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MIX

**Alan Parsons on Remixing
"Tales of Mystery"**

**Directory: Independent
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THE RECORDING INDUSTRY MAGAZINE

**AES SPOTLIGHT:
THE INTERNATIONAL
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COMPUMIX IV

The Fourth Generation Console Automation System is here. Compumix IV advances dynamic automation technology far beyond the capabilities of other systems, to a level of sophistication and accuracy demanded by tomorrow's digital recording techniques.

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Compumix IV is designed to control up to 256 IDF fader functions in realtime through easy to operate touch-sensitive plasma control panels. An optional Graphics Display System is available.

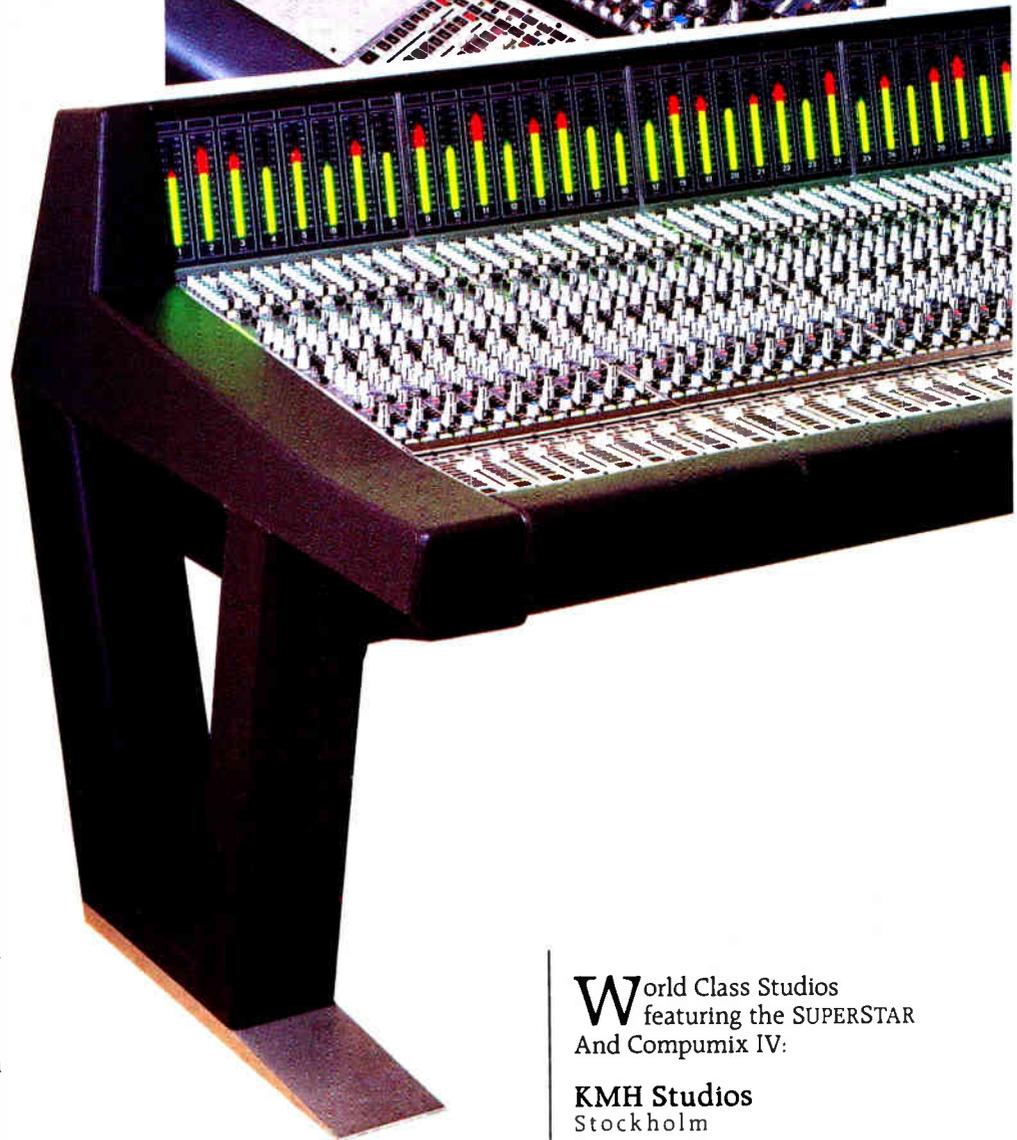
INTELLIGENT DIGITAL FADER

The IDF is a microprocessor-based module that utilizes the most advanced technology available. The super smooth fader is a 10-bit digital encoder that supplies 0.25 dB resolution and 119 dB of dynamic range. The grouping functions are the most extensive ever supplied in a music recording console. 16 groups are assignable with 4 levels of operation: slave, group master, submaster, and grand master.

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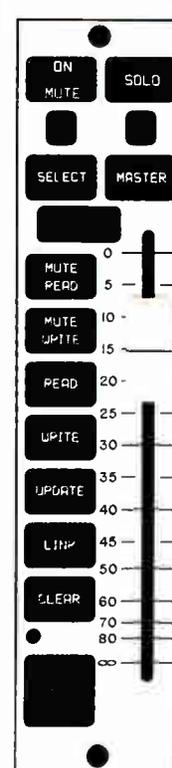
No other single console offers the combination of desirable sound, size, and flexibility with an

affordable price. Field expandable, the SUPERSTAR provides ergonomical positioning of the console modules, allowing you to satisfy your own configuration needs. High resolution meters, central bus assignment, Intelligent Digital Faders, and the most comprehensive automation system all add up to SUPERSTAR—your next console.

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Not a Follower.*



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- Intelligent Digital Faders
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INDUSTRY NOTES

WaveFrame Corporation named **Courtney Spencer** vice president of sales and **Joe Kelly** was appointed to the board of directors of the Boulder, CO, company. . . **Shape Video** recently opened the **Shape Midwest Media Center** in Indianapolis, IN. Shape, one of the pioneers in videocassette manufacturing and the largest independent manufacturer of VHS videocassettes in North and South America, also has facilities in L.A. and the Northeast. For more information contact Steve Callahan at (800) 345-4029, FAX (207) 282-1906 . . . **Edward T. Dell**, publisher of *Audio Amateur* and *Speaker Builder* magazines and **Vance Dickason**, author of *Loudspeaker Design Cookbook*, are collaborating to produce *Voice Coil*, a monthly newsletter for the loudspeaker industry. Topics will include new patents, books, software, and product announcements. Subscriptions are \$50/year, \$90/two years. Contact *Voice Coil*, PO Box 176, Petersborough, NH 03458-0176, (603) 924-9464. . . Nashville's **Valley Audio** buried the hatchet with **Showcase Audio** (Atlanta, GA) and brought aboard Showcase Audio's **Lewis Frisch** and **Joe Perry** after the Georgia firm announced plans for a new professional audio dealership, officially closing its audio division in October . . . **Fuji Photo Film USA, Inc.** in NY has promoted **Thomas Shay** to director of communications. . . **Patrick Murray** has been promoted to vice president sales, Consumer Tape and Floppy Disk Divisions, **Sony Magnetic Products Company** . . . **Scott Westover** has been promoted to director of advertising for **Sony Communications Products Company** and **Gerrie H. Schmidt** has been hired as advertising manager, Professional Video Division. . . **Dynair Electronics, Inc.** named **Lorrie Davis** as marketing communication manager. . . **Lucas Film Limited** chose **David Carroll Electronics**, specialists in custom audio/film studio design and construction, as principal engineering consultant/contractor for the installation at the Skywalker Ranch Technical Building. . .

Audix has been appointed as the exclusive North America distributor for the Tect line of mics manufactured in Japan. The pre-polarized condensers were set to be officially introduced at the winter NAMM show in Anaheim. . . **Jeff Linville** has joined **Flite Three** as videotape post-production manager. The Baltimore-based company is a consumer-oriented multipurpose production facility. . . **Neutrik USA** has been formed by its parent company to distribute its electrical signal connector devices and audio measurement systems in the U.S. **Jim Cowan** has been appointed general manager. The company is located at Millville Municipal Airport, 1600 Malone Street, Millville, NJ 08332, (609) 327-3113, FAX (609) 825-4804. . . **Joe Boerst** was hired as service manager for **Allen and Heath Brenell USA Ltd.** Former service manager **Kevin Macdowell** has joined AMS Sales of Southern California as a representative and product specialist. . . **COMMWEST**, the expo and conference devoted exclusively to visual communications technologies, will be held April 26 to 28 at the Vancouver Trade & Convention Center. The show, with new product displays and seminars, is expected to attract over 3,000 professional communicators. For exhibition or conference information, contact COMMWEST, 209-77 Mowat Avenue, Toronto, ON M6K 3E3, (416) 536-4621. . . **Remote Recording Services** has moved. Its new address is PO Box 334, Lahaska, PA 18931, (215) 794-5005. . . **Joel T. Hepp** has been promoted to artists relations manager of **Nady Systems Inc.** of Oakland, CA. . . **Solid State Logic** recently appointed two new sales managers: **Nick Cook** will be responsible for studios in the UK and Germany; **Peter Woolliscroft** will look after the Latin countries and the Middle East. . . **John A. Zimmerman** has been named partner and chief financial officer at **Pacific Video Resources** in San Francisco. . . **Ashly Audio** has promoted **Bill Thompson** to senior vice president in charge of marketing. . .

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SESSIONS AND STUDIO NEWS

SOUTHEAST

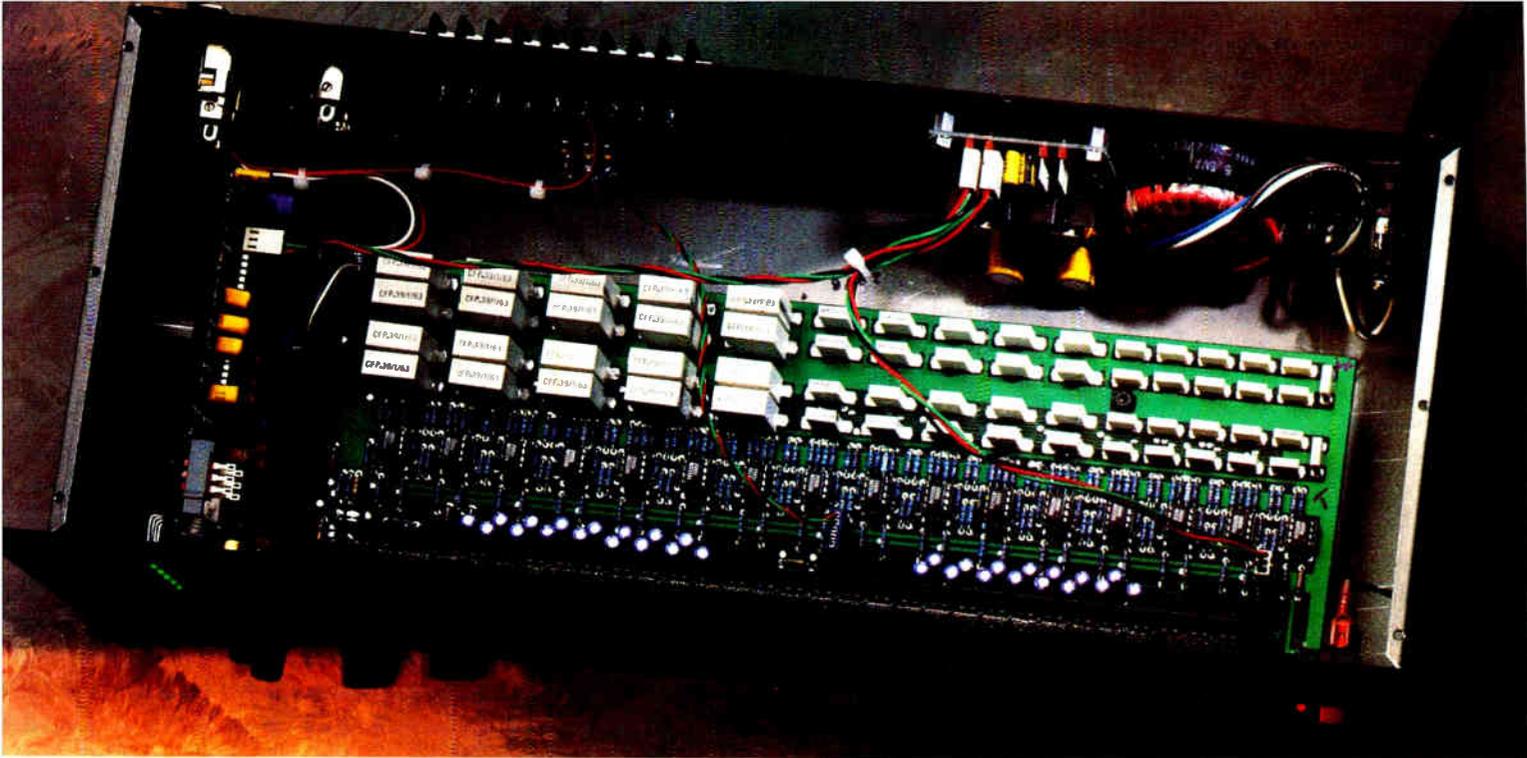
At **New Age Sight & Sound** in Atlanta, the blues/jazz group **Lou's Blues Revue** mixed their new album, produced by **William Bell** and engineered by **Gary Hamm**. . . **Morrisound** in Tampa had New York-based **Whiplash** in working on their new album, produced by **D.U.A.F. Productions**. . . At **Music Works** in Hollywood, FL, **John Martyn** and **Michael Shiner** produced a score for **Burdines**. . . **Sound Emporium** in Nashville was the site for some remixes for **Sawyer Brown**, produced by **Ron Chancey** and engineered by **Les Ladd**. . . **Tyka Nelson**, sister of Prince, recorded a track for her Chrysalis debut LP at **CMC Studios** in Zebulon, North Carolina. **Benny Dellinger** and **Rock Wilk** co-produced. . . At **Wally Cleaver's Recording** in Fredericksburg, VA, **Mark Wenner** of The Nighthawks cut tracks for his forthcoming solo album. . . **Larry Neville** was in **Cotton Row Recording** in Memphis with producers **Homer Couch** and **Arthur Liggins** tracking on some tunes to shop to major labels. **Nikos Lyras** and **Eric Patrick** engineered. . . The Christian metal group **Apostle** finished recording their fourth album at **Key Recording** in Jacksonville, VA. **Matt Harding** produced, **John Key** engineered. . . At **Cheshire Sound** in Atlanta, **Midge Ure** recorded bass tracks with Level 42's **Mark King**. **Thom Kidd** engineered. . . At **Musiplex Atlanta**, **Candi Staton** did some recording with producer **John Sewell** and engineer **Thom Kidd**. . . **Mylon LeFevre** worked on a new album with producer/engineer **Joe Hardy** at **Ardent Recording** in Memphis. . . At **Soundshop Recording** in Nashville, **Bobby Goldsboro** worked on a children's project with producer **Timmy Tappan** and engineer **Mike Bradley**. . . At **Criteria Recording** in Miami, **The Risk** cut a four-song EP with **Eric Schilling**

producing and sharing the engineering with **Patrice Carroll-Levinsohn**. **Kurt Berge** assisted. . . **U2** dropped by **Sun Studio** in Memphis to do some work on their upcoming movie. **Jimmy Iovine** produced and **David Ferguson** engineered with Sun's **David Aron** assisting. . . **Nicolette Larson** cut tracks at **Bennett House** in Franklin, TN, with engineer **Rocky Schnars** at the board. . . At **Mangum/Alford Studio** in Jacksonville, FL, country artist **Ric Steel** recorded "Third Time's the Charm." He produced, with engineering by **Jeff Alford**. . . **Jimmy Buffett** was in at **New River Studios** in Fort Lauderdale tracking with producers **Mike Utley** and **Russ Kunkel**. **Jeff Rifkin** engineered with assistance from **Dave Barton** and **John Portuondo**. . . At **Memphis Sound**, **Donna Lee Powers** has been recording with producer/writer **Tom Jones III**. **Robert Jackson** engineered, with **Dan Pfeifer**, **Richard Scott** and **Roosevelt Green** assisting. . . **Emmylou Harris** joined **Earl Thomas Conley** for a duet on Conley's new album, recorded at **Emerald Sound** in Nashville. **Emory Gordy, Jr.** produced, while **Steve Tillisch** and **Jeff Coppage** engineered. . .

NORTHEAST

The **New Edition** cut their anti-crack song "Don't Be Pushed" at **Normandy Studios** in Warwick, RI. **Bobby Jones** and **Dan Serafini** produced and **Tom Soares** engineered with assistance from **Mike Skelfington**. . . **Larry Gittens** recently produced jingles for **Absolut Vodka** and **Lingense Ice Cream** at **Mirror Sound** in Cinnaminson, NJ. **Ken Fordyce** engineered, assisted by **Jon Udell**. . . **Claudja Barry** was in **Counterpoint Studios** in NYC doing overdubs for her new album

with producer **Jurgen Kordulech** and engineer **Arty Skye**. . . **Anita Baker** and **Peabo Bryson** recorded a song called "Without You" at **Electric Lady Studios** in NYC. **Dean Grant** and **Michael Powell** produced, with **Barney Perkins** engineering. . . **Chubby Checker** has been twisting and recording at **Kajem/Victory Recording** near Philly. He's got a new song coming out that was produced by **Ritchie Reinhardt** (Ramones) and engineered by **Mr. Mitch**, assisted by **Brooke Hendricks**. . . **Steve Martin**, **Jane Curtin** and **Gilda Radner** have been in **Giant Sound** (NYC) working on an LP called *Free To Be a Family*. **Marlo Thomas** is producing; **Doug Epstein** is engineering. . . **Oliver Twist** was in Manhattan's **I.N.S. Recording** working on a few songs with producer/engineer **Jonathan Davis**. . . **Vernon Reid & Living Color** did some work with producers **Ed Stasium** and **Paul Hamingson** at **Sound on Sound Recording** in New York. **Mike McMackin** and **Steve Immerwahr** assisted. . . **Airto Moreira** recorded a promotional piece for **Frederico Percussion** at **Iris Sound** in Royersford, PA. . . **Pro Audio** mobile recording (based in Wheaton, MD) recorded a live concert featuring **The Nighthawks**, **John Hammond, Jr.** and others for **Rounder Records**. . . Warner Bros. artists **Book of Love** have been working hard at **D&D Recording** in NYC with producer **Flood** (engineer on U2's *Joshua Tree*). **Mike Rogers** is engineering, assisted by **Bill Mansfield** and **Kieran Walsh**. . . **Jim Christopher** of **Nova Express** was in at **Third Story Recording** in Philadelphia recording tracks for a new tune called "Psychomania." Christopher produced and **Dan McKay** engineered. . . At **Omega Studios** in Rockville, MD, **Billy Brady** has been working on a new project with **Nils Lofgren**. . . **Sinn** put down a few songs with engineer **Jim Roberts** at **JLJ Productions** in Yorktown Heights, NY. . . **Deo-**



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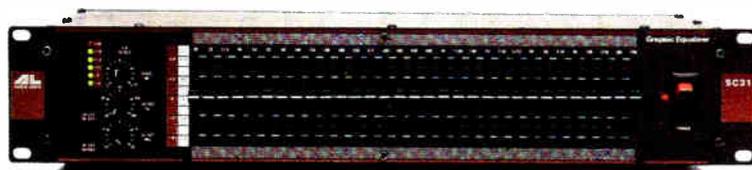
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Noise	Less than -90 dBm	Less than -90 dBm	Less than -90 dBm	Less than -90 dBm
Maximum Output	+27 dBm	+24 dBm	+22 dBm	+22 dBm
Dynamic Range	+117 dBm	+114 dBm	+112 dBm	+112 dBm
Frequency Response	18 Hz to 30 kHz +/-0.5 dB	10 Hz to 40 kHz +0/-3 dB	20 Hz to 20 kHz +1/-2 dB	20 Hz to 20 kHz +/-0.5 dB
Number of Bands	31	30	30	30
THD plus noise	Less than .005% @ +22 dBm @ 1 kHz	Less than .01% @ +4 dBm	Less than .5% @ +22 dBm	Less than .01% @ +4 @ 1 kHz
Suggested Retail Price	\$550.00	\$699.00	\$849.00	\$995.00

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*All specifications taken from manufacturer's published literature.

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dato finished up production work on the **Dazz Band's** latest at **Duplex Sound** in NYC. **Jon G.** engineered. . . New age musician **Michael Gregory** finished his new Novus/RCA album at New York's **Quad Recording**. **Joe Ferla** engineered. . . Island recording artist **Millie Scott** has been working with producers **Bruce Nazarian** and **Duane Bradley** at **Gnome Productions** in NYC. . . .

NORTHWEST

At **London Bridge Studios** in Seattle, **True 2 Life** completed a recording project with **Rick** and **Rajan Parashar** producing (and **Rick** engineering). . . The Jamaican reggae group **Defenders** was in **Triad Studios** in Redmond, WA, cutting some new tunes. **Charlie Morgan** produced, with **Larry Nefzger** engineering. . . **Carlos Santana** has been working on a big anthology album at **The Plant** in Sausalito, CA, working hand in hand with coproducer/engineer **Jim Gaines**, assisted by **Stuart Hirotsu**. . . SF Bay Area jazz piano fave **Denny Zeitlin** has been working on an album for Windham Hill at **Starlight Sound** in Richmond, CA. **Bill Thompson** engineered. . . The score for the recent **Alex Cox** film *Walker* was completed at **Russian Hill Recording** in SF by the studio's **Sam Lehmer**. **Joe Strummer** (formerly of **The Clash**) wrote the music. . . **Studio D** in Sausalito, CA, had the band **Heist** in working with producer **Ann Fry**, engineer **Jeffrey Norman** and assistant **Rob Beaton**. . . **Hope Sterling** completed her first album at **Inside Trak Studios** in Bumaby, British Columbia, with producer **Roy Salmond**, recording engineer **Gary Tole** and mixer **Dave Slagter**. . . Producer **Jan Kurtis** was at **Ironwood Studio** in Seattle working with engineer **Jay Folette** on a project with **Ron Gardner** (of *Whaler* fame). . . **Thomas McElroy** and **Denzil Foster** of **Club Nouveau** recorded tracks of the new group **Toni, Tone, Tony** at **Live Oak Studio** in Berkeley, CA. . . **Dov Christopher** and **David Pfaff** were in SF's **Powerstroke Studio** with engineer **Tom Knox** working on **Dov's** solo project. . .

NORTH CENTRAL

At **Opus Recording** in Gurnee, IL, producer **Eric "Griffy" Greif** worked with the metal acts **Arch Angel** and **Realm**,

with engineering by **Al Pangelinan**. . . **Malcolm McLaren** did some recording and mixing at **Pearl Sound**, near Detroit, with producer **Bootsy Collins** and engineer **Ben Grosse**. **Michael Fitzsimmons** and **Chris Andrews** assisted. . . At **Studio A** in Dearborn Heights, MI, **David Ruffin** worked on vocal tracks with producer **Ronnie McNeir** and engineer **John Jaszcz**. . . Hard rockers **Black Medallion** returned to **Breezeway Studio** in Waukesha, WI, to record a new album. . . **The Phantoms** have been working on their debut album at **Comfort Sound** in Toronto. The sessions are being produced by **Michael McDonald** and engineered by **Stephen Traub**. . . Producer **Alan Glass** was busy in the SSL room of Detroit's **Sound Suite** working with **The Spinners**. Engineer **Mike Brown** worked with **Glass** on that one. . . At **Seagrape** in Chicago, the thrash band **Abomination** tracked six sides for an upcoming EP. **Mike Konopka** was at the board, assisted by **Puck**. . . **The Chicago Post** completed editing and sweetening on a series of 15 interactive children's programs for **Connor Toy**. Audio engineering was by **Michael Minuskin**; offline editor was **Tracy Wilson**. . . The Madison, WI band **E-I-E-I-O** did some mixing on their new album at **Royal Recorders** in Lake Geneva, WI. **Phil Bonanno** is the producer/engineer on that one. . .

SOUTHERN CALIFORNIA

The Waters have been mixing tracks for their first album at **Baby-O Recorders** in Hollywood. **Oren Walters** is producing, while **Fil Brown** is handling the engineering. . . **The Bangles** were in LA's **Skip Saylor Recording** with producer **Steve Beltran** and engineer **Keith Cohen** doing a 12-inch re-mix on their hit "A Hazy Shade of Winter," from the film *Less Than Zero*. Assisting were **Clif Jones** and **Patrick MacDougall**. . . At **Red Zone Studios** in Burbank, producer **Bill Maxwell** was in working on a posthumous **Keith Green** LP for Sparrow Records. **Denis Degher** engineered with **Steve Shepherd** assisting. . . **Roy Thomas Baker** utilized **The Enterprise's** (Burbank) 72-channel SSL for a project with an unsigned Irish band whose name is being kept secret—no doubt to attract hype like this. . . **Kevin Cronin** of **REO Speedwagon** was in North Hollywood's **Sound Image** cutting tracks for singer/songwriter **De-**

nise Cronin with producer/engineer **John Henning** at the controls, assisted by **Peter McCabe**. . . **Poison** is working on the follow-up to their multi-platinum debut at **Conway Recording** in Hollywood. **Tom Werman** is producing, with **Duane Baron** at the board. . . **Devonshire Sound Studios** in No. Hollywood has been getting a lot of TV soundtrack work of late, including episodes of *The Real Ghostbusters*, *Alf* and *Hello Kitty*. . . **Rod Stewart** recorded a new single with producer **Chas Sandford** at **Secret Sound L.A.** on their new SSL 6048 console. **Gary McGachan** engineered, with **Daren Chadwick** assisting. . . **The Bonedaddys** recorded tracks for an upcoming release on Chameleon Records at **Mad Dog Studio** in Venice. **Dusty Wakeman** co-produced (with the band) and engineered. . . **Mitchell Froom** has been producing ex-Split Enz member **Tim Finn's** album for Capitol Records at **Sunset Sound Factory** in Hollywood; **Tchad Blake** engineering, assisted by **Mike Kloster**. . . IRS artists **The Truth** were in at **Image Recording** in Hollywood tracking with producer **Roy Thomas Baker**. **Jerry Napier** engineered, with **Don Dasilva** assisting. . . **Take One Recording** in Burbank had Japanese saxophonist **Kanzaki** in working with engineer **Alan Hirshberg**, assisted by **Micajah Ryan**. . . **Jeff Lynne** helped out **Brian Wilson** on his solo debut at **Larabee Studios** in L.A. **Bill Botrell** engineered. . . At **South Coast Recording** in Costa Mesa, ex-Black Sabbath drummer **Bill Ward** was in working on a solo album, engineered by **Jim Dotson**. . . **Boz Scaggs** worked on some demos for his long-awaited next LP at **Lion Share** in L.A. **David Williams** produced, with **Csaba Petrocz** engineering and **Karen Siegel** assisting. . . Extensive scoring and post-production work for the **12th Circus of the Stars** was done at **Sunwest Studios** in Hollywood. **Smokey Robinson's** producer, **Stephen Tavani**, was among those involved in the sessions. Session producers included **Bob Stivers**, **Bunny Stivers**, **Tim Kettle** and **Tracy Abbott**. . . Ex-Police drummer **Stewart Copeland** was in at **TMF Communications** in Toluca Lake recording the score for *Oliver Stone's Wall Street*. . .

