler Company
 225 Harbinger
 102 Hardy Company
 2 Harrison Systems
 169 Harvey Pro Audio
 217 Hy James
 140 IAN Recording and Duplicating Services
 46 Institute of Audio Research
 32 Institute of Audio/Video Engineering
 25 JBL
 57 JBR Sound Products
 40 Jensen Transformers
 28 JRF Company
 247 Kable King
 232 Kingdom Sound
 58 Klark-Teknik Electronics
 121 Klipsch & Associates
 213 Lake Systems
 214 LD Systems
 237 Lenco
 39,175,225 Leo's Professional Audio
 230 Gary Leuenberger & Company
 6-7 Lexicon
 68 Linear & Digital Systems
 79 Linn Electronics
 186 Little Mountain Sound Studios
 115 LT Sound
 206 Magnetax International
 146 Martin Audio
 64 Master Sound Productions
 218 Master Technologies
 62 Masterdisk Corp.
 26-27 Maxell Corporation
 162 Metro Gnome
 75 Meyer Sound Laboratories
 111 Micmix Audio Products
 224 Microphonics
 191 Midcom Inc.
 69 Keith Monks Audio USA
 258 Music Directory Canada '83
 61 MusicAmerica Recording Studios
 97 Nady Systems
 18-19 Neotek Inc.
 239 Neptune Electronics (NEI)
 15 Rupert Neve Inc.
 70-71 New England Digital
 248 New World Audio
 92 New York Audio Laboratories
 64 North Lake Sound
 65 Omega Studios
 132 Omni Craft
 148 One Pass Film and Video
 33 Orban Associates
 4 Otari Corporation
 223 Passport Design
 187 Peak Audio
 87 Peavey Electronics Corporation
 36 Penny & Giles
 235 Phoenix Audio Laboratory
 65 Platinum Factory
 92 Polyline Corporation
 185 Positive Video
 60 Power Play Studios
 249 PPG/USA

PAGE ADVERTISER

20 Pro Audio Systems
 104 Pro Media
 259 The Process Recording Studios
 49 Professional Audio Services & Supply
 129 Professional Audio Systems (PAS)
 244 Professional Rec'g & Sound (PRS)
 266 Pulsar Laboratories
 56 QCA Custom Pressing
 85 QSC Audio Products
 131 Rane Corporation
 77 Recording Studio Equipment Company
 238 RED Acoustics
 252 Reliable Music
 81 Renkus-Heinz
 197 Restoration
 54-55 Rocshire Records
 134 Saki Magnetics
 182 Howard Schwartz Recording
 241 SCMS
 206 Sennheiser
 132 SFX Effects
 143 Shelton Leigh Palmer & Company
 163 Shoreline Ltd.
 120 SIE Publishing
 47 Sierra Audio
 215 Simmons Drums
 187 Skaggs Telecommunications Service (STS)
 216 Solid State Micro Technology
 247 Sonic Arts
 76 Sony A/V Productions/
 Educational Electronics Corp.
 43 Sony Pro Audio
 66 Sound Code Systems
 93 Sound Genesis
 56 Sound Ideas Sound EFX Library
 254 Sound Productions
 153, B/C Soundcraft Electronics
 63 Soundworks Digital Audio/Video Studios
 23, 73 Spectra Sonics
 236 Spectrum Fidelity Magnetics
 181 Speed of Light
 253 Stage Sound
 68 Sid Stone Inc.
 144 Streeterville Recording Studios
 17 Studer Revox
 209 Studio Ready Homes
 203 Studio Technologies
 202 Sye Mitchell Sound
 198 Symetrix
 224 Synergetic Audio Concepts
 172 Take One Production Group
 161 Tascam
 123 Technical Audio Devices (TAD)
 246 Tekcom Corporation
 91, 103 Telex Communications
 28 Tentel
 255 Times One
 12-13 TOA Electronics
 211-212 Tres Virgos Studios
 221 Triad Recorders
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 34 UREI
 59 Ursa Major
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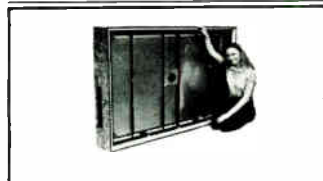
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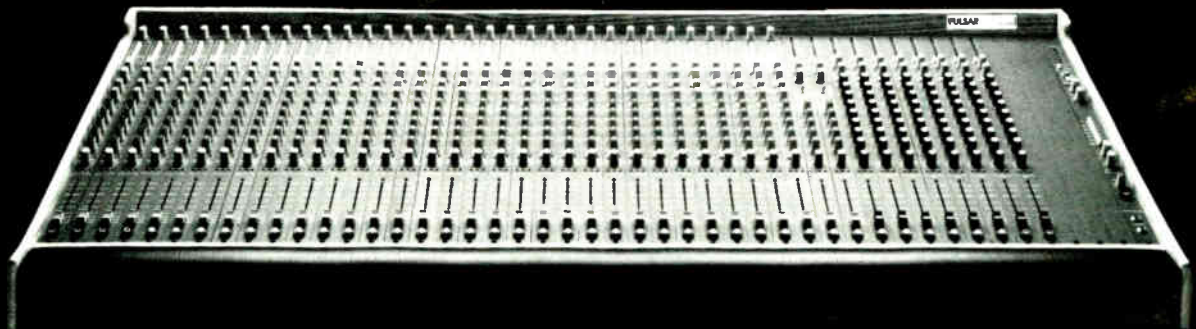
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