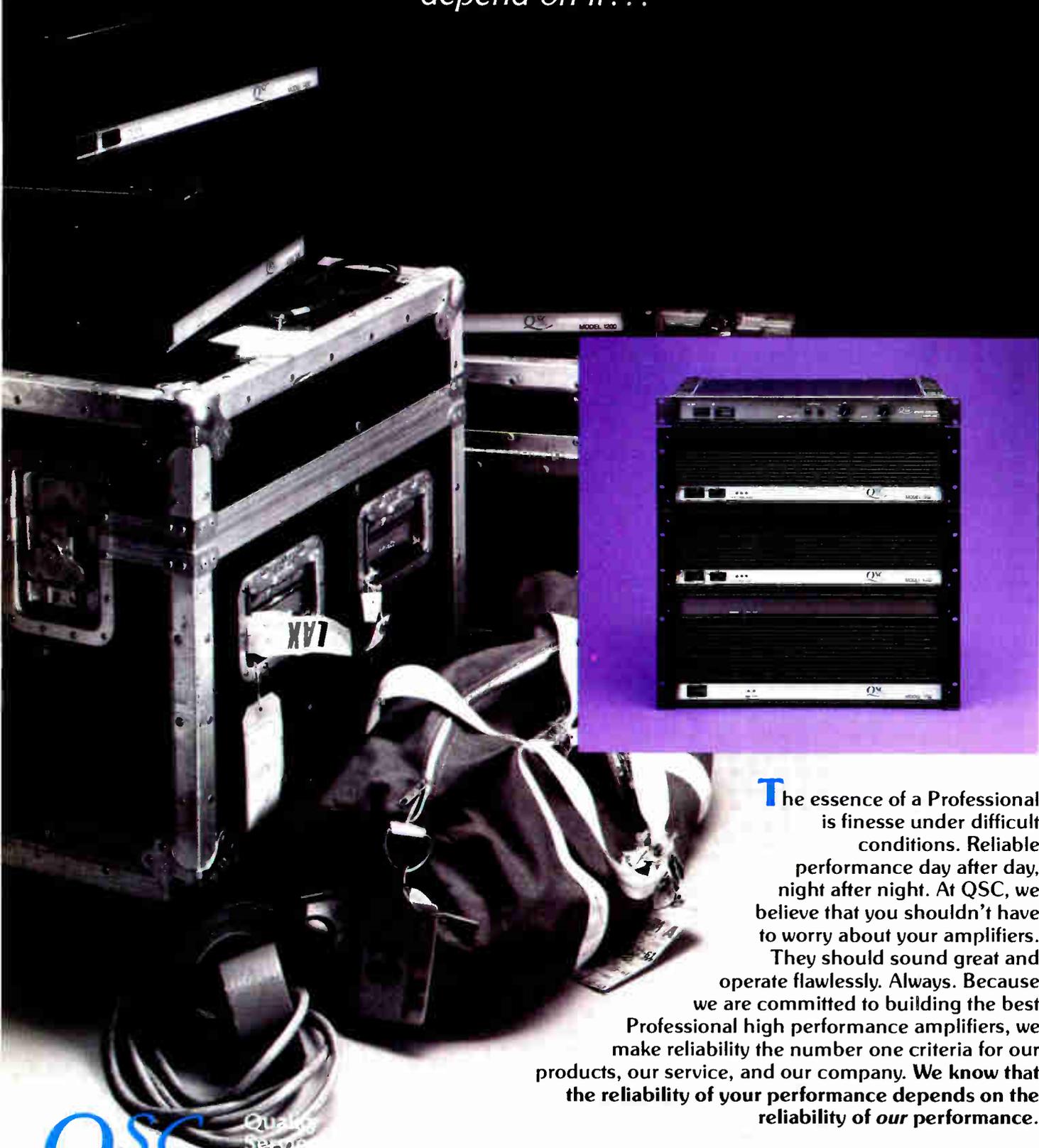
SOUTHWEST

At **Goodnight Dallas**, the local group **Three on a Hill** have been cutting and

—CONTINUED ON PAGE 178

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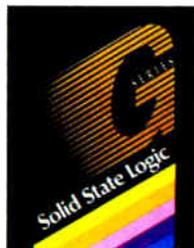
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by Ken Pohlmann

THE WORKSTATION COMETH

A

ttention studio owners: while you were busy booking sessions, trying to make the monthly payments so the bank doesn't repossess your new console (an exciting new concept in banking: a full-service bank with cash machine, drive-up window, and a 64-input SSL), the requirements for a world class studio just changed again. Now, unless you have several CRTs, personal computers, hard (or optical) disk drives, and a workstation, you just aren't happening.

It's the workstation idea that has particularly inspired engineers and advertising directors alike. While not exactly a new concept, it is one which has come of age in the audio workplace. Whereas in the past a studio was comprised of a collection of diverse equipment, the workstation integrates the functions of the equipment into a sleeker, more efficient package. The trend toward studio integration probably began with console automation, picked up speed with synchronizers, added a new dimension with MIDI software controllers, and is now emerging as a full-fledged product in its own right.

This month, let's consider the basic requirements of an audio workstation to see what it can and cannot do, why it is better (or worse) than existing collections of equipment, and in which direction it is taking the audio market. Also, to help define the notion of the emerging all-digital studio, I'd like to tack on a brief technical description of the AES/EBU serial transmission for-

mat, the protocol by which digital equipment may communicate, and achieve further integration.

A digital audio workstation is an integrated collection of hardware devices driven by software programs to create an audio tasking system. At least in theory, it should provide greater flexibility and efficiency, as well as fidelity and creativity, compared to the traditional assortment of studio gear. It is arguable that only with a workstation can the full potential of digital audio technology be realized. The early dictate that digital components be made to emulate analog ones severely restricted utility; with a workstation design, a fresh approach to production needs can be made.

A workstation should be a multi-function device, limited by its hardware and software implementation, yet upgradable via modular expansion to perform other tasks. Ideally, all of these functions should fall under its command: signal processing, synthesis, editing, mixing, mastering and storage. More specifically, a diverse range of production and post-production applications are addressed: music scoring, recording, video sweetening, sound design, effects edit-to-picture, Foley, ADR and film mixing. To achieve this, a workstation must combine elements of a multi-track recorder, sequencer, drum machine, synthesizer, sampler, digital effects processor, and mixing board, with MIDI, SMPTE and clock interfaces to audio and video equipment.

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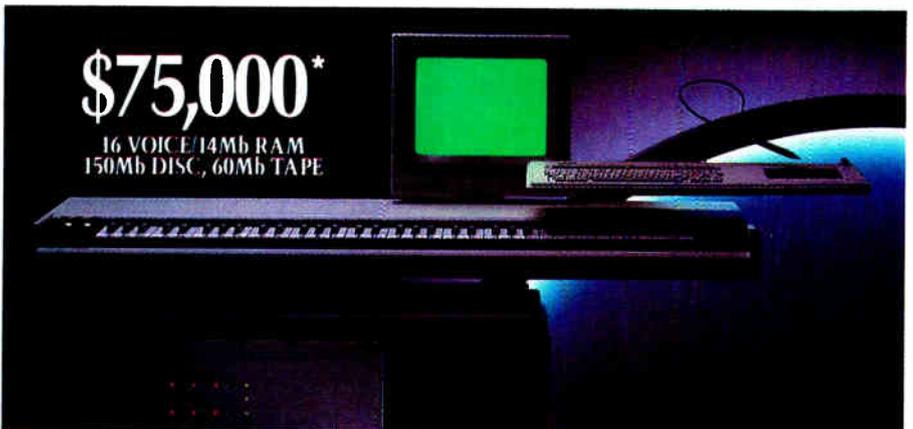
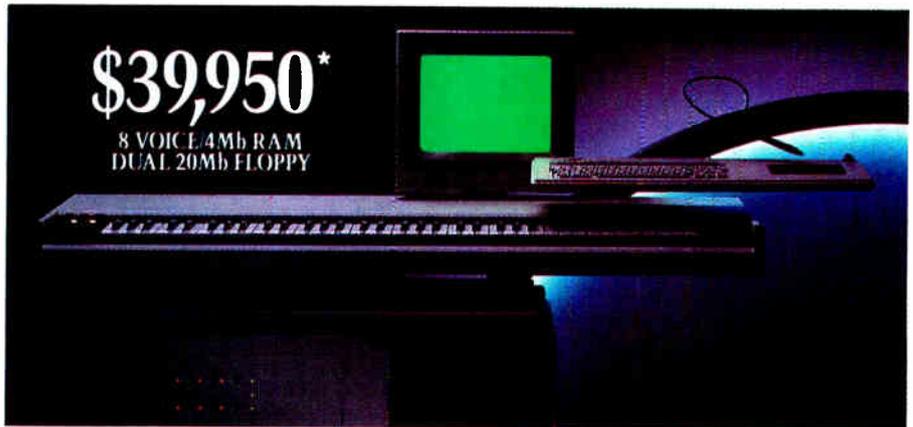
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Direct-to-disk recording capabilities allow the workstation to compete with the multi-track recorder. The benefits of random access are obvious—instantaneous fast forward, rewind, locate, and punch-in and punch-out make for fast session work. Talent can no longer slack off while you rewind tape; you can work them to death moving from one take to the next as fast as you can hit the button. Likewise, software editing allows the user to jump from one cue to the next for fast, non-destructive edits.

Soundtracks for film, corporate video or commercials all benefit from the inherent nature of sync and random access in a workstation. Instantaneous lock-up and the ability to lock to variable speed time code make life easy, as does the ability to slide individual tracks or cues back and forth, and the ability to insert or delete musical passages while maintaining lock. How about fitting effects to picture in slow motion, while preserving sync? Easy.

Optical disk sound effects libraries provide on-line storage of indexed and cross-referenced sounds. Users can assemble a time code hit list, then audition sounds and effects while locked to picture. Disk recording expedites dialog replacement; master takes can be assembled from multiple passes by setting cue points, then fitted back to picture at locations logged from the original sync master. Room ambience can be taken from location tapes, then looped and overlaid on re-recorded dialog. Track space is automatically allocated by the system.

Composers are attracted to workstations for writing and pre-production; additive, FM, sampled and resynthesis sounds may be mixed and enhanced to suit even the most complex orchestration. Notation, step-editing, cut-and-paste, splice, bounce, slide, loop, copy, panning, chorus, tempo and key change, fade-ins and fade-outs all provide flexibility for different arrangement and production ideas.

A workstation can be used as a master MIDI controller and sequencer; the user can remap MIDI outputs, modify or remove messages such as aftertouch, and transmit patch changes and volume commands as well as song position pointers. It may be advantageous to transfer MIDI sequences to the workstation because of its superior

timing resolution. For example, a delay problem could be solved by sliding tracks in fractions of milliseconds. Boring drum sounds? Replace them with custom samples.

Commercial production can be made more efficient. For example, an announcer could be recorded to memory, assigning each line its own track. This way, tags and inserts can be accommodated by shifting individual lines backward or forward; transfers and backtiming are eliminated. Likewise, doughnuts can be cranked out by switching sounds, muting and soloing tracks, changing keys without changing tempos, cutting and pasting, and manipulating tracks with fade-ins and fade-outs. Electronic hard disk editing expedites any audio editing task. For broadcast, segments can be assigned to different tracks and triggered via time code from the terminal. A workstation offers new production tricks in music production. For example, a vocal fix is easily accomplished by sampling the vocal to memory, bending the pitch, then flying it back to the master—an easy job when the workstation records time code while sampling.

A catalog of workstation production examples could extend as far as the price list of workstation options, but the nature of the workstation should be evident. A workstation is, in essence, a memory recorder. It records not only sounds, but performance parameters as well. In that way, the system may manipulate the data in ways not available in traditional tape technology. Whereas a tape recorder may be considered a one-dimensional device, a workstation is a three-dimensional one; recorded audio information becomes a cue, an organized playback creates an event, and a timetable that schedules playback of cues is an event list. Thus, when recording, random access and editing (as well as synthesis) are combined under a unified controller, the benefit is more than tripled. In the same way that a word processor makes a typewriter obsolete, an audio workstation makes a tape recorder and peripherals obsolete.

Of course, even the most complete workstation would still lack total facility. The need to interface the workstation to peripheral gear, other workstations, and to the output storage medium will always be with us. Therefore, a high quality I/O method is crucial to

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the workstation's overall performance. Of course, analog audio signals can be conveyed from one device to another with a minimum amount of confusion. However, the transmission of digital data is a great deal more complicated, owing to potential disagreements on sampling rate, synchronization method, block length, and many other factors. To permit an orderly exchange of data between digital devices, the Audio Engineering Society has established a standard transmission format for linearly-represented digital audio data. Many manufacturers have adopted the format; for example, most workstations include this AES format.

The digital audio format transmits both left and right channel data using one digital cable. A time-sharing multiplexing transmission transmits or receives frames, each containing left and right channel data alternatively. The transmission rate corresponds exactly to the source sampling frequency. When the sampling frequency is 48 kHz, 48,000 frames are transmitted per second. The length of one channel data period is thus 11.34 microseconds. One frame consists of two subframes, labeled A (left channel) and B (right channel), each with 32 bits.

Each subframe carries data for one audio channel. The first four bits are used for synchronization, and for identifying preambles, as described below. The next 24 bits carry audio data, with the MSB transmitted last. Since most devices use only 16-bit words, only the last 16 bits in the field are used. Additionally, the first four bits in the field are set aside for auxiliary audio or other data.

The last four bits form a control field which carries special information. The validity bit indicates if the previous audio sample is error-free. The user data bit is used for data associated with the audio channel. The channel status bit is used to form a data block: for each channel, one block is formed from the channel status bit contained in 192 successive frames. The start of a block is identified with special forms of the subframe preamble. The parity bit is used to provide even parity for each subframe; this permits simple error detection.

Three preambles are used to designate three types of events. One preamble marks the start of subframe A

and start of a channel status data block. One preamble marks the start of subframe B otherwise. One preamble marks the start of subframe B.

Each channel status data block consists of 192 bits (times 2) organized into two 24-byte sequences. These 8-bit bytes convey a considerable amount of information pertaining to the transmission.

The data is modulated with biphasic mark, in which a zero corresponds to one inversion and a one corresponds to two inversions. However, the preambles ignore the inversion correspondences to provide unique identification and recognition. The receiver input section uses this preambled portion for synchronization.

The digital audio waveform is transmitted through a coaxial cable with 75 ohm impedance, at a level of 0.5 volts p-p. An ordinary audio phono cable can be used to convey the data. Through this transmission standard, different digital audio devices from different manufacturers are insured of compatible interconnection and transfer of the digital audio information. Adoption of the AES standard is another step toward the all-digital stu-

dio, and directly benefits the workstation concept as the nucleus of the all-digital studio.

Clearly, studio equipment is undergoing yet another hardware (and software) transformation. The workstation offers a highly efficient method to integrate and expedite audio functions. While some may object to a monolithic approach to audio design because of up-front cost, difficulty in upgrading, complexity, and downtime considerations, the advantages appear to outweigh the disadvantages. The studio-in-a-box workstation, highly portable, uniquely flexible, and custom-programmable is the unmistakable trend. As the hardware coalesces, the next step is more unified, intelligent software. That leads us to topics such as artificial intelligence and expert systems. But that's a column for another month. ■

Ken Pohlmann is an associate professor of music and director of music engineering at the University of Miami in Coral Gables, and vice president of U.S. Digital Disc in New York. He is author of Principles of Digital Audio and The Compact Disc Handbook.

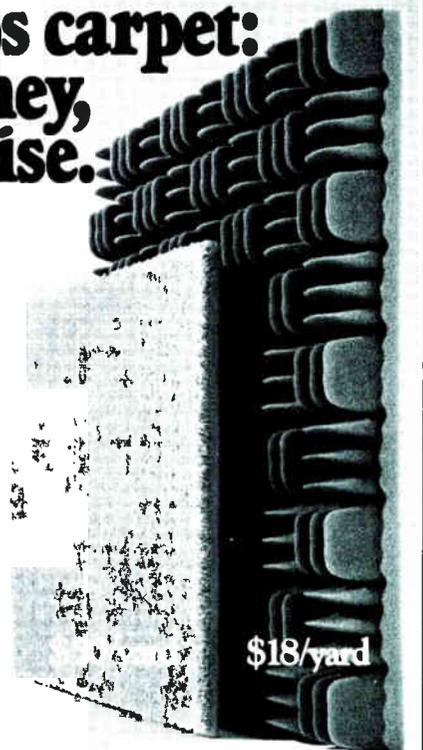
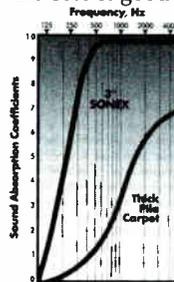
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Acoustic Products for the Audio Industry

by Mel Lambert

DESIGNING THE FUTURE

In last month's column I identified some of the primary players in the blossoming market for digital recording and random-access editing systems. Now, as promised in the January "Juxtapositions," I plan to follow up that detailed examination of innovative hardware unveiled at the AES Convention in New York with some thoughts on the basic design philosophies being utilized by the developers of such systems.

I would like to preface the following comments, however, with a note of clarification. I do not consider any of the hardware that is currently or

digital processing and editing can guarantee a radical improvement in overall audio quality.

That *caveat* off my chest, to business: why am I left with such a feeling of disappointment when I study the operation of a current-generation digital editing system? I pride myself on being reasonably computer literate, not to mention familiar with the requirements of today's increasingly complex studio sessions. Yet I find myself wondering out loud to these manufacturers about the viability/desirability of using certain control surface topographies and operating systems.

Why am I left with such a feeling of disappointment when I study the operation of a current-generation digital editing system?

soon to be made available as being—how should I put it tactfully?—"ill-designed." In fact, I would go so far as to state that all of the digital recording and editing systems I have examined so far in the studio, or at trade shows, are capable of getting the job done and, in the hands of competent production engineers, will streamline the task of manipulating audio. Not to mention the fact that the use of all-

It still remains a mystery, for example, why such firms still insist on tying our eyes to a conventional CRT display for system interrogation and, more often than not, a less than ergonomic QWERTY keyboard for system control. And while I applaud at least one manufacturer's use of a touch-sensitive, electro-luminescent screen display, the latter is somewhat restrictive in terms of the amount and complexity of infor-

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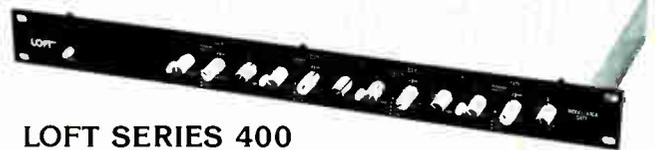
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mation that can be displayed simultaneously. A touch-sensitive display does offer, however, the advantage of simplifying the user's responses to menu selection, because all you need do is point an appropriate digit at the desired screen-labelled task or function.

Which brings me to the primary objection I have to using CRT displays in the studio: aside from their physical size and current resolution quality—both of which mean that a cumbersome device needs to be located reasonably close to the engineer at the center of the monitoring system—very few, if any, contemporary designs acknowledge the fact that display and control are two complementary rather than separate functions. Just as a simple control knob provides a means of altering an electronic circuit, such as an equalizer or effects-send level, it also displays its current value. (And that is why, to my mind at least, few designers of digitally controlled, assignable or virtual analog consoles have solved the vexing problem of how to automatically reset rotary controls to display previously memorized settings.)

What I would like to see is a display technology like a touch-sensitive, electro-luminescent screen, which would show us information about the production task being performed, such as a listing of available digital sound effects in a library of 5,000 samples. Then, without moving our eyes away to a separate control panel, it would allow us to replay an effect for auditioning purposes, or to drop the selected effect into an EDL at the current time code location (which, usefully, should also be displayed on the screen).

The way in which information is presented need not be restricted to conventional alphanumeric characters—although these would be necessary for providing descriptions of input assignments and track outputs, for example, as well as time code locations and EQ center frequencies. What about an icon-based display scheme, such as those featured on Apple Macintosh, Commodore Amiga and Atari ST personal computers? I personally consider the use of pictorial illustrations of routine functions to be much more efficient in terms of screen space and instant recall of the kinds of tasks associated with specific projects. Suit-

ably designed, touch-sensitive screens definitely offer a great deal of flexibility. Or consider trackball-driven LCD screens with areas around the edges that dynamically relabel corresponding softkey buttons or controls, thereby extending the static function of one permanent knob or switch per task. (Note that I opt for a trackball rather than a mouse for controlling on-screen selection tasks; finding a flat surface near a production console is never going to be easy, I predict.) Alternatively, a light pen or a graphics tablet would enable interrogation and control functions to be streamlined.

When the time comes to label a composite track, for example, or desig-

Digital control, if effected properly, not only simplifies the tasks that we perform routinely during a session, but also extends the types of operations we can undertake in the studio.

nate the title of a production session, then a pop-up menu-based environment could provide an on-screen keyboard, or a conventional QWERTY keyboard assigned temporarily via, for example, a cordless IR link. Either way, I would prefer to work with a system that relies almost totally on screen-driven displays and menus, without lengthy input sessions from an external keyboard.

There are also first-generation digital recording and editing workstations available today that have evolved from complex digital synthesizers. What I hope to see in the very near future, however, is a move by such companies towards offering dedicated systems for audio post-production and editing, and which do not include a musical

keyboard. Both of the major players in this field are developing—or have already shown at major trade shows—control consoles that more closely mimic, or at least emulate, the more conventional types of functions available in analog-based recording and editing systems.

I would be more than naive, of course, if I failed to acknowledge that the primary reason why most, if not all, of the currently available systems utilize a modified minicomputer engine, CRT display, hard-disk storage and QWERTY keyboard is simple. Such workstations are readily available at low cost, and can be easily modified with the addition of high-quality A-to-D/D-to-A converters and suitable software to manipulate 16-bit audio, as opposed to handling, for example, conventional word processing, spreadsheets, databases and CAD/CAM tasks. The problem I have with such a rationale is that it sidesteps the fact that most of us do not consider it reasonable to have to change the way in which we normally work with audio in the studio.

Again, to be fair to at least one manufacturer—and the only one, to date, that has shown a combined digital recording, mixing and random-access editing system using hard-disk technology—the development of a suitable control surface is not to be undertaken lightly. Such a design has to acknowledge that recording and production engineers need to be presented with a control surface that bears a passing resemblance to conventional analog designs, but which incorporates the necessary advances capable of being included with a virtual or assignable design.

Digital control, if effected properly, not only simplifies the tasks that we perform routinely during a session, but also extends the types of operations we can undertake in the studio. With analog designs, such tasks as the duplication of EQ and dynamics control across a selection of channels/tracks can be cumbersome, to say the least. Whereas the control signals derived from an all-digital console can be routed simultaneously to any number of functions.

A couple of years ago, one company developed a display and control philosophy which represented an excellent first attempt at combining operator

—CONTINUED ON PAGE 179

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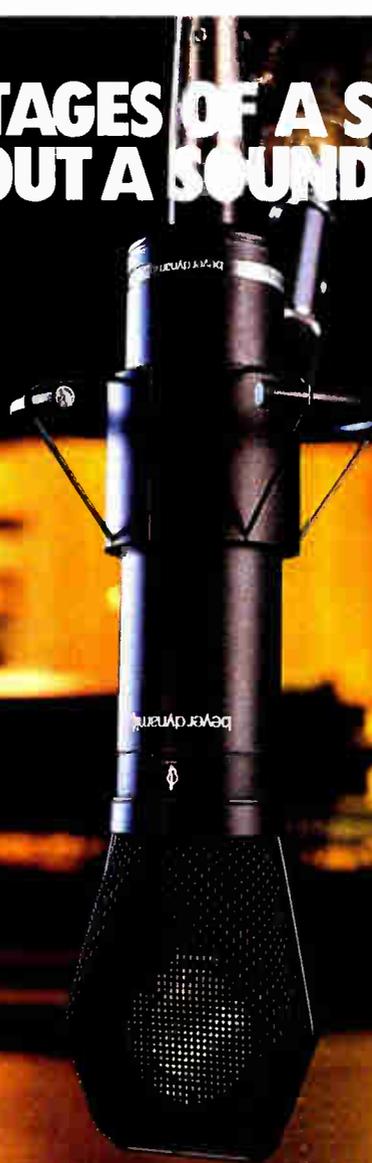
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THE ADVANTAGES OF A STUDIO CONDENSER WITHOUT A SOUND OF ITS OWN



Photographed on location at
Clinton Sound, New York, NY

For all of its virtues, the typical studio condenser imparts a definite character to any recording. These impositions are often considered inevitable technical imperfections: accepted, ignored or tolerated by audio engineers.

Characteristic anomalies of condenser performance such as exaggerated high end response or distortion have even been rationalized as compensation for the high frequency losses inherent in typical analog formats. Nowadays, however, they are increasingly viewed as unnecessary intrusions in critical analog and digital recording situations.

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classical. Sometimes for classical piano music the producer wants a different piano sound, so in that case I move the mics farther away. I will soon be recording a Swedish band that plays African music. That should be very interesting. Most of my projects are records, but I have done some sessions where we sync to video for various purposes. And I've done a few commercials, but in Norway there are no commercials on TV. You pay a license to watch TV here. However that situation will be changing soon."

John Hudson

Mayfair Recording Studios is the home base for engineer/producer John Hudson. Among his recent projects there have been albums for Tina Turner and for the Norwegian group, a-ha. He summed up his philosophy this way: "There isn't a hard and fast rule. You never just mathematically do the same thing twice, because it's really how the instrument is played. You have to listen to it and go from there. It's like saying, 'How do you write a song?' Some people can tell you they use the same EQ and the same mics every time they record a piano. That's not being very creative, is it?"

The studio piano at Mayfair is a 9-foot Bosendorfer. For both the Tina Turner and a-ha albums it was recorded as an overdub, so leakage was not a problem. "The guy who played on the Tina Turner tracks really digs into the piano a lot," Hudson says. "I think PZMs sound better for that kind of player. In that case I used two PZMs on the inside of the piano lid with the lid slightly open. If the person is playing more pianistically, you want a sound that is not so close. For the a-ha session I used a pair of AKG 414s with the lid all the way up.

"When you're recording you get a sound while you're listening to the person playing live. Once you're committed to tape, obviously if you go to analog and then you play it back it's totally different. When you deal in digital it sounds the same as it did when the guy was doing it. So when you're mixing using analog you may have to work a bit more than with digital. I sometimes will EQ when I'm recording, and might use compression when I go to mix."

Joseph Magee

Since 1985 Joseph Magee has been the audio production engineer for the Los

Angeles Philharmonic Orchestra. He has also recorded chamber music with pianist and conductor Andre Previn, and an international broadcast series called *High Performance* with Previn as host which was scheduled for a January premiere. Some of his other projects have included the Los Angeles New Music Festival and the 1984 Olympics.

Much of his recording takes place at either the Dorothy Chandler Pavilion in L.A. or at Royce Hall on the campus of UCLA, where some of the Philips and TelArc work is done. "In classical music you generally don't want the piano to sound percussive," he notes. "You want the sound to come together first. So I start with a traditional 3- or 4-way omni system, which I believe gives the most honest perspective. At Royce, for example, Bruel & Kjaer or Schoeps mics work well. Dorothy Chandler is a brighter hall, and a bit tinny, so there I'll go with Sennheiser MKH 20s or MKH 40s, which I find are a little warmer. If I'm recording a live situation with piano and orchestra I might use the 4-way system with the inner omni or ORTF for the orchestra, and slightly cheat the main left and right mics up, to back off the piano a bit. That doesn't always work, so I might touch up the piano with a pair of Schoeps MK5s a foot apart on a stereo bar six to eight feet away from the piano. I'll position them about eight feet high, looking into the instrument to give it more definition. If I need to get closer I would use two B&K 4006s, but by jumping in the lid I've already violated several classical recording concepts, so now I'm holding on for dear life.

"If I use directional mics such as C-24s, Coles 4038s or Schoeps hypercardioids for the entire ensemble, I've found that the mic position for that ensemble generally has nothing to do with a good piano sound because of the frequency response of those capsules and their position in the hall. In the past, I've used such a system for the ensemble and a separate omni system for the piano. With ribbons like the Coles 4038 I get a pretty respectable sound, but a condenser mic accentuates the percussiveness of the piano. Ribbons are softer and the transients are better. For solo piano work in a live situation, I've used Coles 4038s and omnis together and gotten a very nice sound.

"In classical recording you run into



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Ray Charles, Jerry Lee Lewis and Rolling Stones member Ron Wood, relax on stage at Storyville Jazz Hall in New Orleans during the production of the recent HBO Special *Fats and Friends*, recorded by Paul Christensen of Omega Audio.

a lot of different, really fine pianos. It's important to capture the truest and best aspects of each piano, and each one is an individual. The first thing I do is take into account the character of a Baldwin, Steinway, Bosendorfer or what have you. The second thing I do is talk to the piano technician to understand how he's going to voice the instrument, and I listen to him tune and voice it. Finally I listen to the artist practice on it. I have heard some incredible pianists who are able to sit with a piano for two or three hours and coax the best out of it. Others who are world renowned will sit down and beat it regardless of what the instrument may be saying back to them. You never know what you're going to get out of an instrument, so each has to be approached individually in the end.

"I also want to say that I find that cable and preamps have a lot to do with getting a good sound as well as the other things we've talked about. Right now I'm using Jensen mic preamps and Monster Cable M1000."

Fred Weinberg

Occupying the other end of the spectrum is producer/engineer/composer Fred Weinberg. He has won 21 Clios for his musical contributions on commercials for Excedrin, Eastern Airlines, Volkswagen, Mobil, TRW and many more. He has also recorded albums for Blood, Sweat & Tears, Tito Puente, Mongo Santamaria and Eddie Palmieri; and he has written themes for the ABC

Evening News and motion pictures including *Rosemary's Baby*. He has a reputation in the industry for creating unorthodox sound effects using imaginative techniques and his adventurous spirit manifests itself when he records pianos, too. Listening to him enthusiastically describe his experience, you can tell that this is obviously a man who enjoys his work.

"We've tried some pretty wild things, like throwing a bunch of firecrackers inside the piano with the sustain pedal down and recording the explosions," he says. "Also we had a 6-foot by 10-foot room. We put a piano in there and tried taking as much wood off the piano as possible and using the room acoustics. We just hung mics in various corners of the room. It was a pretty interesting sound.

"I do a lot of Latin dates using piano. I use a lot of different mics, but I might use Neumann U47s or U87s close-miked. Sometimes I use PZMs. For Eddie Palmieri I use an old RCA ribbon 44 on the low end. With Eddie, often he just comes in and there's very little time even to get levels. So we're prepared for anything. He does a lot of humming and singing, and we tried to minimize that by putting blankets over the piano or by putting cardboard in front of his face, but in the end we felt that it's part of his sound. Most of his stuff is done live, with very little overdubbing. I just have the horns facing away from the piano and I open the lid and cover the back end with blankets.

I'm from the old school where we did everything mono and 2-track live, so I don't use limiting, and very little EQ. Maybe I'll roll a little off at 20 to 30 Hz if I'm getting the bass player on the piano track.

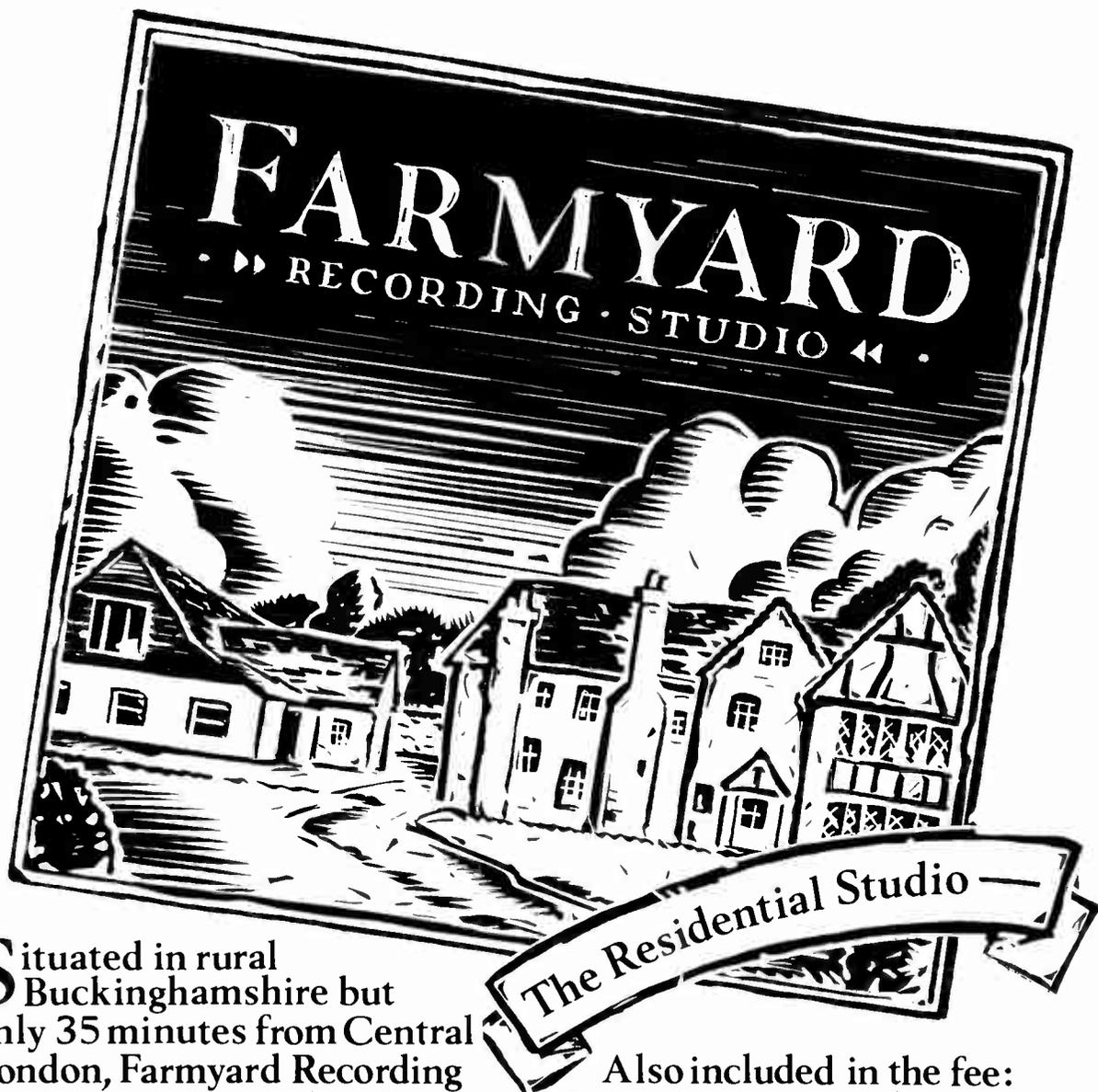
"For solo piano work we can use the room acoustics. I'll still mic close with either Neumann or Schoeps. For ambient mics, I'll use either Neumann or Sennheiser 405s. I try to get as live a room as possible for that type of situation."

Paul Christensen

Engineer and producer Paul Christensen has worked with over 200 major artists over the last 14 years, including Ray Charles, Lynyrd Skynyrd, Joe Jackson, Willie Nelson and Al Jarreau. His company, Austin-based Omega Audio, does extensive live remote recording as well as in-house work.

"The kind of piano sound I get depends on the job I'm doing," he says in his appealing Texas drawl. "When we do the mobile stuff, many times we have to trade-off air for isolation. Often you've got pretty loud monitors so you cannot use the mic of choice. So what we use in that situation is stereo C-ducer tape mics [made by C-Tape Developments, Inc.]. They give you an excellent, ballsy sound. You get the fundamentals, the presence and the articulation you need, but they lack the air you might get if you couple them with PZMs or a relatively tight condenser mic. I used C-Tape on Lynyrd Skynyrd's 10-year reunion tour for their live album. Then I put a little bit of high end back in when I mixed.

"For medium loud stage situations I'll couple that with AKG 451s or 414s. I'll use two more tracks and bring in enough of the mic sound for the air but not enough to bring in a lot of bleed. I also built a little box, that goes over the hammers, out of black formica so it matches the piano. It sticks up about six inches right behind the music stand. There are mouse holes on each side, and it's got Sonex [acoustic foam material] inside. So you put your mic stands in from each end with the 414s over the hammers facing down. You get a very bright percussive sound with very little bleed. I use this along with the C-Tape. Or I might use PZMs with the tape. If I do, I usually put 'em on the rim inside the piano, one on the high end and one at the foot of the piano. A lot of times if I'm doing a TV gig and the director wants the lid off



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Producer Orrin Keepnews in the studio with pianist Mulgrew Miller (seated).

'cause he thinks it's real sexy to shoot into the piano I go with just C-Tapes, which attach to the wood underneath. C-Tape is sensitive to phasing. You can get a great sound in stereo, and it will suck in mono. You have to watch your phase, and move the tape around to minimize it.

"I use EQ quite a bit. I EQ to the max whatever I want to see on tape. You can't have any preconceptions about how to EQ. I'm running into all kinds of pianos out there. Every one of them is different. I put the piano onto tape dry 99% of the time. My experience with pianos is that there are companies that simply make better pianos, *but* there's no guarantee that you can walk in and buy such and such brand with a great reputation and be sure that it's a killer piano. I find that some of the 'Rolls Royces' sound terrible, and some of the ones without that reputation will knock your socks off."

Raine Shine

British producer and engineer Raine Shine is probably best known for her association with Vangelis, having worked with him on *Chariots of Fire*, *Friends of Mr. Cairo* and several other

projects over a three-year period. She also has worked with producer David Lord on the last two Icehouse albums.

"Vangelis had a fantastic piano, a Steinway," she recalls. "You could put a mic anywhere in the general vicinity of the piano and it would sound amazing. What we did was put a very directional AKG 451 on the treble end, four to six inches from the strings, and an AKG 414 on the bass, crossing them over in the middle. If you want a nice stereo image it really does work well. Sometimes I'd put an extra mic outside the piano to get an ambient sound, but normally not.

"I recently did a project with jazz sax player Courtney Pine at Island Records' in-house studio called the Fall-out Shelter. It was a quartet which was recorded live and mixed in one day. The piano in that case was not as brilliant as Vangelis'. Because it was an SSL desk and I don't like using EQ or dynamic sections on an SSL desk, I used a pair of Pultec parametric EQs and brightened the piano that way. I put screens up in the room, closed the piano lid and propped it up with a book. The separation was good enough to do a fix on the piano after the basics

were done. But ultimately the answer to getting a good piano sound is dependent on having a good piano."

Steve Williams

Wool Hall in rural Beckington, England was the site of Van Morrison's most recent effort. The setting for the basics included seven musicians, including acoustic piano. Says Wool Hall engineer Steve Williams, "We're starting to see a return to the use of acoustic piano. We're realizing one can't get the perfect piano sound from a sampler." In the Van Morrison situation he used a pair of AKG 414s in tight, closed the lid and put acoustic deadening materials in the gaps. "For solo piano I might open the lid up at 60 degrees and use a pair of 414s, one at the top of the keyboard, about six inches away, and one at the bottom about 12 inches off. And then I'll set up a Neumann U87 about ten yards out."

Orrin Keepnews

One of the most notable jazz record producers of the last 20 years, Orrin Keepnews has worked with everyone from Thelonius Monk to Bill Evans and a lot of people in between. He currently devotes much of his time to his own record label, Landmark Records, but throughout the years he has worked on a freelance basis as well. He brought a perspective to this forum which fittingly is not unlike that of a jazz musician:

"You're never recording jazz piano, you're recording a specific jazz piano player. I think the whole concept of 'Well, I know how to record a piano, I always do such and such' is bullshit. I've seen too many situations over the years where you end up getting the sound of the studio or the sound of the engineer. It's an important point about jazz recording that may not be true elsewhere; I believe in letting the musician play the date and letting the engineer record the date. The key to jazz recording has always been flexibility—not going in with a preconceived notion or procedure. You've got to go in saying only, 'This is who I'm recording, this is the kind of material, this is the size of the group, etc.' All of these things will influence what I'm going to do with the piano.

"Budget is also a factor. Often you use the mics you've got. And besides, a lot of the mics I used when I was starting out aren't around anymore. I've been fortunate to have established a

wonderful working relationship with engineer Danny Kopelson at Fantasy. And on the East Coast I work a lot with Rudy Van Gelder, and also a young guy named Tom Mark, who recorded jazz pianist Mulgrew Miller's last three albums with me."

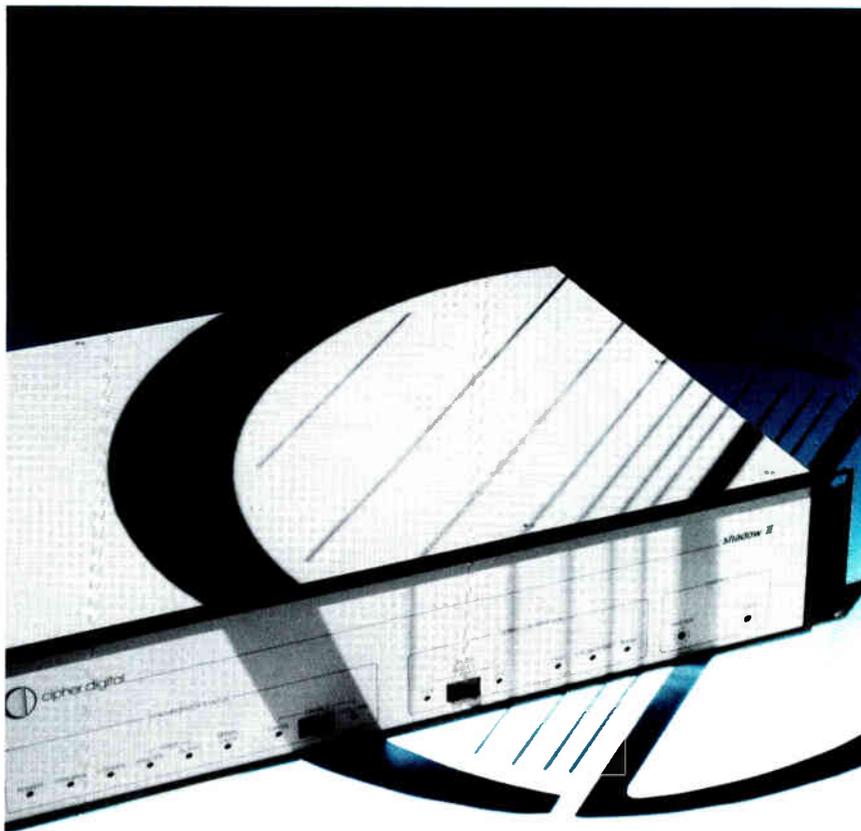
David Baker

David Baker's production career began in the late '60s. He was affiliated with the Vanguard Jazz label until 1975, and has freelanced since then. The majority of his work is for the German and Japanese market. His recent credits include Richie Beirach's *Ballads II*, *Landscape* with Kenny Barron, Cecil McBee and Al Foster, as well as releases for Blue Note, Inja, Japanese RCA affiliate RVC, and CBS Sony in Japan.

"I use Sanken mics a lot when I'm in a concert hall situation. There, I tend to go with B&K 4003s outside and Sankens very closely crossed inside the piano two-and-a-half feet above the strings facing down towards the front of the harp. I did that for Richie Beirach's *Ballads II*, which was recorded at New York's Masonic Hall straight to a Sony 3202 with a small Amek board and no equalization. I really love Sankens. I don't own a lot of mics, so I'll rent Sankens for those special solo situations. When I'm in the studio I'll use a 4-mic technique if I have good isolation from the drums, with B&Ks or Schoeps outside the piano lid about six feet apart and a pair of Neumann 87s or 89s relatively close.

"And this is something I learned from Manfred Eicher when we worked in New York: he'll put the inside mics through a pair of Pultecs. He'll do a broadband boost at 8 kHz with the dial about halfway up on the Pultec, and then kick up 100 Hz to about 3 on the dial. And he loves those tube equalizers because they round out the sound. I've actually had my mics up and had a pretty decent sound and he's said, 'Wait a minute. Let's go to de tubes.' We plug in the Pultecs at 100 and 8k and boom, there's the ECM sound. He's one of the few producers that actually calls for things, rather than saying, 'Make it yellow.' So I might do this with the inside mics, but I'll leave the omnis flat. They give you that blossom and that sense of space and reality." ■

Mix associate editor Paul Potyten is a veteran keyboardist who currently leads his own Latin jazz band, *Canoneo*.



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PRODUCING A VOCAL LINE

by Thomas Appell, Michael McCone, and Ate Rojas

Back in November '86, we wrote about a few suggestions and ideas for producers to improve the quality of the vocal performances in their sessions. In this issue we take it a step further and itemize a seven-point plan to make the relationship between the producer and vocalist more productive and emotionally satisfying.

Producers and engineers who direct or record vocal sessions should realize that even talented singers who have lots of ability, experience and emotion will do a better job with intelligent direction from the control room.

Thomas Appell (center left), Ate Rojas (left), and Michael McCone (right) working with Pomona vocalist Steve Mercado at Vocal Dynamics West Covina studio.



Step 1: Look for weak lyrics.

Find the phrases that don't fit. If the songwriter is trying to convey a message, it should come through loud and clear. If the song was made intentionally ambiguous, it should leave you wondering in a clever way. Every word, phrase, verse, bridge and chorus should be scrutinized.

Don't just point out the problems, either. Think of solutions—new words or phrases that will improve the song.

Step 2: Analyze the arrangement.

Now that the lyrics are in their best possible shape, it's time to step back and take a look at the structure of the song. Is it too long or too short? Does the chorus repeat too many times or

not enough? Should there be a bridge between the verse and chorus? How about an instrumental solo, and if so, where, and for how long? You may need to scratch out a few new lyrics.

You'll also need to find the best key for the song—the one that makes high and low notes fall where the singer will sound the best. To accomplish this you should have the vocalist try the tune in every key that could be reasonably considered before making a firm commitment.

When the lead vocal line is correctly keyed and arranged, review the song from start to finish and plan the best places for background harmonies. Think of how many parts to use, the harmonic structure, and whether or not there will be male or female voices singing the parts.

Step 3: Plan the breath points and exhales.

Consider the length of each phrase, along with the degree of difficulty. Also, consider the expertise of the artist you will be working with. Every breath point marks a possible place to punch in later on when recording, and you should probably plan on breaking up difficult lines with a breath point to facilitate the tracking of inexperienced singers. On the other hand, an unnecessary breath can chop up the feel and flow of an otherwise tasteful phrase, so you'll want to exercise discretion when planning their placement.

When the breath points have been located, you can start preparing your vocal production worksheet. Write the song in phrases ending each line at a breath point, one breath per line. Leave enough space between each line for the notes you will be adding later.

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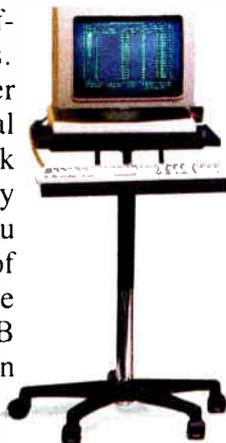
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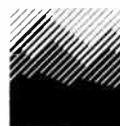
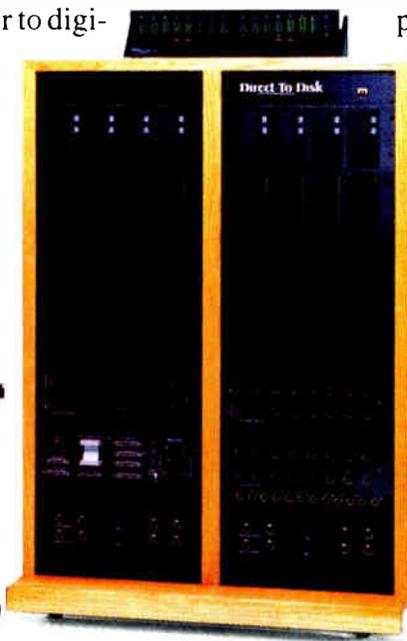
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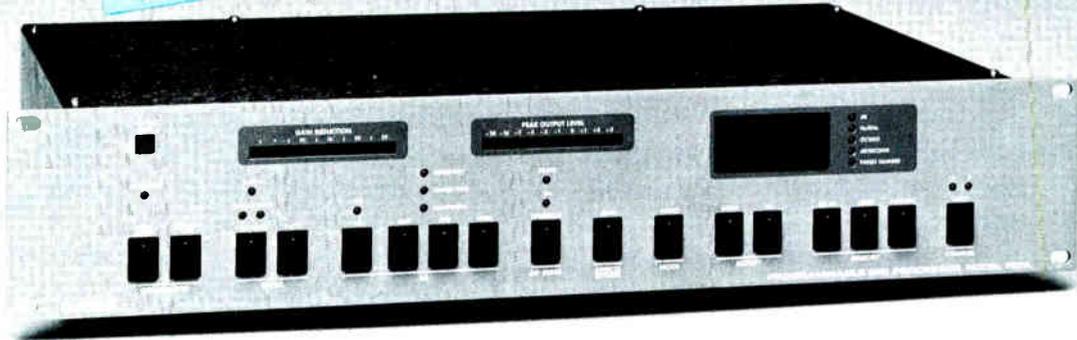
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Write the words out as they would be sung, in order. If the chorus repeats three times, write it out three times. Even though the lyrics may be the same, there will no doubt be significant changes in the ornamentation of each repeating part which should be noted on the worksheet.

Even though we know the song is arranged in phrases ending at breath points on the worksheet, it's helpful to see a visual reminder, so at each breath point in the song we'll put a symbol—a capital "B" in a circle.

We're also going to note what's called an exhale—a place where the vocalist blows out the air left in the lungs after singing a short phrase. Exhales lend a lot of emotion to whatever word they're attached to.

Step 4: Check the enunciation and pronunciation.

Look at each word starting with a vowel sound on the worksheet and decide which ones are to be enunciated, and which ones are to be run together with the preceding consonant or vowel. If you decide to enunciate a vowel sound, you might put a vertical "tick" on the left side of the vowel. If you want to run it together with the preceding consonant or vowel, place a dash between the two words. Stressed consonants are noted by placing a vertical tick on the left side of the letter being stressed.

Another useful pronunciation trick is to cry when pronouncing a word. Cries are physically produced by a quick drop in pitch, and like exhales, can lend a lot of emotion to a phrase. They are noted by writing the word "cry" in a circle on the left side of the word on which they're used. Note all of the cries, stressed consonants, run together, and enunciated vowels on the production worksheet.

Step 5: Improve the melody using grace notes and runs.

We usually indicate all of the pitch changes on each vowel sound using quickly drawn stick figures with few timing markings, if any. Grace notes serve as a mental jog for complicated dips and runs, *not* as an exact musical representation of the piece.

There are two kinds of grace notes—fast ones and slow ones. A fast grace note is so fast that it almost seems like a part of its adjoining note. This quick little rise or drop is noted by a 45-degree slash through the stem of the grace note. Slower grace notes are

Sample production worksheet with vocal treatment notation

"How Will I Know"

There's-a boy (E)(B)

'I know (E)(B)

He's the one-I dream-of (B)

Looks 'into (E)(B)

my 'eyes (E)(B)

Takes me to the clouds-above (B)

'um hm (B)

'Oh-I lose (E)(B)

control (B)

Can't seem to get-enough (E)(B)

'uh nuh (B)

When-I wake (B)

from dreamin' (B)

'Tell me 'is-it really love (E)(B)

Hoo (B)

'How will-I know (B)

How will-I know (B)

How will-I know (B)

How will-I know (B)

"How Will I Know," written by George Merrill & Shannon Rubicam © 1987 Irving Music

noted by a stem without a slash.

We also note what are called "trails"—places where the artist allows the pitch to go down or up with a lot of portamento at the end of a note. Trails are noted by a quarter circle drawn in the direction of the pitch movement.

You should probably start your production work in this department by noting what the artist did on their demo, and then customize as necessary, adding grace notes, runs and trails as your wit guides you.

Step 6: Plan where vibrato will and will not be used.

During pre-production, you should go

over every line asking yourself, "Does this line need vibrato or not? If the vibes here are necessary, how is their quality? Is the vibrato depth too great, leading to an operatic sound, or not great enough to properly enhance the melody? Are the vibes even, unstable, or too even—mechanical sounding?" Work with the singer, planning vibrato in light of their ability to produce it.

If you want to count vibes, they're noted by writing 5V, 6V, 7V (short for 5 vibes, 6 vibes, etc.) above the word or syllable on which they occur. Vibrato rate is written 2V/B, 3V/B, etc., symbolizing two vibes per beat, three vibes per beat, etc.

One plus point for counting vibes is when tracking a tight punch-in. For example, you may find the hole for your punch effectively eliminated when a singer puts seven vibes on the end of a note where six vibes leave just enough room. Noting the number of vibes above the word on the production worksheet also acts as a visual memory jog for the singer and helps instill confidence. Vibrato rates are usually specified when the number is not critical, but the vibrato timing needs to be uniform and predictable, as when syncing the vibes of harmony parts, and when the duration of vibrato is longer than would be feasible for counting.

Counting vibes and specifying vibrato rates will lead to a smooth, even vibrato which is usually, but not always, what will best suit a song. There are times when perfectly executed vibrato sounds *too* even, like a drum machine that leaves you longing for the subtle changes inherent to real drumming. For those times just write the word "vibes" above the word they're executed on and ask the singer to add vibrato by feel with no regard to timing.

Step 7: Plan the dynamic changes.

Once again, go through each line looking for places where the singer should come on stronger or back off to enhance the interpretation of a particular phrase. Using a scale from one to ten, you can easily note dynamic changes by putting a small number representing the desired intensity under the corresponding lyric.

Early in the pre-production sessions you should get a feel for the caliber of artist you're dealing with. Try not to embarrass inexperienced singers by insisting on complicated ornaments that are too much for their present ability level. Try to produce a version of the song that's spicy enough to sell but simple enough to record in a reasonable amount of time. You might plan on recording a simpler version of the song, but give the artist some juicier parts to practice in the meantime. If he or she woodsheds between pre-production and production, then maybe you can record that spiced up version after all.

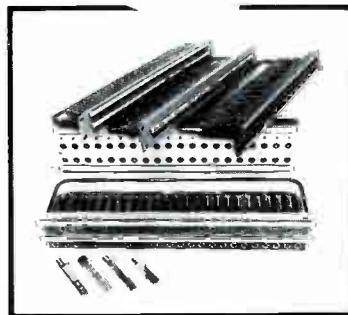
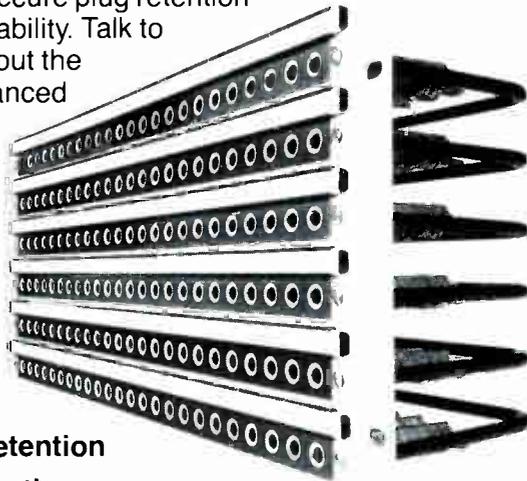
Anyway, it's time to jot down the dynamic changes on the production worksheet, using the numbering scale mentioned earlier.

—CONTINUED ON PAGE 178

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No one needs jack noise, and when you specify Mosses & Mitchell jack sockets and jackfields you won't get it. What you will get is immediate noise free operation every time, plus secure plug retention and long term reliability. Talk to Penny & Giles about the world's most advanced jack sockets and jackfields. If you value performance don't settle for anything less.

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The Carver PM-1.5 Magnetic Field Power Amp—For performance, reliability and sound.

On the Road Since the professional debut in 1983 of the Carver PM-1.5 Low Feedback High Headroom Magnetic Field Power Amplifier, the sonic excellence and reliability of this 21-lb., 450 watts per channel* powerhouse has been tested—and proven—on some of the biggest and toughest tours ever to go on the road. 108 Carver PM-1.5's were used by Clair Brothers on the Bruce Springsteen tour, and 180 PM-1.5's on the Michael Jackson "Victory" tour. In both cases the result was purely awesome power.

"Our new Carver amp racks pack twice the number of channels in about the same truck volume as the conventional racks they replace. In addition the average power per channel has increased while the average weight per channel has decreased. In the low end, for example, we now have 1,200 watts per cabinet where 650 watts were previously available. They take less room on the truck, they weigh less and our systems have more headroom than before. The Carver amplifier has allowed us to take a significant step in improving our sound systems." *CLAIR BROTHERS*

And not only a sound industry giant like Clair Brothers tours with Carver.

"We have toured Carvers with the following artists: Softcell, Paul Young, Johnny Mathis, Donna Summers, Howard Jones, Pointer Sisters, Psychedelic Furs, Lee Greenwood, General Public, George Thorogood. This is exclusive of our numerous one-nighters. The consensus of the performers is that the equipment sounds great. They have been amazed by the sound of the amps as well as their size and weight. As for reliability, out of 50 amps we had only one fail in the past year of touring. This is by far the best record we've had with any manufacturer of amplifiers. Sonically, the extra headroom is readily apparent. We, at Manticore unanimously agree that the PM-1.5 is incredible and is the only amp we intend to buy."

Tom Whisner (owner) MANTICORE

In the Laboratory The Carver PM-1.5 was rigorously tested by Len Feldman for MODERN RECORDING (February 1985). His laboratory test results also prove that the PM-1.5 really delivers. The following quotes from the Lab Report are reprinted with permission of MODERN RECORDING & MUSIC:—

"The first thing we noticed when we began to work with the Carver PM-1.5 was the ease with which the amplifier delivered almost limitless power to speaker loads which we had previously considered to be difficult to drive to loud levels. This is the sort of amplifier that just refuses to quit."

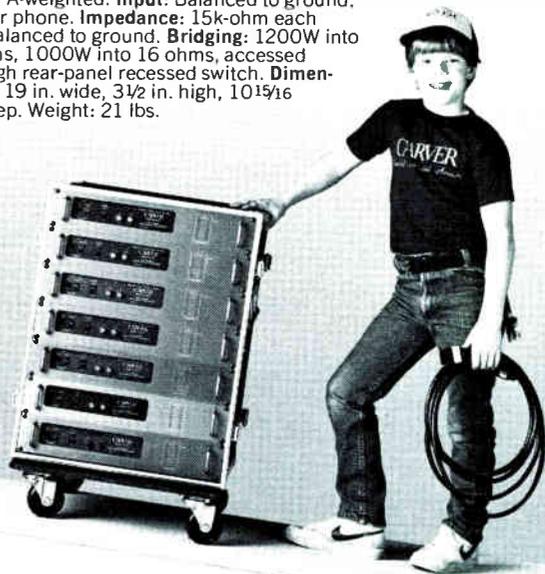
"The amplifier delivered a clean 480 watts per channel into 8-ohm loads with both channels driven for its rated harmonic distortion level of 0.5%. Even at the frequency extreme of 20 Hz, power output for rated THD was 470 watts as against 450 claimed by Carver. Furthermore, at rated power output, distortion decreased to an insignificant 0.015% at mid-frequencies and 0.007% at 20 Hz. When connected to 4-ohm loads, the PM-1.5 delivered 750 watts per channel for rated THD of 0.05%—far more than the 600 watts claimed by Carver. Clearly, when it comes to specs for a professional amplifier, Carver has taken a very conservative approach... All (manufacturer's claims) equaled or exceeded published specifications—usually by a wide margin."

"Carver has managed to deliver a tremendous amount of power in a small lightweight package at a very reasonable cost..."

"For the professional audio engineer or technician who has to move a lot of gear around much of the time and who expects total reliability and circuit protection, come what may, the Carver PM-1.5 represents, in our view, a real winning product. We will probably see it used increasingly by professionals in every area of sound reinforcement."

Now—don't you think you owe it to yourself to hurry over to your local Carver Pro Sound Dealer and *test your own PM-1.5?* Whether you run a megawatt sound company, a struggling bar band, or a recording studio gearing up for digital, the Carver PM-1.5 will pay you. In increased portability and reduced freight costs. In freedom from expensive blown drivers. In sheer sonic excellence.

*Power: 8 ohms, 450 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.5% THD. 4 ohms, 600 watts/chan. rms 20 Hz-20 kHz both channels driven with less than 0.5% THD. 16 ohms, 300 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.5% THD. 2 ohms, 525 watts/chan. at clipping, 1 kHz, with less than 0.5% THD. Note: 2-ohm specification for information purposes only. Operation at 2 ohms is permissible but not recommended. **IM Distortion:** Less than 0.1% SMPTE. **Frequency Response:** -3 dB at 3 Hz, -3 dB at 80 kHz. **Damping:** 200 at 1 kHz. **Gain:** 26 dB. **Noise:** Better than 115 dB below 450W A-weighted. **Input:** Balanced to ground, XLR or phone. **Impedance:** 15k-ohm each leg, balanced to ground. **Bridging:** 1200W into 8 ohms, 1000W into 16 ohms, accessed through rear-panel recessed switch. **Dimensions:** 19 in. wide, 3½ in. high, 10½ in. deep. Weight: 21 lbs.



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BITS & PIECES

New at Paris' Salon

The Salon International de la Musique, held last September in Paris, may not yet have the drawing power of Frankfurt in the European instrument industry, but it is becoming an increasingly popular event. Its growing international importance was shown this year by Yamaha's decision to stage the world launch of its TX16W sampler there.

The Salon is organized not by a retailers' association as in the States, nor by a distributors' association as in Britain, but by a French magazine publisher—Bernard Becker Communication, which produces a clutch of instrument magazines.

The Yamaha TX16W sampler is a rack mount unit similar to the Akai S900 in appearance and price. It's obvious from its features that Yamaha, which only a year or so ago was denying any interest in sampling, has thought long and hard about how to make its debut machine different.

What it has come up with is Dynamic Digital Filtering which enables a wide range of tonal effects to be manipulated in real time. Examples demonstrated were programming a velocity-triggered ring modulation on a guitar voice, emphasizing a narrow frequency band on a pipe organ sound while controlling the amount of emphasis by footpedal and programming a real-

istic simulation of vocal vowel formants to make the TX16W "speak" as you play.

Controlled by LFO, EG or any MIDI control data which can be stored in internal memory, the Dynamic Digital Filter is a powerful musical tool which obviously makes the TX16W much more of a "real" instrument.

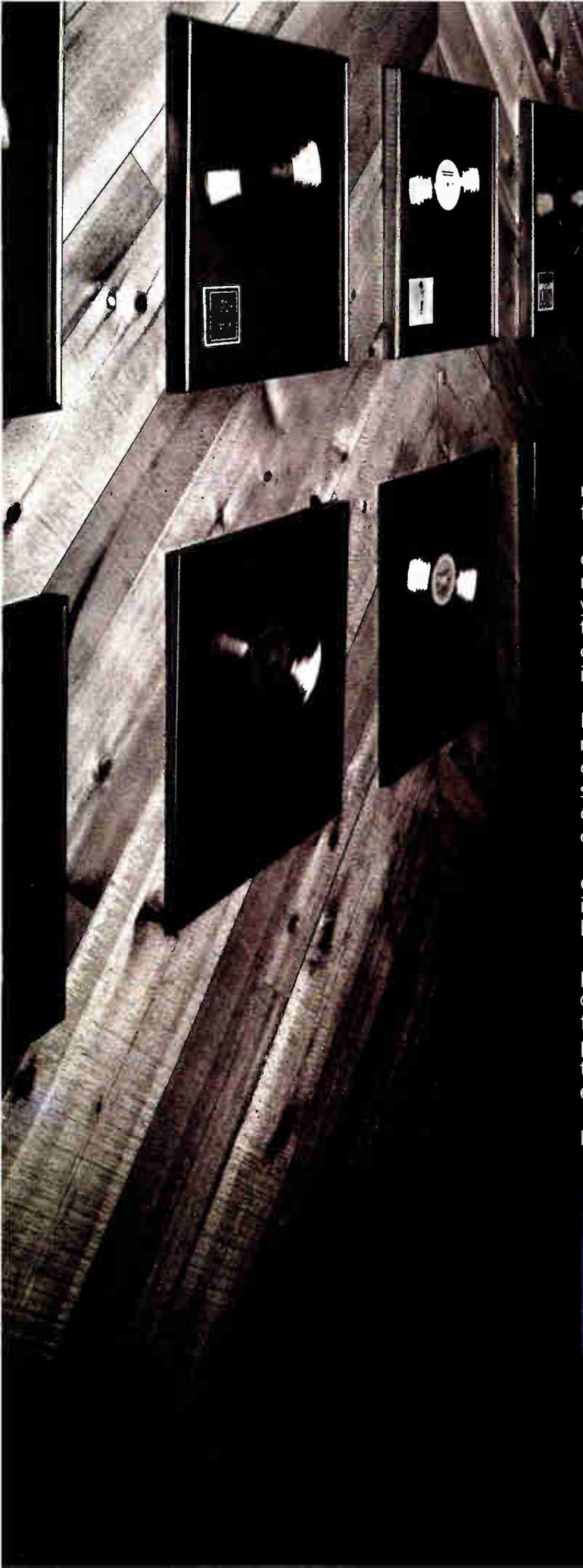
Other features of the sampler include up to 16.3 seconds of sampling time at 16 kHz mono, assignment of up to 32 sampled sounds to one "voice" for preservation of natural sound characteristics across the keyboard range, layering of up to 16 of these voices, key-crossfade function to allow gradual tonal changes rather than abrupt key splits across the keyboard, and touch-crossfade to permit up to 16 voices to blend in and out of each other as a function of key velocity.

Invariably, the majority of the show was filled with U.S. and Japanese equipment—most of the U.S. companies such as E-mu, Hybrid Arts, etc. enjoyed the relative calm of sealed off and soundproofed booths courtesy of their French distributor MLD (Musicland Distribution).

Italian newcomers Fatar showed an interesting new 88-note MIDI master keyboard, the Studio 88, featuring 100 patch programs and multiple splits. The keyboard is weighted and velocity

**Yamaha TX16W
Digital Wave Filtering Sampler**





WHAT YOU DO WITH THE M-600 MIXER IS YOUR BUSINESS.

That's why we've designed it to meet or exceed your most demanding requirements. And made it the easiest, most flexible professional mixing console you'll ever work with.

The M-600 is modular. Which means you can custom configure the console to *your* audio or video production needs. The M-600 lets you choose up to 32 input channels, or you can start with 16 or 24 input channels and expand the board as your needs change. Optional stereo modules can also be added to provide even more line inputs for MIDI instruments and video production convenience.

Installation and wiring is exceptionally easy. The M-600 is the only modular mixer that's available with all the necessary finished cables and installation hardware. And that can eliminate a lot of installation hassles and expense. At the same time, no other mixer at its price gives you multi-pin, computer-type connectors for quieter, more secure connections.

But the real pleasures of the M-600 will only be evident after it's in your studio. Up to 64 stereo or 128 mono inputs can be accessed directly from the top panel. A patch bay can be added for fast, flexible routing. That's convenience.

The M-600 has all the features you'd expect in a professional mixing console. Like balanced insert patch points on all inputs, PGM busses as well as the stereo master buss for increased signal processing capability. Plus sweep-type parametric EQ, balanced inputs and outputs, phantom power, talkback/slate channel and all the audio performance you'll ever need. Without the exorbitant price you don't need.

So check out the M-600 modular mixing console. It's ready for fame when you are.

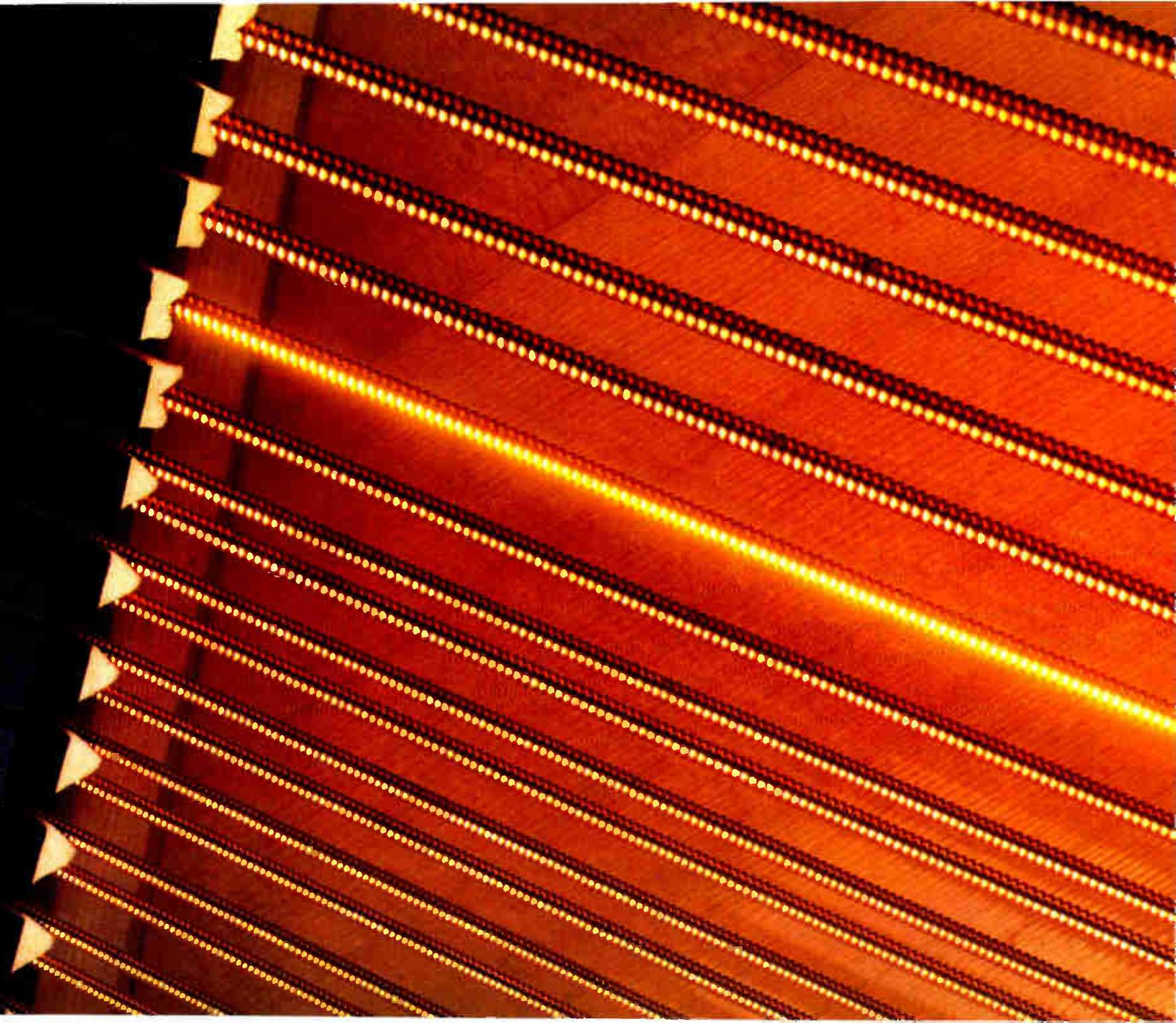


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**WE SPENT YEARS ANALYZING
THIS ONE SIMPLE EVENT.**



THEN WE DEVELOPED S/A SYNTHESIS TO RE-CREATE IT.

If you play piano, it's something you almost take for granted — you press a piano key, and a felt hammer strikes a string, which then vibrates. A sound is produced. But behind this seemingly simple event are a myriad of issues, all of which determine the nature and character of the sound. How hard did you strike the key, and at which part of the keyboard, and how long

was the note held? Sampled piano sounds, as good as they are, can provide only part of the answer. A sampler only looks at a small part of this process (for a very short time) and then simply loops it to create the whole event. That's why sampled pianos lack the dynamic response and sound character of a real piano, they don't see the whole

picture. (Don't get us wrong — we like samplers — it's just that they don't provide the best solution to reproducing percussive keyboard sounds.) We felt there must be a better way, and that's why we developed S/A Synthesis

Technology — the basis for all of our Digital Piano products. S/A (Structured Adaptive) Synthesis Technology began with years of research. Roland engineers analyzed the striking of each of the 88 keys on several of the top concert grand pianos using a computer-assisted three-dimensional analysis process. We hit the keys hard, we hit them soft, and hundreds of in-betweens. First came the discovery of several distinctive waveforms that essentially characterize each acoustic piano sound. But then we saw that the harmonic structure of these waveforms changes dramatically with how hard the key is struck or where it is on the keyboard. Also realized was the effect of sympathetic vibrations, soundboard resonance, damper and sostenuto pedals.

From this analysis, Roland engineers created advanced digital algorithms of these complex harmonic relationships — for each key on the piano. These were then refined to the ultimate degree, taking out all unnecessary noise and coloration.

Finally, these algorithms were combined with our proprietary VLSI (Very Large Scale Integration) hardware and software

technology to produce the S/A Sound Synthesis Chip, the circuit used in all Roland Digital pianos.

The result is already making musical history as the most faithful digital re-creation of the acoustic keyboard experience: the RD-1000, RD-300S and RD-250S Digital Pianos and the MKS-20 Digital Piano module — three

keyboard instruments and one MIDI module that provide the fundamental sounds essential to any keyboard set-up.

Just sit down at one of these instruments and experience grand pianos that are truly grand, ringing with life, brilliance and clarity, but with simultaneous depth and fullness on the low end of the keyboard. Strike a note hard and actually hear the sound of the hammer hitting the string. Play it gradually softer, and feel the tone get rounder. Hold down the damper pedal and experience the sustain and natural decay. But Roland engineers didn't stop with pianos, in addition to the two grand pianos and one electric grand piano, we've

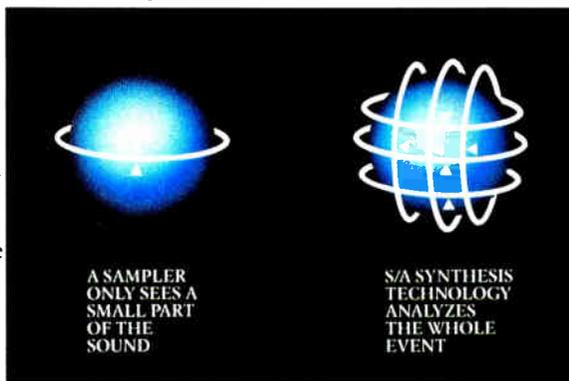
applied the same S/A Technology to create flawlessly realistic Vibes, two rich Electric Pianos as well as vibrant Harpsichord and Clavichord.

The three S/A keyboard instruments make great MIDI motherboards with their great action as well as their ability to be split and handle MIDI information to and from other equipment. The RD-1000 has 88 weighted wooden keys, and, like the MKS-20 Module, has the facility to store 56 edited equalization and effects settings of the digital sounds. The

88-key RD-300S and 76-key RD-250S incorporate the newly-developed SK-6 dynamic keyboard along with the same great S/A sounds.

If you haven't already experienced the breakthroughs of Roland's S/A Synthesis Technology, do it now. Play any one of these incredible instruments and compare them to any sampled piano — even those costing three times as much. Your ears will quickly tell you what thousands of musicians have been telling us — that our years of

exhaustive research were well worth the effort. *Roland Corp US, 7200 Dominion Circle, Los Angeles, CA 90040 (213) 685-5141.*



INTERNATIONAL · UPDATE

sensitive, responding to both attack and release velocity.

Elka demonstrated their FM sound-alike EK44 synth. They too have an 88-note master keyboard, the MK-88, which features a highly innovative repeat function whereby 4-bar phrases can be instantly programmed for repeats that then allow you to keep playing over the top. Also shown was the Elka-financed Lynx—a 16-bit Atari-based stereo sampler similar to Hybrid's ADAP. With this system the Atari's memory is not needed and so remains available to run a sequencing program.

From France, RSF's 12-bit SD140 Sampling Digital Drum Machine attracted considerable attention. It comes complete with 14 built-in drum sounds, 14 user memories, and room to store some 99 patterns and 30 songs.

Fittingly, the most outlandish product of show also came from France, from Maison Musicales. Basically they constructed a series of "African" wooden huts like giant marimbas which were built into a series of wooden chimes and other "instruments" you could bash about. When several people were



Farmyard Recording Studios, a residential facility 30 minutes from central London.

inside thrashing about, the combination of instruments and rhythms plus, of course, the resonance created by the hut itself was simply staggering. A brilliant idea for studios—perfect for those "let's get crazy on percussion" 12-inch remixes.

In all, the Paris show is well worth a visit, and as this pleasantly located, well presented event gathers momentum, I suspect the opportunity to show new international lines to Europe will

prove more irresistible each year.

—Tony Mitchell

Australia Gets a "Tunable" Live Room

Metropolis Audio Pty. Ltd. of South Melbourne has recently completed construction of a live acoustic environment in Studio One. Traditionally, live rooms in studios have been of fixed size and shape, thus producing only one type of reverberant quality unique

NEW INTELLIGENCE....



The Studiomasster IDP1 represents a new 'intelligent' approach to dynamics processing. It is a two channel MIDI compatible multi-effects unit.

The IDP1 can compress, expand, limit, gate, and duck. MIDI can be used to trigger these functions and perform auto-fades, pitch-bend auto-fades and auto-panning.

The IDP1 loses none of the user-friendliness of old analogue effects units and gives the advantage of being able to accurately store frequently used parameters. 100 memory positions are available to the user, and in addition to these there are 28 commonly used ones pre-programmed.

For a full colour brochure, contact Paul Reeve or Tony Allen at STUDIOMASTER INC., 1340-G Dynamics Street, Anaheim, CA 92806. Telephone: (714) 524 2227 Facsimile: (714) 524 5096

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STUDIOMASTER

The sound experience

to that room. One such studio is London's Townhouse, whose live room has become so famous for its distinct sound that bands fly in from all over the world to record their drums in it.

The design of a good live room can be a somewhat hit-or-miss affair, as the actual sound of the room is not known until it has been completed. The approach taken by Metropolis Audio allows the live area to be continually changed to create an infinite number of rooms of various sizes and shapes. This is achieved through the use of large hinged panels which can be pivoted to form the rooms. The floor is timber, the walls and ceiling are mainly plasterboard and the hinged panels are glass to provide visual contact between areas and add to the liveness of the environment. On one wall are various sized door panels mounted in the wall. When closed they create a very "live" environment. As each panel is opened the reverb time is progressively shut down. Attention to good acoustic design has been meticulously maintained to the point of building a bass absorber capable of absorbing energy down to 16 Hz.

The first use of the live room facilities at Metropolis Audio was made by international record producer Nick Launay, producing a new album for the Australian group Big Pig. Launay commented, "Working with Big Pig is a huge challenge to any engineer simply because they've got three drummers and the whole thing about their sound is that the drums are acoustic and you can't really cheat a lot by using drum machines. It was very important from the outset to find a recording studio that has a lot of variety in acoustic rooms and there aren't that many studios in the world, let alone Australia, that have different sounding rooms. I have always wanted to say to the assistant engineer, 'Can you move that wall slightly to the left?', and here we can actually do it."

British Royalty Attends AMS/Calrec Opening

The opening of the new AMS/Calrec premises in Burnley, Lancashire last November was attended by Queen Elizabeth and the Duke of Edinburgh. During the visit the Duke performed the official opening of the new plant in a ceremonial unveiling of a plaque commemorating the event.

Preceding the ceremony the Duke

was escorted by AMS managing director M.V. Crabtree and AMS sales and marketing director J.S. Nevison on a tour of the research and development and production departments. Prince Phillip was introduced en route to heads of departments and a number of staff. Along the way he conversed informally with a number of the more than 100 dignitaries, distributors and guests in attendance.

School of Audio Engineering in the USA

The Australia-based School of Audio Engineering, the largest audio training school in the world, with branches in 15 major locations including London, Sydney, Vienna and Munich, will soon be expanding to the United States. The SAE will open offices in the U.S. in the spring of 1988 with three fully equipped studios located in Los Angeles, and



The new resizeable live room area at the Studio One recording facility at Metropolis Audio Pty Ltd., in Melbourne, Australia.

will include the latest model 48/32 Neve console and Otari multi-track, as well as the necessary outboard equipment. The studios will only be available to students and will also feature a complete MIDI and digital tie-up.

The SAE will be the only school in the U.S. offering the full Tonmeister program which is also available at the German schools. It will be possible for a student to begin studies in Los Angeles and transfer to any of SAE's other locations worldwide. Tom Misner, president of SAE Inc. said, "We are very excited about our opening in the USA. It represents a major step for the com-

pany and will provide us with a truly international school network."

International Studio News

In Quebec, a self-contained Synclavier suite was implemented at **Le Studio Andre Perry**. The suite includes Lynx TimeLine to sync audio to audio and audio to video. . . Studio 1 at **CTS Studios** in London, arguably the largest recording room in the UK, has just undergone a major console refit. The new centerpiece in the control room is the Mark III Neve V Series 60-input 48-track automated in-line mixing console, the first of its kind in the United Kingdom. . . **Mayfair Studios** recently announced the opening of a new 24-track residential recording facility 150 yards away from its main studio in London. . . **Farmyard Recording Studios**, a residential facility 30 minutes from central London, has pur-

chased a Studer A820 24-track machine with Dolby SR installed. . . Steve Winwood has taken delivery of a Mitsubishi X-850 32-track digital recorder for use at **Netherturkdonic**, his private studios in Gloucestershire. . . In other British news, DDA consoles were recently purchased by Geoff Westly at **Parsifal Studios** of West London, who installed a 44-input AMR24 unit, and composer/musician **Christopher Cross**, who had a 36/24 console installed in his private studio. . . In the Far East SSL reports that it has delivered 56-input G Series consoles to **Aoi Studios**, **Sound Inn**, and **Vincent Studios** in Tokyo, and **Jigu Records** in Seoul, Korea. . . The government of Thailand has acquired 12 Harrison consoles for use in recording, on-air and broadcast production. ■

ITALY

A REPORT ON THREE STUDIOS

by **Fiorella Terenzi**

The music recording business in Italy is actively involved in incorporating the latest digital and analog technologies with traditional Italian classical compositional and production techniques. For this reason, European and international artists alike are attracted to Italian studios. Featured in this article are three studios which manifest this spirit.

Cetra Art Recording Studio

Cetra Art Recording is the newest studio designed by Fonit Cetra, and is a good example of an innovative Italian facility. Truly a full service studio, Cetra Art is equipped to do music scoring, electronic and live music recording and mixing, and LP and CD mastering. It is the only studio in Italy (and one of the few in all Europe) to feature a full complement of digital recording equipment. Through every phase of record-

ing and production, the artist has the option to work purely in the digital domain.

The studio is open—and busy—24 hours a day. Clients may commission musical pieces and they can receive full, high-level technical assistance in recording their own music. Each year

many film scores are recorded at the Cetra Art facility, both because of the reasonable production cost and the efficiency of the studio's equipment and staff.

In addition to the digital studio, featuring 24-track Sony PCM and 24-track Telefunken analog recorders and a



Corrado Rustici, producer of Italy's No. 1 pop album *Blue's*.



Above: Cetra Art Recording Studio

Man with Two Countries

If you live in Italy, you've heard his name. If you live in America, you've heard his guitar. Corrado Rustici is a man with two countries: most of the year he makes his home in San Francisco, USA, where he works as Narada Michael Walden's main studio guitarist and as the leader/guitarist of his own band, Holiday of Hands. Part of the year Rustici lives *la dolce vita* across the Atlantic, where he is a hugely successful producer and musician.

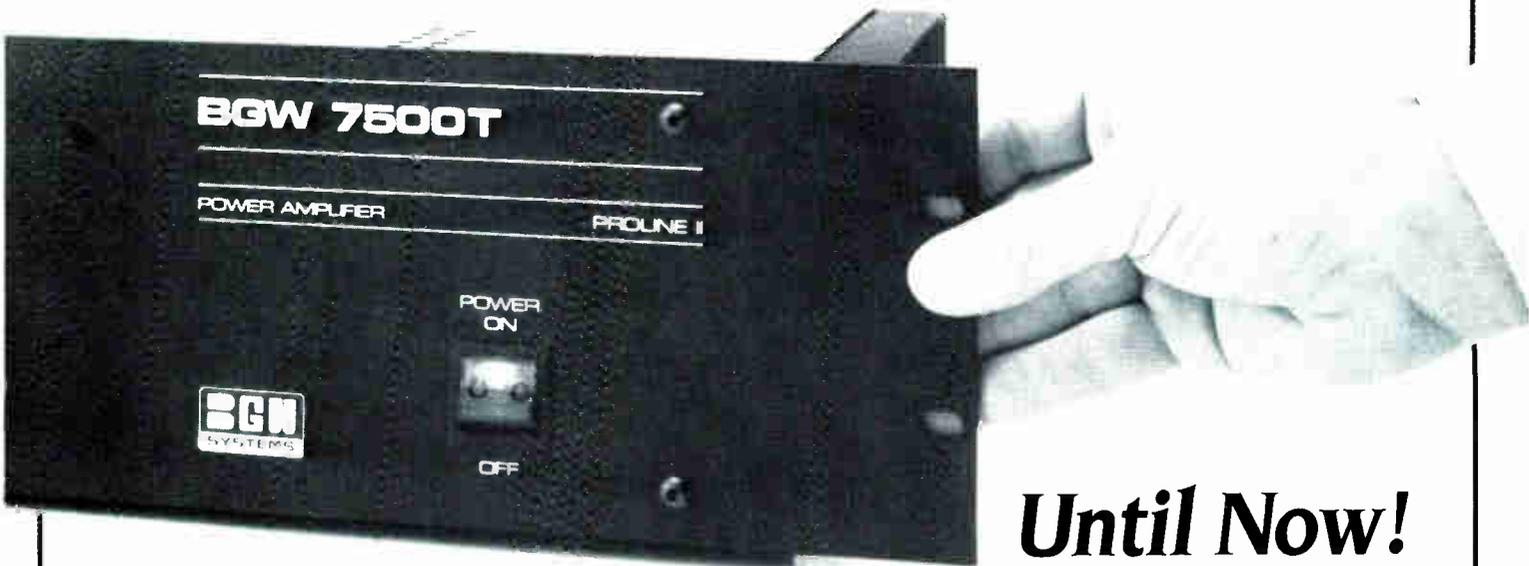
Today, Italy's Number One pop

album is *Blue's* by vocalist Zucchero Fornaciari, and produced and arranged by Rustici. *Billboard* recently reported that it "links brilliant musical contents with outspoken lyrics." Since its '87 release by PolyGram, nearly a million copies have sold (*mighty rare* in Italy). And unlike much of Italy's popular dance music, its lyrics are sung in Italian. Rustici also asked his studio pals to help out: *Blue's* is earmarked by saxman Clarence Clemons, keyboardist David Sancious, Paul Jones, and drummer Giorgio Francisc.

Rustici started out early in profes-

—CONTINUED ON PAGE 48

As You Might Expect, No \$700 Amplifier Has Ever Equalled The Performance, Quality And Reliability Of The \$1000 BGW 7500...



Until Now!

Introducing The BGW 7500T. \$1000 Performance At A \$699 Price.

There are thousands of BGW 7500 amplifiers in the field today. In every case, our \$1000 model 7500 was chosen over a number of lower priced alternatives, for its superior quality, durability and sonic performance.

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The 7500 and 7500T are the most rugged and reliable amplifiers you can buy. Inside, you'll find no trouble-prone relays and no sound-degrading IC's.

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—FROM PAGE 46, RUSTICI

sional music. By age 15 (1972), his fusion band Nova had released their first album. Later Nova moved to London and signed an Arista record deal. It was while Nova was recording at AIR Studios that Rustici met Narada Walden, who then was working with Jeff Beck on *Wired*. The two discovered that they spoke the same language. On *Vimana*, Nova's third release, Walden played drums, and he produced the fourth, *Wings of Love* (his first production effort). It hit the charts in America.

Where to go next? Rustici and Nova moved to Colorado, and then Los Angeles. Nova released one more record before disbanding. In 1979, Rustici moved to San Francisco to help Walden put together a band. Since then, we've all heard Rustici's guitar on Aretha Franklin and Whitney Houston hits.

On Rustici's first vacation back to Italy, he met Fornaciari. This led to Rustici's producing the singer's second album and arranging and producing *Blue's*. But he doesn't regularly do the transatlantic trip. "Zucchero sends me cassettes with him singing with a little keyboard, and I arrange it and rewrite some stuff here," says Rustici. He did fly to Bologna to record *Blue's* instrument tracks at Fonoprint and vocals at Umbi, a residential studio built in a farm villa. Rustici says *Blue's* "went against the trend in Italy towards all those big echoes. I tried to give him as dry a sound as possible, really like a quartet, very warm. It sounds so different when it comes on the

Soundcraft mixer, Cetra Art also provides a Sony CD mastering system with PCM 1610, BVU 800 DA and DAE 1100, and an LP mastering system featuring a Neumann VMS 70, an SAL 74 cutting amplifier and a Sony DDU 1510 digital delay.

A full mobile recording facility is also available for recording any type of music or audio event in any location. One of the most complete mobile studios in Italy, it has been used to record classical concerts and opera with full orchestra. Again, the client benefits from the high fidelity of the digital process, as the truck is equipped with a 24-track Sony PCM and 2-track Studer analog recorders, and Soundcraft mixers.

radio, everybody notices."

Always in demand in Italy, Rustici's production talents have graced an all-digital LP done at Splash Studios in Naples for pop vocalist Gianluigi DiFranco ("This album has Middle Eastern, jazz and pop influences, all put together in unbelievable vocal work"), and another LP for famous Italian rock singer Loredana Berté.

In the Bay Area—where Rustici's techno-pop/rock band Holiday of Hands scores major local gigs—he is gaining notoriety for his charismatic stage presence and his orchestra-in-a-guitar. This unique performance system, designed by Rustici, is based on a customized Jackson guitar with a Charvel MIDI interface, linked to a Roland D-50 keyboard, Akai S900 and 612 samplers, and custom outboard rack. He's currently working on a new system based on the Axxess Mapper, so he won't be "swamped with things to do on stage."

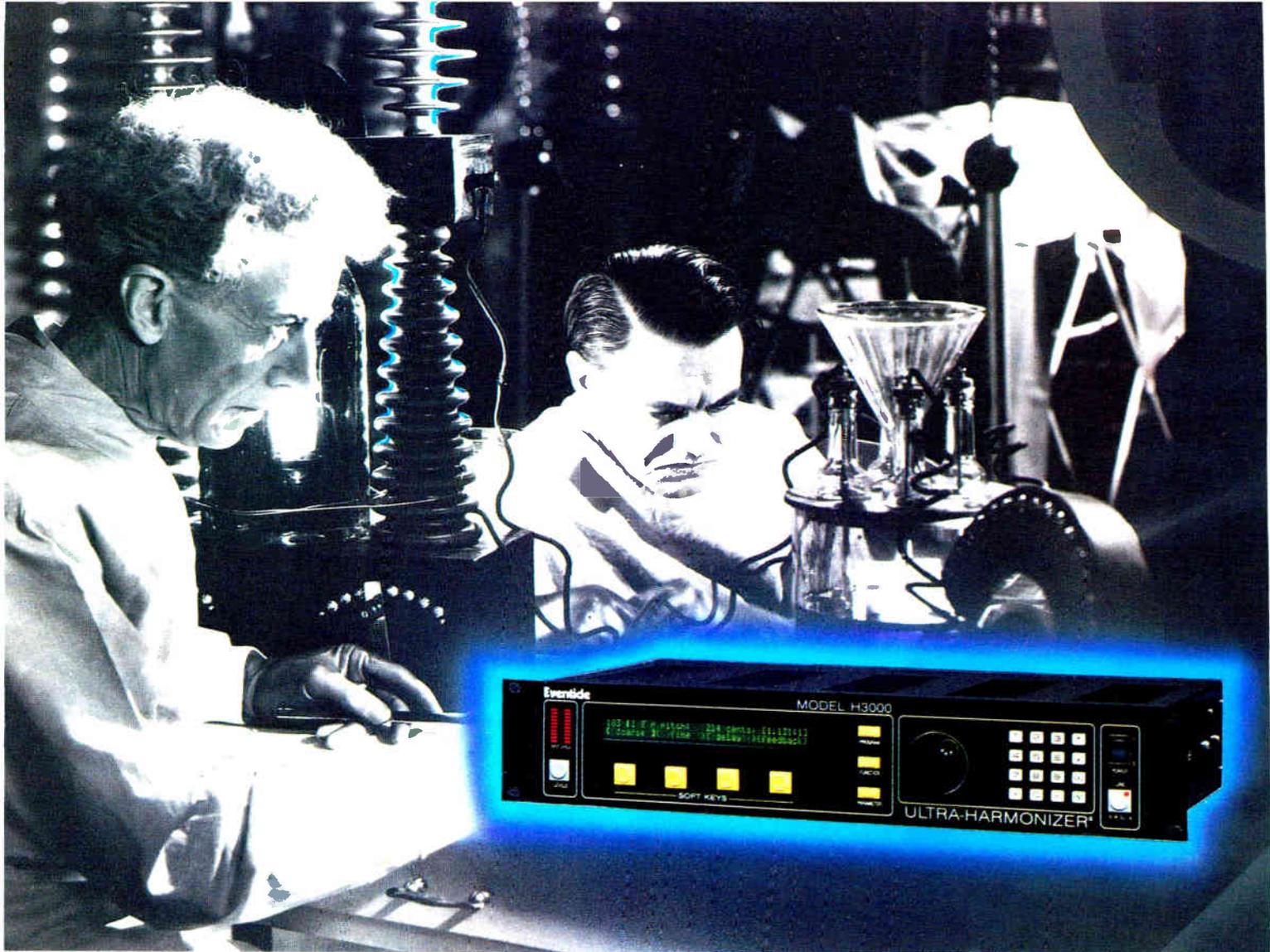
Talking about how his roots influence his producing, Rustici notes, "Being born in Italy, I listened to different kinds of music, like Neapolitan and classical. I think it's important to travel and get different influences from everywhere, because there's truth everywhere."

When asked if he plans to set up residence in Italy again, Rustici says "I want to break this country first. Also, I don't think I would be happy just moving back there. I think that my destiny is to lie somewhere in between, and be a bridge."

—Linda Jacobson

Psycho Studios Recording and Sampling

Completed in Milan in September, 1985, Psycho Studios is located on the ground floor of a three-story building whose upper floors offer furnished rooms and kitchens to the recording artists. The studio itself is comprised of a control room and two separate recording rooms. Psycho was designed along the lines of Studio One on Abbey Road in London, although its dimensions are slightly smaller. In fact, it is constructed of the same materials and features the same monitors and amplifiers as Studio One. Psycho features a full complement of synthesizers, samplers and MIDI equipment, as well as a



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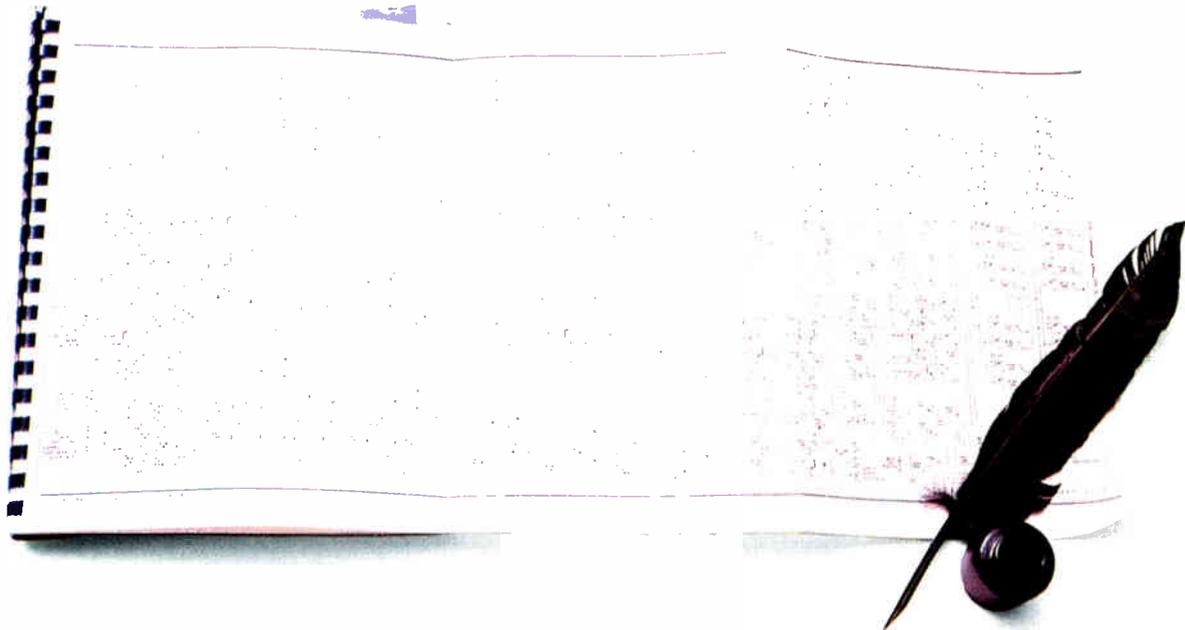
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You can put our designs to work in your studio. Whether you need to capture a perfect vocal, get every nuance of a drum kit, or input a hot sample that makes your synth sound its best,

your Neotek sound will be remarkably brilliant, clear, and musical.

That's why we work so hard to put our console designs at the leading edge of technology. It puts your sound ahead of all the muddy and fuzzy alternatives.

Great composers write each note carefully on the page. Every passage leads to their vision of the whole. So it is with Neotek's artists of circuit design.

We suspect that Brahms, Beethoven, and Mozart never wrote a schematic.

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A second studio, Psycho II, is currently being constructed in Milan. Vincent Van Haas, the designer of Psycho II, also designed A&M Recording Studios and Conway Studios in Los Angeles. Psycho II is designed in two parts. The first will be dedicated to live recording, and to support this, the room dimensions will be comparable to those of a movie theater. The studio will feature a 56-channel Neve Series V mixer and either an Otari 24-track analog or an Otari 32-track digital recorder. The second part of the studio will be devoted entirely to digital sound, and will include a facility for synthesis using the Fairlight Series III. It will also include a 48-channel Soundcraft TS-24 mixer and an Otari 24-track analog machine.

Claudio Dentes, owner of Psycho Studio, is very interested in staying on top of new digital technology, although often the finished product at Psycho is the result of a combination of natural acoustically produced tracks and sequenced, sampled and otherwise electronically produced tracks. Psycho's sound library for its Emulator (one of several sampling devices available) includes nearly 10,000 sounds. A Macintosh computer is available with sequencer software, as well as librarian programs for many of the studio's synthesizers.

Some of the most notable artists who have recorded at Psycho are John McLaughlin & the Mahavishnu Orchestra, Bill Evans, Airo Morreira, Larry Coryell, Danny Gottlieb, PFM and Dee Lewis. The studio also has its own record label which has produced numerous records.

Carimate Castle Recording Studio

Located in a 13th century castle near Lake Como, just outside Milan, Carimate Castle Recording Studios is situated in one of the most beautiful areas of the Lombardia region of Italy. The castle itself was first restored in the 1800s, and then more recently refurbished to become the home of a major recording studio and a favored site for many artists. The castle is 4,000 square meters, and is located on 50,000 square meters of park and garden, making this recording studio truly unique.

—CONTINUED ON PAGE 120

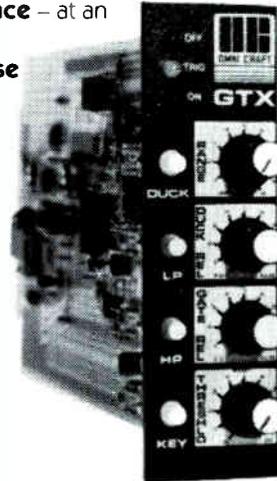
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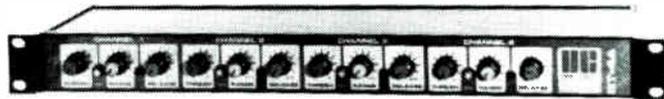
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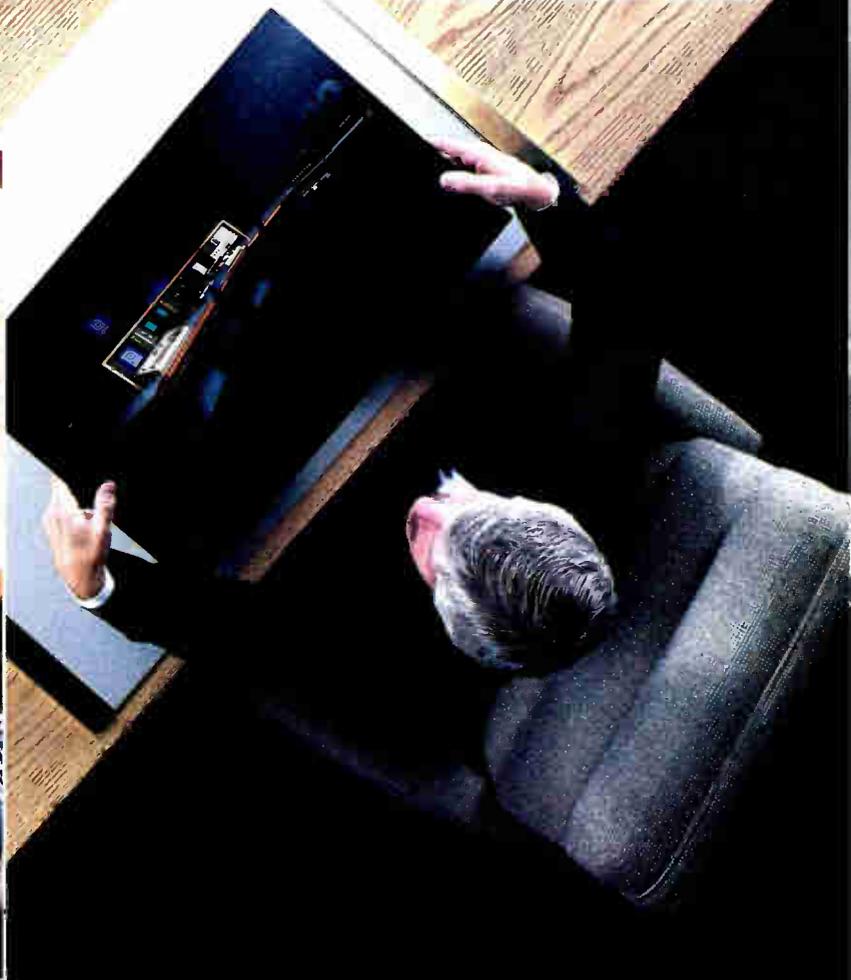
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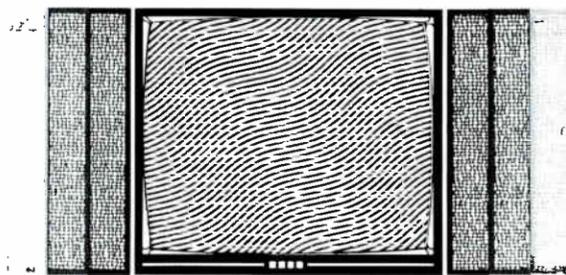
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BRITISH STEREO

In a move that is viewed by many as astonishing, the BBC in Britain has frozen plans for stereo TV sound until 1991. The broadcast and electronics industry had expected limited service to start this spring (1988) and are now reeling from the BBC's shocking announcement. Programs are ready. So are receivers.

The man behind the highly controversial decision is new BBC top dog and director-general, Michael Checkland. He trained as an accountant, worked as an accountant and is now, for better *and* worse, applying accounting principles to Britain's public television service. Every day it becomes clearer that Checkland was badly advised. The question now seems to be how soon he will seek a second opinion.

Britain was scheduled to be the first country in the world to use a digital audio system for terrestrial transmission directly into viewers' homes. Currently, all television programs in all countries are broadcast with analog picture signals on one carrier and analog mono sound signals on a second carrier of higher frequency. The spacing between carriers differs from country to country but is usually around 5 or 6 MHz.

For stereo, Japan chose a multiplex system similar to that already used around the world for stereo radio. In piggyback fashion, the FM sound carries an extra sub-carrier for the stereo sound.

Europe, led by West Germany, refused to adopt the Japanese system. Engineers argued that it could not ade-

TV

At A Standstill

quately separate two different language channels, and politicians wanted to limit low-cost imports from the Far East. The West German system puts the stereo signal on a second sound carrier which is transmitted at a slightly higher frequency than the main sound carrier.

The U.S. modified the Japanese multiplex system. The essential difference is that the stereo sub-carrier is dbx-processed.

The BBC then added digital techniques to the West German system. There are two carriers. One, with mono sound, is analog and picked up by existing receivers. The second carries digital code, for reception by a new generation of sets. It is transmitted at 6.552 MHz above the vision carrier.

For stereo hi-fi, the sound is sampled at 32 kHz and encoded into 14-bit words which are then compressed to 10 bits. The system is called Nicam 728 because it relies on the "near-instantaneous companding" techniques used by the BBC for 20 years to send radio signals round the country, and the

overall data rate is 728 kilobits per second.

Separation is so good that instead of carrying mono and stereo music, the three channels (mono analog, digital stereo) can each carry completely different full-bandwidth audio for multilingual programs. The third possibility is for one or both digital sound channels to be replaced by data for teletext, graphics, paging signals or even still pictures.

The Nicam system was designed to mesh with the stereo sound system which will be used for MAC satellite transmissions. For both MAC satellite transmissions and Nicam terrestrial stereo, the stream of digital information is divided up into packets. The packets for MAC are the same as the packets for Nicam. So the stereo sound chips in a satellite receiver will be compatible with the chips in a Nicam receiver.

By 1984 the BBC had proved Nicam 728 by test transmissions from Wenvoe in South Wales (to check the effect of multipath caused by local mountains), in London from Crystal Palace, and from Rowridge on the Isle of Wight, across water.

The digital signal is so robust that clear stereo is heard even when the pictures have been spoiled by noise and interference. In September 1986, the BBC proudly announced that the British government had approved this system as a new standard. The electronics industry trade body BREMA (British Radio Electronic Equipment Manufacturers Association) passed the good news on to its members—and

by Barry Fox

FEBRUARY 1988, MIX 53



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Following the burn-in period, the amplifiers are monitored for DC bias stability for approximately

another full day. At this point, they are returned to the test bench for another complete checkout of all operating parameters and functions, at which time a test sheet is made, and included in the packing with the unit.

As may be seen, Bryston takes very seriously the correct functioning and long term reliability of its products.

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Bryston contends that the term 'best' should apply to the honesty, pride and courage with which we conduct our business, as well as to the performance of our products.

For this reason, you will not find Bryston's products being cosmetically "updated" on a regular basis merely in order to keep the customer's interest, in something 'new'. If we make a change in the circuitry, it will be because, and only because, it yields a worthwhile performance or reliability improvement.

We feel that regular sweeping revisions to basic circuit design (accompanied by revised jargon) to be cynical marketing on the part of the manufacturer and insulting to the discerning customer.

“Nicam is probably the most important development since color. The public have been made aware and they want it. The market is ready, but who gets egg on their faces? The manufacturers.”

all the major manufacturers started to design stereo TV receivers, recorders and decoders.

An experimental Nicam service has been operating in the London area from Crystal Palace for at least a year. Unannounced, talk shows, sports events, music programs and selected feature films have been transmitted in stereo for the benefit of engineers and designers. Although no official launch timetable was ever published by the BBC, the electronics industry has been expecting the engineering tests to roll

out this spring into an official service which expands over the next three years.

But in October, when Michael Checkland unveiled his strategy for the 1990s, he talked only of “formulating a policy on the introduction of stereo sound for television in the 1991 triennial review.”

“We have been led up the garden path,” says a spokesperson for JVC, whose Japanese engineers worked closely with the BBC. JVC already has a Nicam video recorder on sale in Britain; it contains microchips custom-

made by Toshiba. Mullard (a subsidiary of Philips) and Texas Instruments are also making chips.

Ferguson’s commercial director Peter Brice adds, “It is a shame that in a field generally dominated by Japanese inventions, the BBC is prepared to sit back and see Britain’s leading position eroded.”

Most of the TV manufacturers in Britain are now owned by Japanese companies. Peter Hamblin is marketing director for Panasonic, which employs about 850 people at TV factories in Cardiff. Since May 1987, Panasonic has been making all higher-price sets convertible to Nicam. “We have done an enormous amount of work at our technical centers both in Cardiff and Japan,” says Hamblin, “and it’s all to no avail.”

“Nicam is probably the most important development since color. The public have been made aware and they want it. The market is ready but who gets egg on their face? The manufacturers.”

“We are very disappointed,” says a spokesperson from Hitachi. “We have lost export potential because our factory at Hirwaun would have produced Nicam sets for all Europe.”

“I regret the situation,” said Michael Checkland recently at an industry conference “whereby you have sets and we don’t have programs, and I hope it never occurs again.”

The trade body BREMA has proved singularly ineffective and seems worried about offending the BBC.

The bottom line is that Checkland has been poorly advised on the amount of stereo program material available for transmission—his own staff estimates that at least 20% of the BBC’s output is already available in stereo.

Most modern cinema feature films now have Dolby stereo soundtracks. Almost all music video programs in Britain are made in stereo, either for domestic release on tape or the new CDV videodisc format or for transmission in countries which already have stereo, or are due to start soon. Most soaps and mini-series from America are available in stereo. If the BBC gets mono copies of this material, it is only because that is what the U.S. suppliers think the BBC wants.

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54 MIX, FEB

The BBC’s outside broadcast teams are equipped to cover events in stereo. Music concerts are routinely covered in stereo for simulcast, radio or foreign transcription sales.

On the Continent, Germany is paying the penalty of being the first country in Europe to go stereo—with an inferior system. Shelving Nicam in its country of origin does little to inspire confidence in uncommitted countries!

The good news for the broadcast and electronics industries—and the bad news for the BBC—is that the Independent Broadcasting Authority and its commercial TV companies have been spurred into action by Check-

land’s decision. Commercial TV station TVS, which serves the South of England, typifies the get-up-and-go spirit which is now running through ITV. Says Robert Edwards, deputy head of sound at TVS:

“Now that the BBC has gone cold on stereo, ITV can take the lead. Advertisers already use stereo on radio. If companies like Pepsi and Coca-Cola can transmit musical TV commercials in stereo, they will pay more to do so.”

“The availability of stereo is equivalent to the change from 405-line black-and-white TV to 625-line color in the late ‘60s.”

The IBA had originally planned the

leisurely introduction of stereo after the BBC. Now there is a crash program to convert the ITV’s transmitters, production centers and distribution links to stereo. But this is nowhere near as easy as the independent production facilities and electronics industry assume.

The BBC is already set up for networking TV programs around Britain, starting mainly from London. This is done with a system called Nicam 3 and “sound-in-synchs.” For distribution between transmitters, the TV sound is converted into digital code and slotted into the gaps in the video waveform which are conveniently formed by picture synchronization pulses. This means that both sound and pictures can be sent over the same single vision link.

Nicam 3 samples the mono sound at 32 kHz, and converts it to 14-bit code words which are then compressed to 10-bit words, to give a data rate of 338 kilobits/second. This fits neatly into the PAL TV system 4.7 microsecond sync pulse gaps.

Obviously the distribution links must be able to carry stereo if the transmitters are to broadcast stereo. The BBC has developed a new sound-in-synchs system which squeezes a quart into a pint pot, by widening the time slot and using quaternary coding—the signal changes through four steps instead of two. So stereo sound at 676 kilobits/second is carried in the vision synchs. Work has already begun on converting the BBC’s mono distribution links to stereo. It will continue despite Checkland’s freeze.

Here is where the ITV stations have a special problem: ITV programs originate from all over the country and bounce around a cobweb network of land lines and microwave links. The signal from TVS’ Maidstone studios goes to Southampton; from there, back to the British Telecom microwave tower in London; and from there to Dover and back from Dover to a small relay at Bluebell Hill.

Currently, the mono sound and vision signals travel separately, along landlines and radio links. This is impractical for stereo, because sometimes British Telecom will route the left and right legs of the link along different routes and so destroy phase coherence. Even with sound in synchs, every link in the chain and node in the network will degrade a Nicam signal by adding 3 dB in noise and a 13-millisecond delay

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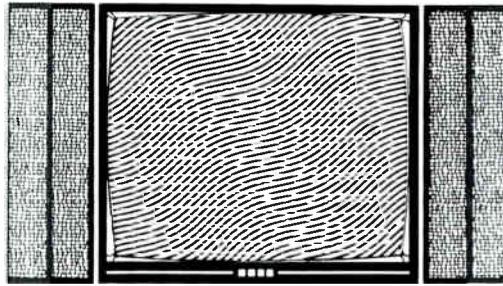


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BRITISH STEREO

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TV

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quately separate two different language channels, and politicians wanted to limit low-cost imports from the Far East. The West German system puts the stereo signal on a second sound carrier which is transmitted at a slightly higher frequency than the main sound carrier.

The U.S. modified the Japanese multiplex system. The essential difference is that the stereo sub-carrier is dbx-processed.

The BBC then added digital techniques to the West German system. There are two carriers. One, with mono sound, is analog and picked up by existing receivers. The second carries digital code, for reception by a new generation of sets. It is transmitted at 6.552 MHz above the vision carrier.

For stereo hi-fi, the sound is sampled at 32 kHz and encoded into 14-bit words which are then compressed to 10 bits. The system is called Nicam 728 because it relies on the "near-instantaneous companding" techniques used by the BBC for 20 years to send radio signals 'round the country, and the

overall data rate is 728 kilobits per second.

Separation is so good that instead of carrying mono and stereo music, the three channels (mono analog, digital stereo) can each carry completely different full-bandwidth audio for multilingual programs. The third possibility is for one or both digital sound channels to be replaced by data for teletext, graphics, paging signals or even still pictures.

The Nicam system was designed to mesh with the stereo sound system which will be used for MAC satellite transmissions. For both MAC satellite transmissions and Nicam terrestrial stereo, the stream of digital information is divided up into packets. The packets for MAC are the same as the packets for Nicam. So the stereo sound chips in a satellite receiver will be compatible with the chips in a Nicam receiver.

By 1984 the BBC had proved Nicam 728 by test transmissions from Wenvoe in South Wales (to check the effect of multipath caused by local mountains), in London from Crystal Palace, and from Rowridge on the Isle of Wight, across water.

The digital signal is so robust that clear stereo is heard even when the pictures have been spoiled by noise and interference. In September 1986, the BBC proudly announced that the British government had approved this system as a new standard. The electronics industry trade body BREMA (British Radio Electronic Equipment Manufacturers Association) passed the good news on to its members—and

by Barry Fox

“Nicam is probably the most important development since color. The public have been made aware and they want it. The market is ready, but who gets egg on their faces? The manufacturers.”

all the major manufacturers started to design stereo TV receivers, recorders and decoders.

An experimental Nicam service has been operating in the London area from Crystal Palace for at least a year. Unannounced, talk shows, sports events, music programs and selected feature films have been transmitted in stereo for the benefit of engineers and designers. Although no official launch timetable was ever published by the BBC, the electronics industry has been expecting the engineering tests to roll

out this spring into an official service which expands over the next three years.

But in October, when Michael Checkland unveiled his strategy for the 1990s, he talked only of “formulating a policy on the introduction of stereo sound for television in the 1991 triennial review.”

“We have been led up the garden path,” says a spokesperson for JVC, whose Japanese engineers worked closely with the BBC. JVC already has a Nicam video recorder on sale in Britain; it contains microchips custom-

made by Toshiba. Mullard (a subsidiary of Philips) and Texas Instruments are also making chips.

Ferguson’s commercial director Peter Brice adds, “It is a shame that in a field generally dominated by Japanese inventions, the BBC is prepared to sit back and see Britain’s leading position eroded.”

Most of the TV manufacturers in Britain are now owned by Japanese companies. Peter Hamblin is marketing director for Panasonic, which employs about 850 people at TV factories in Cardiff. Since May 1987, Panasonic has been making all higher-price sets convertible to Nicam. “We have done an enormous amount of work at our technical centers both in Cardiff and Japan,” says Hamblin, “and it’s all to no avail.

“Nicam is probably the most important development since color. The public have been made aware and they want it. The market is ready but who gets egg on their face? The manufacturers.”

“We are very disappointed,” says a spokesperson from Hitachi. “We have lost export potential because our factory at Hirwaun would have produced Nicam sets for all Europe.”

“I regret the situation,” said Michael Checkland recently at an industry conference “whereby you have sets and we don’t have programs, and I hope it never occurs again.”

The trade body BREMA has proved singularly ineffective and seems worried about offending the BBC.

The bottom line is that Checkland has been poorly advised on the amount of stereo program material available for transmission—his own staff estimates that at least 20% of the BBC’s output is already available in stereo.

Most modern cinema feature films now have Dolby stereo soundtracks. Almost all music video programs in Britain are made in stereo, either for domestic release on tape or the new CDV videodisc format or for transmission in countries which already have stereo, or are due to start soon. Most soaps and mini-series from America are available in stereo. If the BBC gets mono copies of this material, it is only because that is what the U.S. suppliers think the BBC wants.

The Shepherds Bush Theatre in London, where most talk shows are taped, has already been converted to stereo for *The Wogan Show*. Pop programs like *Top of the Pops* have already been simulcast in stereo with BBC radio.

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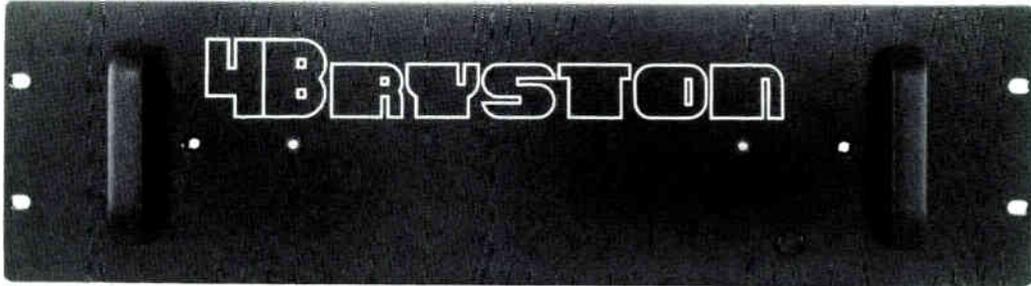
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The BBC's outside broadcast teams are equipped to cover events in stereo. Music concerts are routinely covered in stereo for simulcast, radio or foreign transcription sales.

On the Continent, Germany is paying the penalty of being the first country in Europe to go stereo—with an inferior system. Shelving Nicam in its country of origin does little to inspire confidence in uncommitted countries!

The good news for the broadcast and electronics industries—and the bad news for the BBC—is that the Independent Broadcasting Authority and its commercial TV companies have been spurred into action by Check-

land's decision. Commercial TV station TVS, which serves the South of England, typifies the get-up-and-go spirit which is now running through ITV. Says Robert Edwards, deputy head of sound at TVS:

"Now that the BBC has gone cold on stereo, ITV can take the lead. Advertisers already use stereo on radio. If companies like Pepsi and Coca-Cola can transmit musical TV commercials in stereo, they will pay more to do so.

"The availability of stereo is equivalent to the change from 405-line black-and-white TV to 625-line color in the late '60s."

The IBA had originally planned the

leisurely introduction of stereo after the BBC. Now there is a crash program to convert the ITV's transmitters, production centers and distribution links to stereo. But this is nowhere near as easy as the independent production facilities and electronics industry assume.

The BBC is already set up for networking TV programs around Britain, starting mainly from London. This is done with a system called Nicam 3 and "sound-in-syncs." For distribution between transmitters, the TV sound is converted into digital code and slotted into the gaps in the video waveform which are conveniently formed by picture synchronization pulses. This means that both sound and pictures can be sent over the same single vision link.

Nicam 3 samples the mono sound at 32 kHz, and converts it to 14-bit code words which are then compressed to 10-bit words, to give a data rate of 338 kilobits/second. This fits neatly into the PAL TV system 4.7 microsecond sync pulse gaps.

Obviously the distribution links must be able to carry stereo if the transmitters are to broadcast stereo. The BBC has developed a new sound-in-syncs system which squeezes a quart into a pint pot, by widening the time slot and using quaternary coding—the signal changes through four steps instead of two. So stereo sound at 676 kilobits/second is carried in the vision syncs. Work has already begun on converting the BBC's mono distribution links to stereo. It will continue despite Checkland's freeze.

Here is where the ITV stations have a special problem: ITV programs originate from all over the country and bounce around a cobweb network of land lines and microwave links. The signal from TVS' Maidstone studios goes to Southampton; from there, back to the British Telecom microwave tower in London; and from there to Dover and back from Dover to a small relay at Bluebell Hill.

Currently, the mono sound and vision signals travel separately, along landlines and radio links. This is impractical for stereo, because sometimes British Telecom will route the left and right legs of the link along different routes and so destroy phase coherence. Even with sound in syncs, every link in the chain and node in the network will degrade a Nicam signal by adding 3 dB in noise and a 13-millisecond delay

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due to digital buffering. For the BBC there are not enough nodes to matter. For ITV there are far too many.

The IBA wants to use 16-bit linear coding instead of companded Nicam for sound in syncs. It is just possible to squeeze 16-bit stereo into the sync pulse spaces but there is less room for error correction, so the signal is not robust. The IBA is currently experimenting with prototype linear encoders, but all this delays the start of work on a stereo network.

Also there is disagreement inside the IBA on how best to produce the mono signal for transmission for a stereo feed. Instead of simply summing the left and right legs at the transmitter, the IBA is experimenting with the idea of shifting the right channel through 90 degrees before summing, to narrow center front dialog. Sound engineers are not happy with the idea, which means another potential source of delay.

Already TVS is experimenting by making programs in both mono and stereo versions, and stockpiling opera in stereo from Glyndebourne. TVS also tries out stereo techniques with live bands

The bottom line is that Checkland has been poorly advised on the amount of stereo program material available for transmission—his own staff estimates that at least 20% of the BBC's output is already available in stereo.

and studio talk shows. Drama is mixed using film techniques, with mono dialog and stereo effects and music. Neumann M/S mics have been tried, with one channel used for mono and the other recorded as a separate difference track to leave the options on stereo

width open for later mixing.

Because the BBC has both radio and television networks, television can rely on radio people to have stereo experience. But it's not the same for commercial television, because commercial radio and TV stations are quite separate bodies.

"So we are doing rough mixes on stereo to learn," says Robert Edwards. "For instance, we found that moving a wide stereo mic on a boom quite literally makes viewers feel sick. The best results so far are from using the M/S mic with an artificially narrowed image."

Best estimates are that the IBA will be running on-air tests before the end of 1988, and will start a limited service from London and a few other areas around Britain in 1989. This will put commercial TV at least a year ahead of the BBC. When the inevitable happens, and ITV wins viewers from the BBC, accountant Checkland's decision will be judged a disaster for the BBC. ■

London-based Barry Fox specializes in writing digital audio perspectives for leading European technical magazines.

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A Look At Britain's

Digital Information Exchange

by Richard Elen

The Digital Information Exchange is fast becoming one of Britain's most interesting and useful pro audio events. Now in its third year, the Exchange began life primarily as a showcase for Sony digital audio products (it is held by Sony Broadcast, Sony's professional wing in the UK; and HHB Hire & Sales, one of their main distributors). With experience behind it, the Exchange broadened last November to include a wide range of manufacturers, in a pleasant and reasonably intimate atmosphere—the Private Members' Suite at the London Zoo, Regent's Park, an excellent location for the combination of lectures, question-and-answer sessions, and "hands-on" experience concerning digital (primarily digital audio) techniques offered by DIE.

The event was expanded to four days this year, two days of recording industry-related topics sandwiched between a first day concentrating on broadcast and video applications of digital technology, and a final day concerning scientific and industrial applications.

Highlights of the first day included the new Code of Practice introduced by the Independent Broadcasting Authority, controllers of Britain's commercial radio and television network. These supersede previous specifications which covered analog techniques only, and these in a context of mono TV sound on poor-quality sets.

Then Gert-Jan Vogelhaar of Philips DuPont Optical gave a modified version of his recent AES paper on CD

Video production considerations. Making a CDV master is not a simple business: from the international standard of the audio compact disc, we move into an area where differing video standards once again complicate matters. The problem lies in the fact that digital audio CD's 44.1 kHz sample rate does not sit easily with either NTSC or PAL video frame rates—so at the very least, "template" tapes must be pre-prepared with at least two different time code formats recorded on them, to sync the various machines and systems required. And that complication could doom an otherwise exciting format.

Noted international technical journalist, and occasional contributor to *Mix*, Barry Fox, continued the tale of system failure due to differing video "standards" in a discussion of European DBS plans. DBS, he says, stands for "Don't Bother Starting," or "Don't Buy Shares." By the time the official, highly expensive 3-channel British satellite has gone on the air in 1989 there will already be a 16-channel independent bird up there—in a different part of the sky and with a different broadcast standard.

Guy McNally discussed the benefits of direct-access (i.e. hard-disk) audio editing in the context of the Digital Audio Research Soundstation II, and described the requirements of this type of system in operational terms: the need, for example, for varispeed, level adjustment and mixing; the abil-

ity to slip tracks and change crossfade edit lengths, and so on. And there must be a useful and productive human interface.

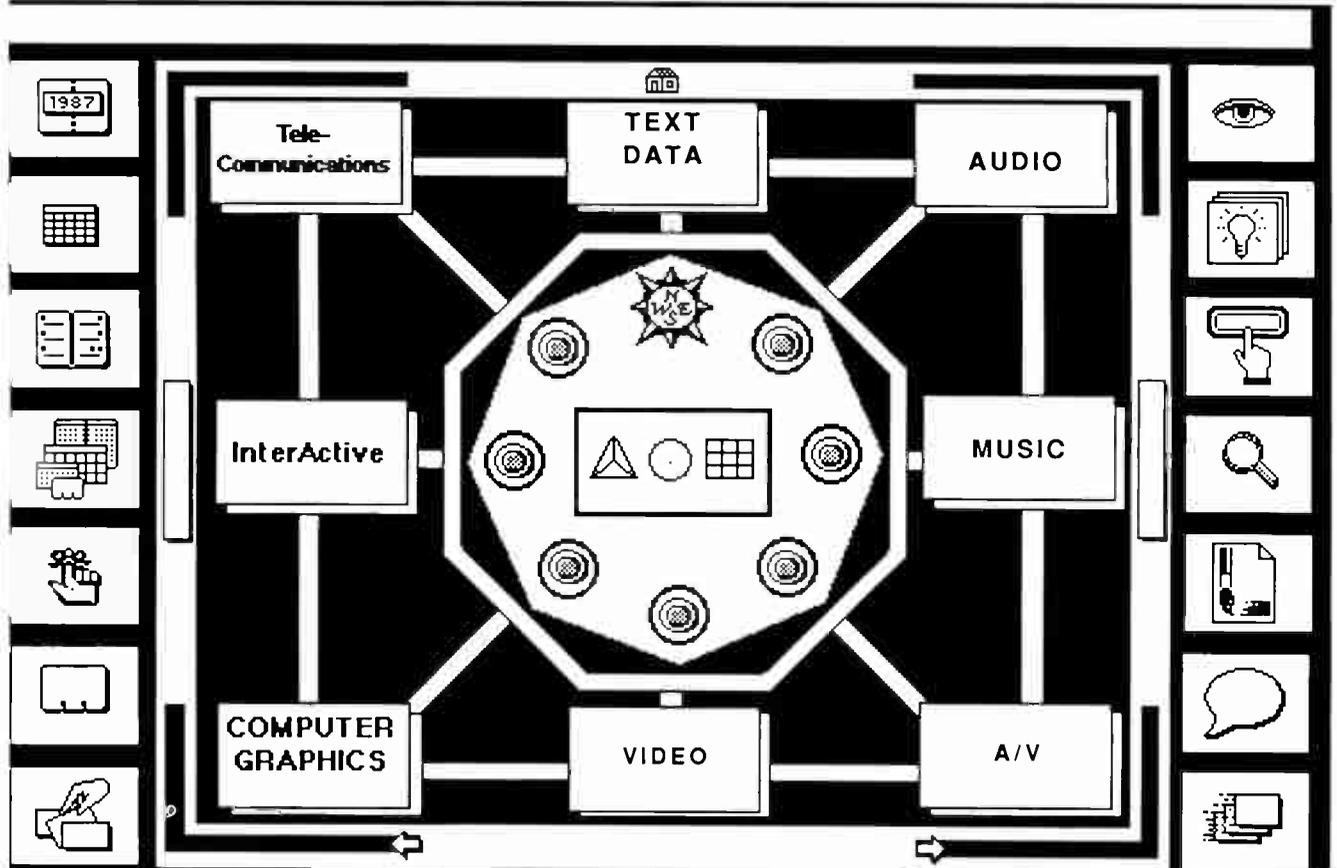
Later in the day, after a rundown of the possibilities of DAT, we heard from David Smith on the penetration of digital technology into U.S. broadcasting. "Not very much" was how he put it, but those who were using digital audio were using it extensively—compact discs for jingles, effects, music libraries and special compilations sent to broadcasters by the record companies; CD as the standard format for on-air music, AM and FM, despite the lack of a truly "pro" player; R-DAT in use by classical music stations and by CNN for circulating their specially-commissioned music cues. And Smith supplied a survey of just a few U.S. production facilities using digital. We were all impressed.

On Day Two, Dr. Roger Lagadec introduced the facts of R-DAT in a professional environment. It was a consumer format, he said, and couldn't be expected to offer everything a pro user required. Editing, synchronization and other features promised in the hype might take years to appear. And R-DAT is not the best way of doing everything—CD mastering, for example, might be better performed on a stationary-head system. And it should not be forgotten that R-DAT, as a consumer system, was not built with longevity in mind.

David Smith re-appeared to talk about the benefits of good filter de-

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sign—with the help of Christoph Heidelberg from Apogee—and later, on the topic of oversampling converters: common practice in home CD players but underexploited in the studio. Tony Griffiths of Decca gave us a useful understanding of the fundamentals of digital signal processing, with practical examples: why you need dither in your digital faders, and what happens when you overload a digital system (all the ones turn to zeroes with a nasty bang).

Haydn Bendall of Abbey Road and producer Mike Hedges took a look at the problems and benefits of digital audio systems, and why record companies are unwilling to spend the money on digital multi-track. They say it could increase recording costs by a third and wasn't necessarily always desirable—for example, for a band's first album. But it was pointed out that recording costs were only a few percent of the overall budget for an album. . . .

The day closed with a discussion of the need to integrate the capabilities of a digital studio system combining digital audio processing and hard-disk recording/editing, given by someone who should know, Bill Aitken of SSL. Their design system is quite well-known now, but Aitken focused on the need to put storage, processing power, and control sophistication together in the right balance—and at the right place at the right time.

His lecture was preceded by an extended presentation of Fairlight's MFX post-production system and the new Fairlight cards. Impressive they were too, especially the Apogee-equipped D/A board, the AES/EBU digital interface, and the 68020-based multi-tasking Waveform Supervisor card which offers multi-track hard disk recording and the capability of having two people using the machine at once.

Day Three was packed with presentations, led off by Cary Fisher's survey of the state of digital multi-track worldwide. Fisher has the useful perspective of having worked for both the major manufacturers, and estimates that today there are 190 machines in North America, 70 in Britain, 110 in Europe and 110 in Asia, including a very high penetration in Japan.

Then Nick Hopewell-Smith, DIE producer, gave one of his interesting presentations about what the record industry was doing wrong. In this case, he went through all the business fears about DAT and dismantled them one by one—so efficiently, in fact, that we

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were left wondering whether DAT was any use for anything in the consumer field. What was there that you couldn't do more easily and effectively with compact disc, apart from making compilation tapes? And with the highly disappointing sales of DAT machines to Japanese consumers, it looks to me as if the record company boycott of the digital tape format might just assist the demise of the system. All they have to do is keep it up: no unpleasant copy-code outcry or legislation to worry about.

Hopewell-Smith feels the time is right for the record industry to reduce the price of CD software and make it into the mass-market medium it should be—and believes the “threat” of DAT might just bring that about.

After Andy Hilton—one of Britain's digital equipment rental specialists—had given us all the good reasons for renting digital rather than (or perhaps before) buying it, and after a hasty lunch, we saw the return of Dr. Lagadec, this time tongue firmly in cheek, relating the findings of his colleague “Professor R. Lecoq,” who had extended Dr. Diamond's dubious research by using “studio personnel and, where possible, humans” to find that the male response in intimate situations was impaired by digital audio. Frequencies around 3.8 kHz were to blame, he related metaphorically, and of course they couldn't simply be removed with a notch-filter applied to the master tape! So a “lower-level” solution had been found by utilizing the latest “thin-film” techniques. Like the WORM optical disk this “audio prophylactic” could be “used once, but not re-used.” A good time was had by all.

On more serious matters, we received a useful overview of the Neve Digital Transfer Console (DTC) and of the superb AMS Audiofile—and how they could be used together—from Andy Proudfoot and John Andrews of Neve, Stuart Nevison of AMS, and Ian Gillespie of Tape One Studios, who are users of the system.

Then we heard from Bob Ludwig of Masterdisk, another DTC owner. In a fascinating presentation we heard how he had moved from analog to digital disc-cutting, and we gained glimpses of some awesome monitoring in the facility. The day was completed by the least worthwhile presentation of all (Mark Varney reading a lecture which could have been copied verbatim from the Philips “Red Book” of CD specs.

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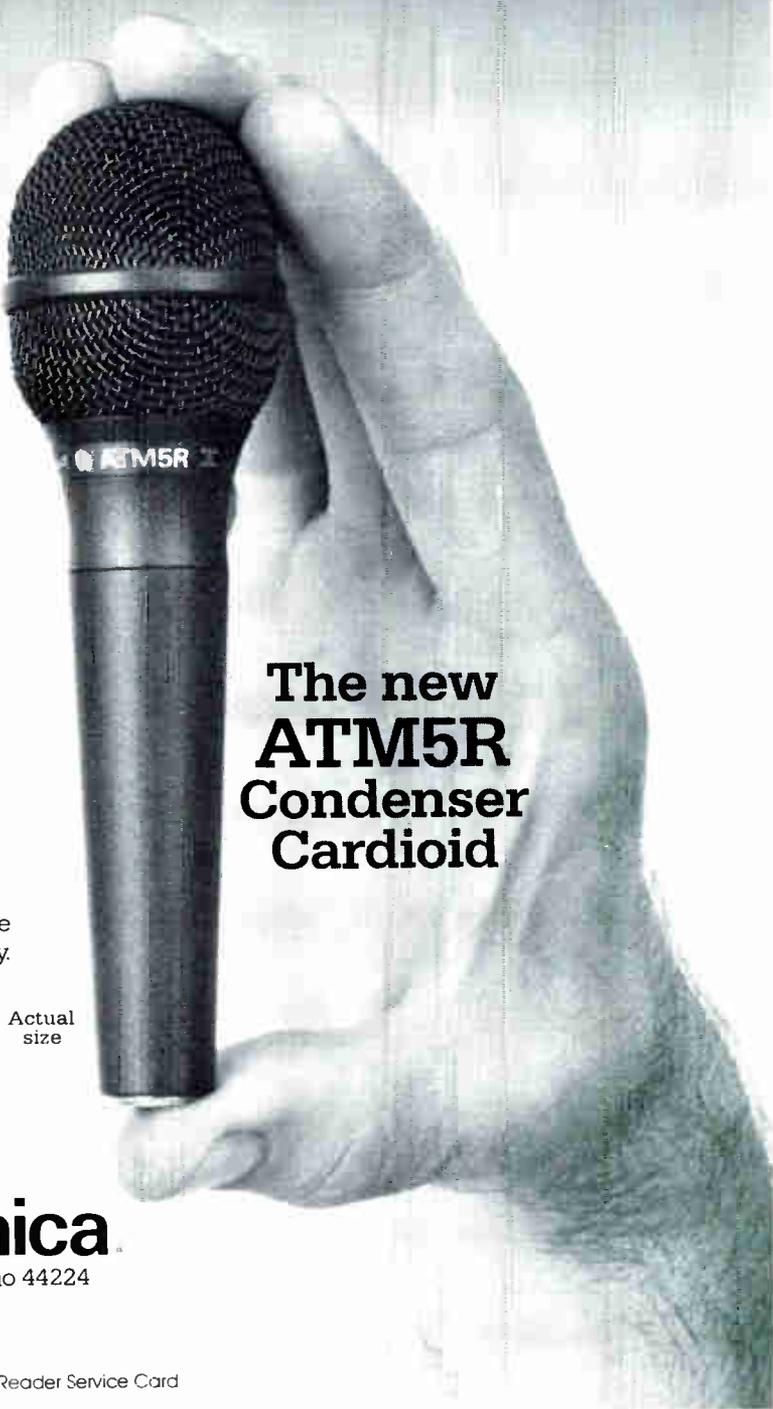
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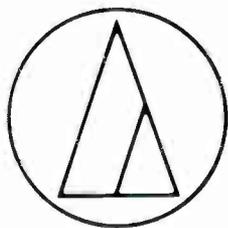
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Nominally about quality control in CD pressing, it was actually the specifications, pure and simple). A far more interesting, succinct report came from Paul Leader of Otari UK on Pro-digi developments—how a potential DASH manufacturer had gravitated to the opposing camp, and why.

The last day, mainly devoted to scientific and industrial applications, in fact had a wider appeal, not least because it gave those of us in the recording industry a fascinating insight into fields of which we would otherwise see very little. Of special interest was Francis Rumsey's description of digital audio projects in Britain's universities, from the Composer's Desktop Project to digital filters in Wales. Martin Russ (of British Telecom Research) gave a remarkable presentation with the aid of a special HyperCard stack on his Macintosh computer on how to increase quality and reduce the bit-rate in digital telephone transmission.

Jim Wilkinson of Sony described the D1, D2 and HD video recorder specifications and their audio capability; Dr. Klaus Genuit of Head Acoustics described the use of dummy head techniques for measurement applications; and Andy Harding described Sony Broadcast's "Interactive Knowledge System," a linking of IBM PC and video-disk technology to produce a visual database—which could, for example, be a reference manual on a complex machine.

The session closed with an examination of the practicality of R-DAT as a data storage medium from Bill Boles of Hewlett-Packard, preceded by one of the best presentations of the day, the inimitable John Watkinson of Ampex instructing us all in a clear, practical and fascinating way how error correction was carried out in digital tape formats—from simple truth tables to cross-interleaved Reed Solomon codes. And we understood every step.

With so much going on in four days—plus more that is not mentioned above—it is hardly surprising that the Digital Information Exchange is becoming a vital day at the Zoo for Britain's audio professionals. ■

Recording engineer and producer Richard Elen, former editor of Studio Sound, lives in Glastonbury, England and works as a "Creative Technology Consultant," dealing in recording, ad production, music, computers, and laser holography.

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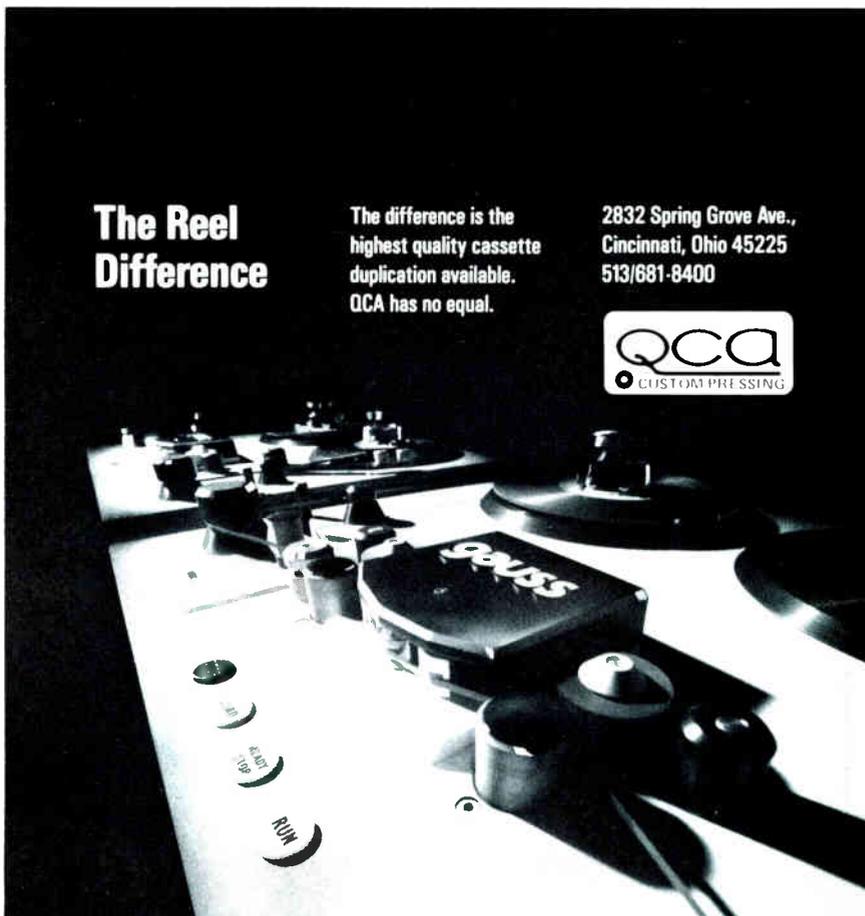
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LONDON'S TAPE ONE

LIFE ON THE CUTTING EDGE



Digital Suite One at London's Tape One.

by Richard Elen

In 12 years, Tape One Studios has progressed from being a small company producing children's records to London's best-known independent cutting and pre-mastering facility. With a major investment in digital audio technology—including a Neve Digital Transfer Console (DTC) and an AMS AudioFile as recent acquisitions—partners Barry Ainsworth and Bill Foster have become experts in the arcane field of digital audio post-production:

from conventional disc-cutting with digital masters to the whole business of CD pre-mastering. This article charts the facility's development and brings to light some of the company's experiences at the leading edge of the professional audio industry.

Tape One was founded in 1975 by Foster and Ainsworth. Says Ainsworth, "We had a market for children's records, and we decided that we needed a studio to record them in. We made the first records, and because we had tape recorders, and because of my con-

nection with Sarm Studios, we ended up doing a lot of tape copying for companies like K-Tel. And we kept those sort of clients. So when we had finished the first 12 children's albums, we decided to look for copying work, for when we weren't making records. So the copying built up."

Then the facility decided to purchase a used cutting lathe, and in 1976 Tape One became a mastering facility. "We went into speech recording, but that field was rapidly sewn up by a small number of companies with large sound

effects libraries, so we weren't too successful at that," says Foster. "But we were doing copying in our downtime, and eventually put two machines in our speech studio, turning it into a second copying room. Every time we had a session, we drew a curtain over them to hide them."

Foster, himself a veteran cutting engineer, ran the lathe for two years, until they employed Denis Blackham in 1978. "Then we decided it was time to look for new premises," says Foster. At that time the facility was operating out of a seedy basement on Carburton Street, off London's Euston Road.

"We found the Windmill Street premises in 1978, and construction was completed the following year. We had two floors of this building—about 3,000 square feet—and we didn't know how to fill it. So we put in one disc-cutting room, and one room for putting compilation albums together," Ainsworth recalls. By this time the company was gaining a reputation for assembling masters for companies such as K-Tel. "We were becoming known for '20-hits-on-one-record' compilations," says Foster.

"We soon had one straight tape copying room, and a room dedicated to doing audition cassettes—six machines hooked up together," continues Foster. "We hung onto the idea of putting a speech studio in the basement, and we installed that in conjunction with the usual ancillaries such as a library. Then we were asked if we could use the 8-track in there to make loop-bin masters for cassette duplication. So gradually, once again, the speech studio got phased out. It finally died in 1980.

"In 1978, before we moved, we had decided to improve our cutting facilities, and ordered a Neumann VMS-80," says Foster. "We were the second people in the UK to place an order. We took delivery in August 1979—it was the turning point. Suddenly we started to be regarded as a serious mastering facility. We put the old lathe in the basement and installed the VMS-80 in our number one room. Later on we added a third lathe—a VMS-70.

"Then in 1981," Foster says, "we were approached by Roger Cameron of Feldon Audio to consider the purchase of a Sony PCM-1600. We looked at the system and, quite frankly, we didn't like it. We heard horror stories about drop-outs and other problems, so we passed it by.

"We had a market for children's records, and we decided that we needed a studio. We ended up doing a lot of tape copying for companies like K-Tel."

"About the beginning of 1982," Foster continues, "Roger came to us with the 1610 for us to try out. We ran some tests, and immediately realized it was a much more serious proposition. So in April 1982 we installed a PCM-1610 and two BVU-200B video machines. We also ordered a DAE-1100 that wasn't available until the summer.

"So by August 1982 we had a complete 1610 system and editor," Foster remembers, "and basically it sat there! We did virtually nothing with it—except rent it back to Feldon." Says Ainsworth, "People were still scared of this new technology. To begin with, no one wanted to use it.

"Then one day," Foster resumes, "in the fall of 1982, someone from a record company called up and asked, 'Have you got something called a one-six-one-zero?' We said that we had, and she said, 'That's good, because I've got about 20 tapes I've got to send to Japan for compact disc. . . .'

"All we did was straight copies onto 1610," says Foster, "because we had no idea of subcode formats and that sort of thing. Then we had long dialogs with PolyGram and other people in the industry and came to understand what was required for CD master tape production. We began to produce master tapes for quite a few companies, writing down the timing information on a sheet of paper and so on.

"During that stage we began to come across faults on some 1610 tapes coming in, and we had to make decisions: for example, should we take the tape through the desk and EQ out a rumble, risking the problems of the conversion process at that time, or should we let it go through? In many cases the producers tended to prefer to leave slight imperfections on the recording, particularly in the classical domain," notes Foster.

"But we were always trying to im-

prove the way we handled digital masters," Foster continues. "We heard about the DSP and called Neve in late 1982."

A few months later, Neve approached Ainsworth, and asked if Tape One would be interested in a digital console for the truck, Mobile One, which they were operating then. "Neve was doing one for the BBC and thought we might like to have a look," says Ainsworth. "We went to see them in February, 1983. After a good deal of discussion we declined, but did ask if they could do a little box capable of taking a Sony-compatible signal in and out and offering a limiter, EQ and fader, and nothing else. And while they were about it, how about a quote on an all-singing, all-dancing digital disc-mastering console?"

Two weeks later Neve came back to them. "They said yes, they were interested in both, but we couldn't have one without the other. If we wanted to have the little box—essentially a couple of channels of their DSP—we had to order the big one as well. They quoted a figure which was the combined price of the two consoles. And there was little or no variance in spec. We couldn't have different EQ curves from the BBC, for example. It was basically have that, or wait two years. We decided to go for it."

The equipment was ordered in the spring of 1983. "Atilla," the small console, was delivered in May 1984, at the same time as another piece of the CD mastering jigsaw puzzle, a Philips PQ Subcode Editor, arrived on the doorstep. "We felt that at the time a lot of CDs were going out with very ham-fisted subcodes on them," says Foster. "There were a lot of people in the factories who knew everything about pit profiles but didn't know where to put the break-point between two tracks in a crossfaded concept album.

"We had the choice of the Sony or Philips subcode editors, and we chose the Philips partly because it printed out on paper the information which the record company could understand, and it was all there if something happened to the data on the tape."

So Tape One became the first facility in the world, outside of CBS/Sony, to be able to offer digital EQ, limiting and level correction as well as editing, assembly and compact disc PQ subcoding to customers. "It was that, plus the upcoming disc master console—which attracted a lot of interest at the

New York AES in 1984—that really put Tape One on the map,” says Foster.

“The disc mastering console was rather late. It suddenly dawned on Neve—as with a lot of other manufacturers—that digital audio equipment is incredibly software-based. And software is not written in 20 minutes. But when the console was finally delivered, it worked very well. The first session was done in November '85, and the room officially opened in January 1986. It's been working ever since and we're very pleased with it.”

Foster goes on, “Then before we could sit on our laurels, Graham Boswell and Andy Proudfoot came down from Neve and asked us for input. They were designing a production mastering console—which was to become the DTC. We decided to sit this one out. After all, we were doing well with our two consoles, and we had added a Harmonia Mundi system for some of the smaller jobs that didn't require a complete digital console system. But then people started to order DTCs, and Barry and I started thinking about ordering one ourselves. Because we had this master plan.”

Their plan revolved around the business of digital audio editing. Since 1985, Foster and Ainsworth had been thinking about the usual approach to the subject. They knew they were not happy with the business of shuttling videotape machines backwards and forwards. “It was all that was available,” says Ainsworth, “but it took a long time to get from A to B. None of the clients complained, because it was the only route: but a lot of time and effort goes into it, and you don't always get what you want. We both thought there must be a better way.”

“I saw the AudioFile the first time it appeared at the AES in Hamburg,” says Foster. “We talked to Stuart Nevison but he said he wasn't interested in doing a studio version 'yet.' It was a digital cart machine—a sensible course for AMS. It meant they could get out some units and start to recoup some of their development costs. Stuart said he would talk to us when he was ready. In the meantime we looked at other systems. Disk-based editing isn't a new concept: Tom Stockham was doing something of the sort years ago with SoundStream. And several companies were developing systems.”

“Then we went to the International Broadcasting Convention (IBC) in Brighton in 1986,” says Ainsworth, “and

we saw Stuart there. 'I'm ready to talk,' he said. That was the trigger that started it all.”

It turned out there were four or five hard disk editing systems on show at IBC. Foster recalls, “We ended up talking seriously to Lexicon and AMS. At the end of the day, when it came to the matter of writing checks, we asked both manufacturers, 'Can you deliver now?' AMS was the only one to say yes. So in February 1987 we installed the AMS AudioFile: one hour of storage (we now have two hours), without the final Cut and Splice editing page. We built a new room at the beginning of 1987. We refurbished the original speech studio control room—by that time called 'Digital Suite 1'—and installed the AudioFile.”

By the summer of 1987, Tape One boasted four digital suites: Digital Suite 1, with the AudioFile and DTC, plus a 1630 and DMR-4000 U-matic system, and redesigned acoustics and monitoring by Tom Hidley; Suite 2, with a Harmonia Mundi BW102 interface, 1610 and DAE 1100 with Philips sub-code editor; Suite 3 with the smaller DSP, 1630 DAE1100 and Harmonia Mundi system; and Cutting Room 1, with the large DSP, VMS-80, 1630, Mitsubishi X-80, sampling rate converters, and analog systems including A820 machines with Dolby SR. In addition, there are four analog rooms available. From having two floors in the building when they moved in, Tape One now uses all five.

“We ordered the Neve DTC when it was announced, and it was delivered in June 1987,” says Foster, “and it was hooked up to the AudioFile, which included some modifications to let us run, from the AMS into the DTC, two digital stereo signals and one analog stereo channel.”

Despite the commitment to digital, there's still room for analog at Tape One, particularly Dolby SR. “A lot of compilation albums are being done on Dolby SR because the production companies don't want to pay digital rates,” says Ainsworth. “And these companies still want to resequence the album a half-hour before they master it: it is still faster to do it with ¼-inch tape, despite the AudioFile.”

The latest news, announced at the last AES convention in New York, is the acquisition by Tape One of Trident Studios. It will be called Audio One. Says Ainsworth, “The work at Tape One was going fine, but we found

we needed something else. It was logical to look for another facility. We wanted a studio with extra rooms: and Trident has the studio, a remix room, two cutting rooms, high-speed cassette room, tape copy room and so on, just what we wanted. So we decided to give ourselves another load of facilities and some more headaches! Because that's the way we like to work.”

“Trident was a real state-of-the-art London studio originally,” says Foster. “It was the first 8-track studio in London; 'Hey Jude' was recorded there.” And in fact Ainsworth worked there for a few months. The purchase involves only Trident 1; the second facility, at Strutton Ground (formerly Strawberry Mastering and now a remix room), is not part of the deal.

“We plan to refurbish it from top to bottom, over a period of time, as we have done with Tape One,” say the pair. “Work will start in the early spring.”

Says Foster, “Basically, we see an extension of the post-production chain. In five years' time, stereo tape may not be the start of post-production. I think now that recording, remix, cutting, and CD mastering are all separate stages, it isn't necessarily the case that post-production should start at the point that the tape has been mixed. There might well be areas where our post-production expertise can be brought to bear on stages before the damage has been done.”

For the foreseeable future, the studio and the remix room at Audio One will remain just that—“But who knows?” says Ainsworth. “What we would like to do is something state-of-the-art, but different. But we are in business to make money as well as to push back the boundaries. So if the most viable combination was still an SSL and a Studer, we wouldn't decline to put one in just because other people had them.”

“But there are some very interesting possibilities out there,” Foster concludes. “There are very, very bright people around in our industry. It will be quite interesting to watch this space.” ■

Recording engineer and producer Richard Elen, former editor of Studio Sound, lives in Glastonbury, England and works as a “creative technology consultant,” dealing in recording, ad production, music, computers and laser holography.

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A demonstration model of the new TC 2290 was sent to Power Station by Martin Audio. The first engineer to use the 2290 was Don Rodenbach, who was so pleased with the sound, and features of the 2290, as well as “the clarity of the 32 sec. samples,” that he bought one for his own rack. His unit then started making the rounds of various sessions at Power Station. Today there are six TC 2290 units at Power Station and no waiting. Each unit has 32 second capability for sampling (and delay), can be looked in perfect sync with a second 2290 for stereo sampling (*The new stereo link update*), and has Sampling 2 software, along with “Fast Trigger,” update.



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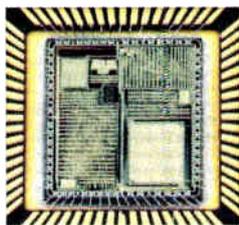
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KAMPO



by Dan Daley

Look around any recording studio these days and it won't take long to notice a preponderance of names like Yamaha, Sony and Mitsubishi. At sessions over the last few years, you've also probably noticed that sushi and sashimi have replaced burgers and fries as the most-ordered take-in food. This two-pronged Japanese assault of technology and cuisine has established an irreversible beach-head here in the States.

One of the major differences in how the two cultures perceive things is evident in the way those at Kampo Cultural Center, New York's first Japanese-owned audio and video facility, look at both consoles and raw fish as works of art. And it's not just that the sushi is analogous to software.

KCC Audio/Video, located near the dividing line between the East Village and Greenwich Village in Manhattan, takes a holistic approach to technology and culture. The cultural center was founded by Kampo Harada, a 76-year-old Japanese artist regarded as

perhaps the world's foremost master of calligraphy, the ancient art of lettering. Kampo's art-cum-philosophy has garnered him over 520,000 students worldwide, given him the impending status as one of Japan's "Living Treasures," and provided him with a substantial income.

That last benefit is apparent in the cultural center, a six-story building, formerly a run-down furniture factory built in 1869 and recently renovated. It serves as a base from which Japanese arts are promoted. It also houses an SSL- and Studer-equipped audio-re-

CULTURES AND TECHNOLOGIES MERGE IN NEW YORK



PHOTOS: MERIDIAN DESIGN ASSOCIATES ARCHITECTS

recording studio and an interformat on-line/off-line video editing suite.

Technology at KCC

Terri MacMillan, KCC's director of sales and marketing, led me on a trip through the rectangular building, each level of which is dedicated to a different aspect of KCC. Beyond the reception area on the first floor, guarded by a 1,000-year-old suit of samurai armor, is Kampo Hall. The 21-foot by 54-foot room is a multi-purpose space: dance, art exhibits, film and the like share time with vid-

eo and audio production (where wide open space is necessary). Koto player Sakamoto recently used the room to record an LP. Inputs for 16 microphones and up to six cameras line the long walls, with splits to an enclosed balcony which doubles as a control and projection room for video shoots.

The second floor houses the recording studio. The control room is built around a Solid State Logic 4000E console with Total Recall. The multi-track is the Studer A820, with Otari, Tascam and Ampex 2- and 4-track mix decks. Monitoring is through UREI 811Bs and

813Bs, along with pairs of Auratone, Fostex and Yamaha speakers. Outboard gear includes the Lexicon Prime Time II and 224X.

The recording room, 21 x 28 with a 121-sq. ft. isolation booth, was designed by Antonio Argibay of Meridian Design and features manually operated folding walls and motorized ceiling panels for varying reflective and absorptive surfaces.

The third floor houses the video department, with multi-camera switched video and 24-track audio capability, designed and wired by renowned video

tech expert Steve Rutt. Production equipment includes the half-inch Beta-cam format with broadcast-quality Ikegami Unicam. The edit suite holds a CMX 340XL computerized edit controller which commands a Grassy Valley 100 SEG, a Sony BVH-2000 one-inch edit recorder, and 1/4-inch 2-track or one-inch 16-track SMPTE synchronized audio recording. The system is supported by high-resolution character generation, title camera and compact disc sound effects library.

The fourth floor holds the cultural administration offices. The fifth and sixth floors are reserved for living quarters, with one floor available, at additional cost, to artists working in the studios.

The Kampo Family

The different elements at KCC reflect the different interests of the Kampo family. KCC is presided over by Kam-po's son, Hiroshi, a Berklee-trained jazz guitarist who has spent the last 14 years in America. He first opened a recording studio at the site in 1984. "Hiroshi is a musician, and his original idea was to have a studio he could

"The Japanese are looked at as economic animals.

But we want everyone to know it's the people we think are important."

work in, not a commercial place," says MacMillan. But Hiroshi traveled in musicians' circles and soon buddies like the late Jaco Pastorius were working there.

Hiroshi's brother Shokei owned a video editing facility in Japan and part of his gig was to follow his father around the world and shoot him teaching calligraphy. His father, known as Soshi ("Grand Master") around the studio, thought that a video facility in

New York to go along with the cultural center would be a good idea. Simultaneously, the recording facilities were upgraded to their present state. The combined facility had its grand opening last April.

"The idea of the two studios was also that we wanted people of a certain type working in here," explains MacMillan. "People who would appreciate where this place was coming from, the whole multi-cultural thing. It wasn't just 'Let's bang out another studio in New York,' especially with the competition in this city. This place really lends itself to the creative urge; it's loose and tight at the same time. It's very family-like and also very take-care-of-business. Having a great room is a good thing, but we don't think that's enough."

Bridging Two Worlds

Calligraphy and consoles might seem disparate worlds to some. But from Hiroshi Harada's point of view, the two have obvious connections. "The SSL is just a tool, like a brush," he says. "In calligraphy, we use only the best brushes. The same with the equipment in

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the recording and video studios. Music is an art and anything that makes it is also related to art. Just like calligraphy—the paper, the ink, how it's made. It's all related. We bought the SSL simply because it is the state-of-the-art. We wanted to go for the best." According to MacMillan, the Grand Master himself is not at all intimidated by the array of technology at KCC: "To him, calligraphy is sort of a technology, a manual technology. It's a very intricate science. Every move and spot on the paper means something."

Virtually no research went into the marketing side of the studios before they were built, according to Hiroshi. While he admits to being at least mildly curious about how other studios are run, he adds that "I'm not here to compete with American studios; I'm here to do something they haven't done."

"There are two ways to look at cultural exchange," he says. "One is just to look at the differences. Ours is to understand what the source is. Music is very easy to understand."

Basically, the \$4 million it took to build and equip KCC were disbursed based on a love of music and faith in good karma. (And given the vicissitudes of the recording industry, especially in New York, those are as good a pair of criteria as any others.) "Right now we have to be successful commercial-wise to support everybody who works at the center," Hiroshi conceded, "but eventually I want to start producing audio and video projects." He cited Bolivian Halario Soto, an artist he produced who played on the last Steve Van Zandt album. Soto plays traditional Bolivian instruments and is another example of Hiroshi's vision of cross-pollination of cultures through music. "It's easy to do that in New York City," he adds. "It's such a center to so many kinds of music."

Running a Studio—Japanese Style

Cultural exchanges occur on the management level, too. Japanese business management techniques have been extolled—and lampooned—in countless books, articles and television shows over the last several years. And if the idea that what's good for Nissan is good for America finds its way into studio facility management, that's not the worst thing that can happen, in MacMillan's view.

"They look at us as we're all leaders in our own right," she explains. "We

have morning meetings, which are a part of that Japanese management theory where everyone gets a chance to say what's on their minds in a group setting. We see what our strengths are, what our weaknesses are, and we set our goals and agendas. There is a real sense here that you are going to make it or break in on your own merits, and everyone here was hungry for an experience like that and everybody is very committed to this place as a result."

Tom Toeda, KCC's general manager, is more blunt: "The Japanese are looked at in the world and especially

in America as economic animals. That we only care about making money and nothing else. But we want everyone to know that it's the people we think are important, and that's something we think we can do here. White, black, yellow, we should all work together."

KCC Clientele

The sign that hangs in the storefront over which the studio is located lists all the cultural activities first and almost as an afterthought is it mentioned that there happens to be a state-of-the-art audio/video facility in the building.

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"This place is known as the Kampo Cultural Center, which is the umbrella organization," says MacMillan. "But our ads are in the papers and in *Mix* as KCC Audio/Video. So that's been a small problem. But everyone who has come here likes it; there's a whole philosophy here that makes it easy to work here." Located as it is in an area known for its creative types, locals occasionally venture in and discover it for themselves. One of those was a recent video shoot featuring Debbie Harry for a TV special on *Superman*.

The KCC client base over the first six months of operation was primarily jazz-oriented, mainly due to the musical bent of Hiroshi Harada. "We've had a decided jazz leaning in here so far," says MacMillan. "Our first full project was for MCA Zebra, part of the MCA jazz project. It was Onaje Allan Gumbs," whose album was recorded and, for the most part, mixed at KCC. Atlantic Records had Stefan Galsas, producer of Stryper, doing The Palace Brothers and Streetwave in the facility. CBS/Sony did Japanese pop artist Marlene there, produced by Kioshi Ito. It's not so much that Japanese artists have a need or necessarily a desire to record in New York, but aside from Japanese ownership of KCC, the fact that MacMillan worked at CBS/Sony for nine years helped make the initial connections.

Jazz-fusion group Top Shelf is a new act that KCC Audio/Video Productions is developing; with MacMillan handling the nascent artist management operation, in-house producer George Petit and engineer Tim Williams handled the audio production end while the group's video was done a floor above, directed by freelancer Josh Blum.

Targeting the Cross-Cultural Market

KCC isn't foregoing a wider market. According to MacMillan, the jazz rep has worked in the studio's favor by adding a sonic cachet: "Rock people look at us a different way and figure that if we're a jazz studio we're going to get great sounds, and it turns out to be right."

MacMillan says KCC doesn't have a lot of Japanese clients yet, but she expects that to change soon, especially given the contacts that Kampo senior has among Japanese businessmen and the Japanese government. He is a well-known quantity to the Japanese, who tend to revere their artists the way Americans admire baseball players. (In

fact they admire *their* baseball players that way, too.) "The only thing I could compare the Harados to in America would be the Kennedys," says MacMillan. "But that's not a fair comparison because it's such a different culture."

Her marketing approach in the near future will include targeting Japanese-American companies that want to crack the Japanese markets. One aspect of the video facility was included with this in mind: character generation in Japanese dialects including Kangi and Hiragani has been provided for using a Macintosh Plus computer. In other places dialect subtitling would be sent out for typesetting before being put onscreen because of the exotic shapes of the characters and the obscure fonts. "That's a big plus for Japanese clients," she adds. "The hard part for me in sales was what we were going to do best, because there are so many things we can do."

Toeda says the organization is also looking to build special relationships with Japanese manufacturers, including Sanken and Sony, with whom they've talked. One type of custom apparatus he would like to see in the studio is a musician-controllable cue system for the studio. He points out that such small personal consoles for players are very common in Japanese studios, and he's heard of it being common in England. (It is done here, although infrequently; Bearsville in Woodstock, NY, is one.) Ira Kemp's system is what Toeda mentioned as being the one he prefers.

But the bottom line for Hiroshi Harada is still the cultural aspect of life in general and music in particular. "We are here to help American people understand Japan and the other way too," he says. "We hope to make enough money to support the cultural exchange activities. It's like there are many great jazz musicians and they don't make money. We hope to record them in a documentary sort of way. We want to do workshop performances with them and record them and do videos of them. I want things to be closer than just people watching things on a stage. I want people to be able to come here and understand things." ■

*Dan Daley's one man show, Mel Tor-
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appearing at moderately priced din-
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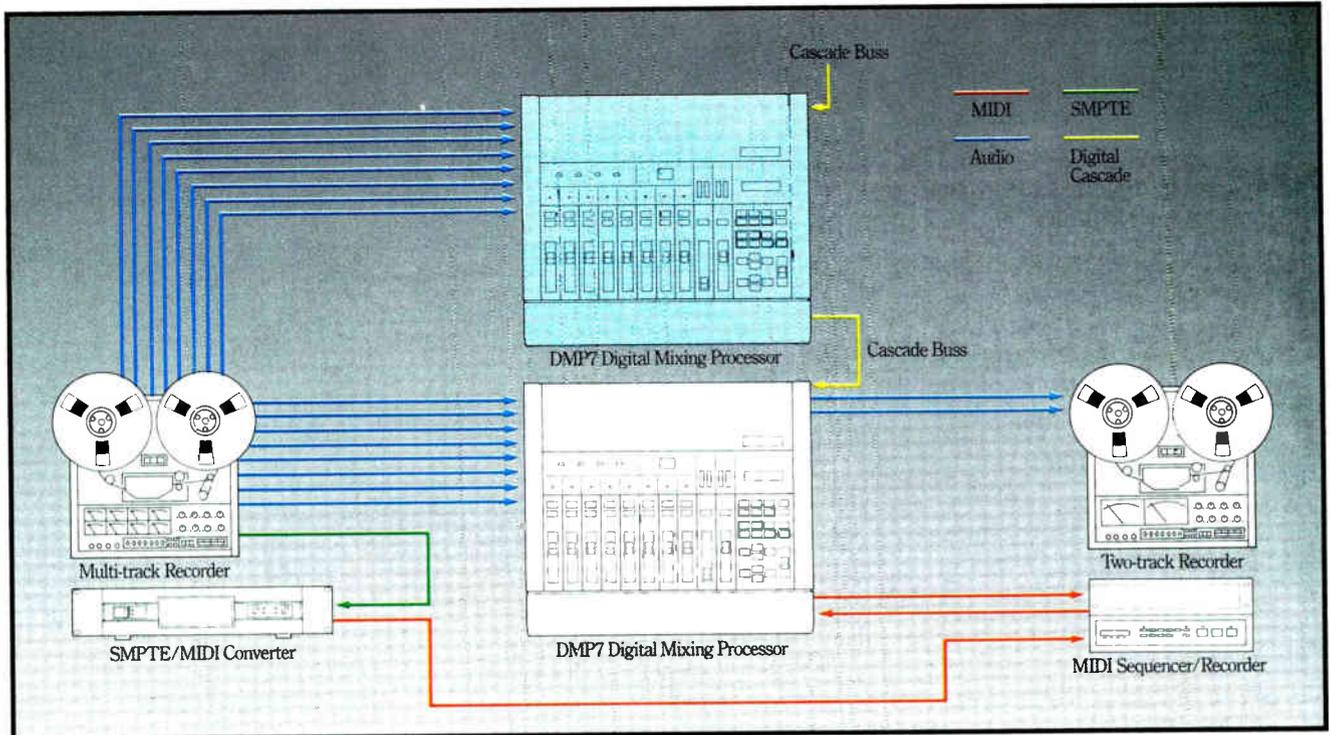


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RECORDING OVERSEAS

I

n this age of relatively inexpensive air travel and a shrinking world—in terms of both cultural difference and the growth of multi-national record labels—it is not too surprising that a growing number of engineers and producers are recording outside of the U.S. Not only does the use of overseas studios and production facilities broaden one's recording horizons, it also provides the opportunity to work with different brands of consoles, tape machines and outboard equipment.

Working in an unfamiliar environment, and possibly with assistant engineers and studio staff who do not speak your language, can be a stimulating experience. But a mutual respect for the recording and production of creative music and sound should easily overcome practically any language barrier.

Not so easily overcome, however, are the myriad technical differences that can plague an overseas assignment. In this article I plan to identify some of the major technical points to be considered, if only to let you be better prepared for the unexpected.

Power Requirements

Accustomed as we all are to a 110-volt/60Hz power supply here in the U.S., we probably take it for granted that the same standards are used throughout the world. Not so! Europe, for example, is pretty much set up for 220-volt/50Hz, a standard also utilized throughout Australia. Certain Asian countries make use of combinations of 110V, 220V 50Hz and 60Hz supplies.

For reasons of personal taste, and because of possible shortages in a foreign clime, you might prefer to take along your favorite tube equalizer or audio processors (particularly if the latter contain some of our more innovative reverb or effects algorithms). That being the case, you should make a point of checking with the studio you plan to use to determine the power voltage and line frequency. Or, if you are preparing for a tour across several borders, a call to the appropriate consulates or embassies in a nearby city before you leave—you probably will be calling anyhow to discuss

visa requirements—should provide the necessary answers.

If your device of choice doesn't offer alternate mains power taps to accommodate the voltages you will be encountering, a step-up or step-down transformer should fit the bill. Line frequency is seldom a problem with modern processing hardware, although it might be worth a quick call to the manufacturer to double-check.

Tape Formats

If you plan to start a project overseas and then complete it here—a concert tour recording, for example, with remix to picture at a Stateside facility—check that everybody involved with the project agrees on a tape format. While it's very unusual to come across a 12-track transport these days, you should know up front what track format width is planned for the sessions. Also, make sure that the tape stock is one with which you are reasonably familiar—when the time comes for subsequent overdubs, you'll need to know the formulation's bias level requirements.

Check that the studio you are using is familiar with the record level you plan to use; many of us are now running high output tapes at elevated levels without noise reduction, so ensure that the second and assistant engineers have access to the appropriate line-up and calibration tapes. Also insist that a careful record is made of all the various alignment tones and levels placed on the tape. It matters very little if these alignment and test tones happen to be non-standard frequency sets. But do make sure that everyone involved with the sessions understands the significance to subsequent stages of the project.

Noise reduction is another aspect worth specifying up front. Dolby A-type and dbx are pretty common these days; renting the necessary cards or units shouldn't prove too difficult in any major recording center around the world. Dolby SR processing is making healthy inroads, but you might want to make sure that sufficient units can be made available at your destination. ANT Telcom C4 is attracting a fair

A *Survival Checklist*

by Mel Lambert

amount of interest and application in this country; while it should be no problem to arrange for the rental of a multi-track system in Europe, you are being somewhat optimistic to expect the same degree of availability everywhere in the world.

If you plan to track to digital, remember that DASH- and PD-format machines are generally not freely available outside of major recording capitals around the world. Of course, you can arrange to have a rental machine shipped in, but check with them about having a (hopefully factory-trained) technician available just in case of problems. I wouldn't for one moment suggest that digital transports are particularly fragile. Most of us, however, would feel more comfortable with troubleshooting an MCI, Studer, Ampex, 3M, Otari or Scully analog deck, if only because we recognize most of the parts! And, as long as you know the basics, diagnosing a problem over the telephone or via an electronic mail link to a local service center is easier if you are already familiar with such hardware.

In terms of DASH versus PD, it cannot be denied that in Europe, for example, DASH multi-tracks are, by and large, more readily available than PD machines. With stereo machines, PD still seems to be the format of choice in the big recording centers. Check that adequate stocks of digital tape can be purchased locally or remember to take your own.

Signal Processors

While most brands of signal processors—equalizers, compressors, limiters, noise gates, digital reverb, delays, etc.—are available in most parts of the world, do not expect to find some of the more exotic devices. So if you need that Pultec tube equalizer for a particular vocal texture, or a UREI tube IA-2 to hold down the transients, take the beastie with you, or have it sent ahead of the gig.

Of more importance, I hazard, is to make sure you know how your outboards are wired to any XLR or stereo jacks. Do not assume that your balanced XLR wiring scheme—hopefully agreeing with the IEC standard of pin #1 designated as ground, pin #2 as hot or positive, and pin #3 as return—matches that of the production studio or concert sound system to which it is connected. While I do not want to become involved with that old wife's

tale of "Yes, you can/cannot hear absolute phase," at least make sure you are not introducing a phase inversion via your connecting cords.

Video Standards

If you plan to videotape an overseas performance, or photograph the tracking of basics so you have a useful visual record to refer to during later overdub sessions, remember that different countries around the world use conflicting video and television systems. While I do not have sufficient space here to

Help on the Way

Just as the Society of Professional Audio Recording Studios (SPARS) does an excellent job of assisting producers and engineers working at U.S. facilities, there are foreign organizations that can be of help to you during a session at an overseas studio.

In Europe, the Association of Professional Recording Studios (APRS) can provide invaluable advice on sources of rental equipment, as well as assistance in the selection of a suitable studio or post-production facility. In addition, the recently established British Record Producers Guild offers help with legal and contractual problems, not to mention providing objective assessments of the types of services provided by studios and rental companies.

For more information about the APRS and the BRPG, contact the Association's general secretary, Philip Vaughan, at 163A High Street, Rickmansworth, Hertfordshire WD3 1AY, Great Britain; 011-44-923-772907.

detail the various standards used in every country you are likely to visit around the world, check ahead of time that you can rent or otherwise obtain access to an NTSC one-inch C format, ¾-inch U-Matic or half-inch VHS/Beta-max deck. (I suggest that you do not confuse matters by specifying one of the newer domestic decks with hi-fi audio, or one of the latest generation VHS video decks. That they are already being heavily discounted at your local stereo store does not necessarily mean that they are even available in some of the more remote parts of the world.)

Because of unpredictable demand, many rental companies in the major European centers carry multi-standard

video decks that can handle NTSC, PAL (used in most European countries, Australia and New Zealand) and SECAM (France, Russia and parts of Africa). Also, if you are striping audio with the video, make sure you specify on which tracks the left and right or mono material is being printed.

If you are tracking a stereo mix to a video-based PCM processor, remember to specify the correct video format and sampling frequency. For reasons a little too complicated to be covered here, a sampling frequency of 44.1 kHz is not the same as 44.056 kHz. If the tapes are destined for eventual CD release, be sure that you fully understand which particular frequency should be used.

Should you be embarking on a full-blown audio-video shoot, then time code will obviously be of primary importance. Ensure that everyone knows which format will be used in post-production, and that the appropriate generators and video monitor are made available to everyone on the audio crew. For a lip-sync shoot for a promotional video, check that the Nagra playback copy is locked to the correct sync reference, and that you can lockup the edited visuals to the master audio tracks during post-production.

Of the various time code standards available throughout the world, we in the U.S. are more familiar with SMPTE-format 59.94 Hz drop and non-drop frame and 60 Hz. European countries, on the other hand, reference their EBU-format time code to a 50 Hz line frequency and are bewildered at our need, for historical reasons dating from the early days of color TV, for dual 59.94 drop/non-drop timebase references.

Dual-standard time code readers and synchronizers are freely available in the larger recording centers worldwide, but take your own if you anticipate problems in making the locals fully understand your exacting requirements. There is nothing worse than returning with dozens of reels of audio and video tape that refuse to synchronize with one another. Get it worked out well ahead of time to save all the grief in post.

These days, more and more producers working on film are using time code during video-based editing. Once again, ensure that you specify the correct time code standard, and that adequate video monitors or dedicated time code slates are made available for the film crew. ■



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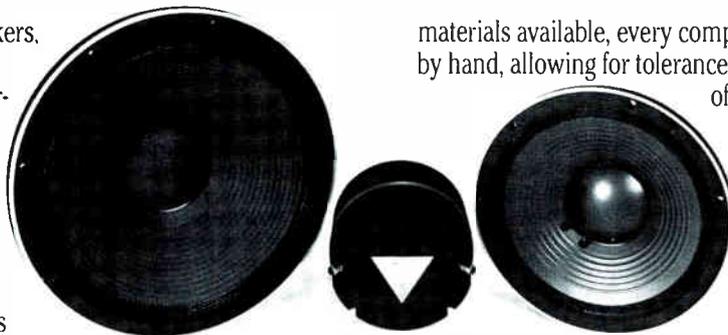
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The French Recording Industry Comes of Age

by Guillaume Schouker

France. The mere mention of the word conjures up images of rolling hills, fabulous foods and magnificent wines. One's thoughts are usually not those of a flourishing recording industry.

But France is home to an ever-growing number of recording artists who have gained national as well as international acclaim. Artists like Charles Aznavour, Guy Beart, Claude Bolling, Pierre Boulez, Johnny Hallyday, Françoise Hardy, Michel Legrand, Jacques Loussier, Jeanne Mas, Yves Montand, Nana Mouskouri, Rita Mitsouko and Sylvie Vartan are just some of the many artists that have contributed to France's growing recording industry.

French studios are also playing host to an increasing number of international clients. "Foreigners who are coming to

France don't necessarily record their whole production at the same place," says Carla Guiot, co-owner of Studio de la Grande Armee/Palais des Congres. "They come to a French studio with tape in hand, just to do voice recordings, overdubs, mixes, or whatever. With today's world standard boards and all the outboard facilities, they can start a project in the States, continue in England and finish it in France." Nevertheless, a number of top artists, from Talking Heads to Eurythmics, have used Paris recording locales for basics and overdubs.

STUDIOS

What follows are brief profiles of some of the top studios in France, along with interviews with a few of the movers and shakers in the recording industry.

Studio des Dames is one of the



French sensation Jeanne Mas

oldest working studios in Paris. During its 20-year history the studio has played host to Michel Legrand, Sylvie Vartan, Claude Bolling, Maurice Jarre, Jermaine Jackson, Pia Zadora, The Cure, Sting and Julio Iglesias, among others. Originally a movie theater in the '50s, Polydor bought the facility and named it Studio Polydor. In 1968, PolyGram took over and expanded the facility to three studios. The studio was bought in 1984 by its present owners who changed its name to Studio des Dames. Last year they renovated Studio A complete with a control room designed by Tom Hid-

Studio Guillaume Tell is equipped with an SSL 4064 console





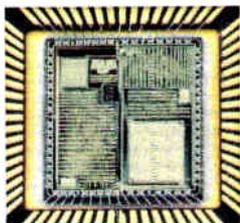
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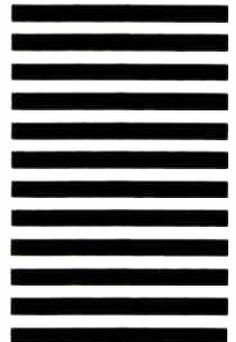
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Studio Miraval in Provence

ley and acquired the first Harrison Series Ten console in France. The studio has a raised isolation room and an enclosed stage which can be separated or opened in front.

Notable equipment: 96-input automated Harrison Series Ten console, PolyGram 32-channel console, Studer 800 24-track with Dolby SR, and various Studer and Revox multi-tracks.

Studio Davout in Paris has evolved from its original two tracks in 1965 to its present 24 tracks, going digital in 1985. Known primarily for its work on film soundtracks, Studio Davout has become more involved in album projects. Clients have included Talking Heads, Duran Duran, Bob Geldof, Dionne Warwick, Randy Newman, Jacques Brel and Jean-Pierre Rampal. Davout has three dissimilar studios. Studio A is used primarily for large sessions with strings, brass or choirs, due to its live sound; Studio B has a marble floor with partially covered wood walls, making it suitable for vocal or instrument overdubbing, or as a mix room; Studio C also



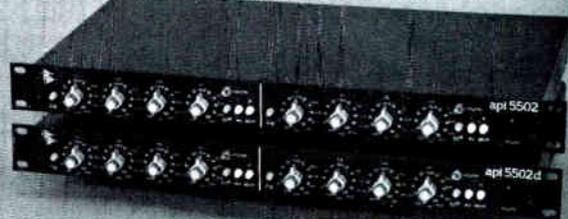
has a marble floor and is available for any kind of overdubs. Davout also offers a programming room with MIDI/keyboard systems, allowing clients to work without booking its SSL console and audio recorders.

Notable equipment: SSL 4000E with G Series computer, Yamaha DMP7, Sony

3324 and Mitsubishi X850 multi-tracks, Sony R-DAT and Sony PCM mixdown.

Studio de la Grande Armee/Palais des Congres started off as two nice but small Paris recording studios. As the studios began to attract more French and international clients, however, the owners decided to expand

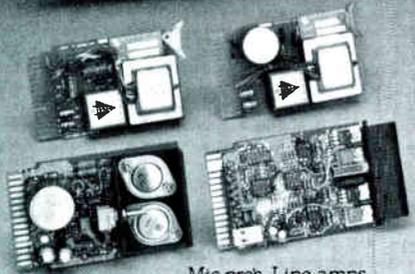
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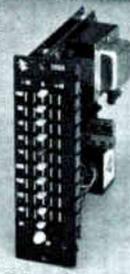
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the facilities, taking over Level 2 of the Palais des Congres. In 1980 the renovations started. Now 1,200 square meters, the facility has four digital recording studios, along with its original two analog studios. Credits include Daniel Balavoine, Michel Legrand, Yves Montand, Renaud, The Pretenders, Mick Jagger, Tina Turner, Men At Work and Herbie Hancock.

Notable equipment: Four SSL 4000E boards, Trident 80B and Trident 70 boards, 3M DMS 24-track machines, Mitsubishi X-850 digital multi-tracks, Mitsubishi digital 2-track.

Studio Guillaume Tell in Suresnes offers a full complement of digital and analog equipment, including an SSL 4064 with G Series computer and Total Recall, a pair of Sony 3324 recorders, and a host of digital delays and other outboard equipment. Because the studio has consciously maintained a high-tech profile, it is a favorite of local and international artists—it's been used by Prince, the Thompson Twins, Stevie Wonder, Brian Ferry, Rush, George Michael, Depeche Mode, Nana Mouskouri and many others.

Studio Le Voyageur is the only multi-track mobile recording studio that records concerts throughout France for future live albums. Le Voyageur has worked with Michel Jonasz, Veronique Sanson, Le Splendid Orchestra, Jean-Michel Jarre, Indochine, Lio and Alain Souchon.

Notable equipment: Saje ULN II console, Sony PCM 3324 digital recorder, Sony PCM mixdown, extensive video monitoring.

Studio Marcadet opened its doors near the historic Montmartre district in 1979. Three years later it moved to Plaine St. Denis and brought in an SSL 4000E board and digital gear. It is one of the most fully equipped studios in France, and its abundance of outboard gear brings in a lot of mixing work. Credits include Eddy Mitchell, Serge Gainsbourg, Francis Cabrel, Lio, Wham, Stevie Wonder, Brian Ferry, Prince, Sade and Kenny Rogers.

Notable equipment: SSL 4000E with G Series computer, 3M DMS and Sony multi-tracks, Mitsubishi digital 2-track.

Studio Miraval, situated in Provence, a 40-minute drive from Cannes or Saint-Tropez, is a large residential studio, known as much for its country charm as its equipment list. Owned by the well-known pianist and composer Jacques Loussier (see sidebar) and recording engineer/producer Patrice



Catherine Lara

Quef, this studio boasts an SSL desk among its ultra-high-tech gear, natural inside light, a swimming pool, tennis courts and the estate's own wines. Artists who have worked there include Loussier, Henri Dutilleux, Telephone, Pierre Vassiliu, Elton John, Quarterflash, AC/DC, Pink Floyd and Sting.

Notable equipment: SSL 4000E board with printer, Mitsubishi 2-track recorder, Sony PCM mixdown, echo chamber.

Founded in 1975, **Studio Polygone** started with a TEAC 4-track recorder. Now 12 years and two moves later, the studio is 1,300 square meters, surrounded by greenery and a manmade lake, and is equipped with the latest multi-track equipment. The concert hall next door offers Polygone the unique opportunity to do both classical and modern live recording easily, and makes this analog/digital studio unique. Last year Polygone acquired a Synclavier, offering even more options for clients, who include Michel Sardou, Catherine Lara, Images, Herbert Leonard and Siphon Mabuse.

Notable equipment: SSL 4000E, Neve Series V3 consoles, Sony 3324 24-track digital recorder, Sony PCM mixdown

MUSIC RIGHTS AND PRODUCTION

Music, with or without words, must be protected. France offers a system similar to the U.S. Once you register with the *Societe des Auteurs, Compositeurs*

& Editeurs de Musique (SACEM, Songwriters, Composers & Music Publishers Society), your work is automatically protected, which means presumption of paternity and priority. Once your composition is recorded, distributed and has hit the airwaves, the *Societe pour l'administration du Droit de Reproduction Mecanique* (SDRM, Society for the Administration of the Right of Mechanical Reproduction) sends money to members four times a year for the composing or songwriting rights.

The term "production," on the other hand, has a slightly different meaning. Generally, a "producer" is more a financier than artistic production director, although the two do sometimes meet.

To give an overview of the production process in France, we spoke with two producers: Daniel Belolo, an independent producer and general manager of Scorpio Music, an independent production/music publishing company, and Philippe Dothee, A&R Director/Staff Producer of CBS Records France.

Mix: How do you sign artists?

Daniel Belolo: I have to feel good about the artist and he has to feel good and confident about me. A contract is a kind of marriage. It takes a year before signing the contract—recording in the studio, filling out the papers and releasing the record. Such a marriage has to last. Also, independent producers don't think like other producers. Our big failing is our lack of patience. We want the success to come quickly. Unfortunately, and more often, success appears after a lot of work and promotion. The immediate success is very rare, although we had one last year with Tina Charles' "I Love to Love."

Philippe Dothee: It's a challenge. You need to have the best songs, the best artists and produce them the best. Of course, we're more likely to sign with an artist who composes the music, writes the lyrics and sings the songs. We like artists that have their own repertoire and who can also produce themselves. At CBS Records, there are many ways to sign an artist. But A&R directors are the ones who have to find the right way. There is no standard procedure, no rule in this business. And that's what makes it magic.

Mix: What about pre-production?

Belolo: We usually sign with artists who have already produced themselves and come with a master 24-

track tape. We don't have the time we used to, so the work has to be easier. I agree it's a cowardly way to do it, but we can't make it otherwise. The artist has to come with his own team, too—composer, songwriter and arranger. It's becoming less and less often that we're taking production from the beginning. The industry is going for this idea also. It's definitely a drawback for the artists.

Mix: What is your relationship with the record companies?

Belolo: Scorpio Music is a unique production company because we have four labels, and each label is distributed exclusively by one record company. I chose each company based on the spirit of the label—one is more French music, another is only for dance music, etc. Of course, the difficulty is to persuade the record companies at the beginning; we have to motivate them, to get them enthusiastic about our products.

Mix: What do you look for in a studio?

Belolo: I go to studios where I feel good, where the control room is nice. I'm most choosy about the monitor speakers. I like to mix in a studio, go to the office with the 2-track tape and get the same sound as in the studio, otherwise I get very upset. It's also important to go to a studio where you know the engineer and he knows what you're looking for.

Dothee: I choose a studio according to the people who work there, although we do sometimes bring in our own engineer if we feel he is better suited for a specific production. We have a tendency to go for studios that offer comfort, the best gear and a nice atmosphere.

ENGINEERS

In the past, studios have generally used their own staff engineers exclusively, but more recently freelancers have gotten more popular.

"I think it's a good idea, even though our studio is one of the last ones in Paris that still has a full staff," says Carla Guiot of the trend. "The idea of a freelance engineer is great because it gives them the opportunity to work somewhere else, other than always in the same studio."

Engineers are also becoming more involved in projects as producers. "For the last three or four years, engineers have had a major part in production," says Jean-Luc Lemerre, freelance engi-

neer/independent producer and a partner in a production and music publishing company. "An engineer helps in the choice of sounds, the interpretation, the final color of a song and the mix. He also works closely with the artist and the artistic director. So eventually he can work as a producer."

Dominique Blanc-Francard, one of France's top freelance engineers and independent producers, explains why he decided to take on the dual role: "I like to have my say about the choice of instrument, the arrangement, the artistic direction, the structure of the song and the key and then see the final result. I always thought a producer should know how to use all the studio

JACQUES LOUSSIER: Musician & Studio Owner

Well-known pianist and composer Jacques Loussier began playing music at the age of 10 with the goal of becoming a professional concert pianist. The dream took shape three years later when he began to take piano lessons at the Paris Conservatory of Music. At the age of 15 he entered the Conservatory, but financial difficulties forced him to leave after just one year. He continued to teach himself though, learning harmony, counterpoint and orchestration, while playing in piano bars and clubs.

In 1959, he decided to take some of his favorite Bach pieces and set them to jazz. That was the start of the world famous *PlayBach* (Decca Records). In the '60s and '70s he did arranging work for Barclay and Philips Records, toured and became involved in composing soundtracks for French and American movies, including *Thierry La Fronde*, *Les Poneys Sauvages* and *Dark of the Sun*. Today Loussier is an internationally acclaimed pianist and composer, and co-owner of Studio Miraval. He recently produced his album *Lumieres* there. He also composes music for television series and advertising jingles.

Mix: Do you use your piano or score directly when you are composing?

Jacques Loussier: It depends. I work a lot with synthesizers which

equipment, otherwise an engineer could take a project and make it his own."

In 1988, France, like the rest of the world, is following the technical evolution in the recording industry. Will tape last? Is the future hard disk recording? Nobody really knows, but in France, digital recording has definitely made an impact. So when you're thinking about recording that next LP, think vineyards, fine wines, good food and state of the art equipment. France has it all. ■

Guillaume Schouker is a writer and observer of the French recording scene. He lives in Paris.

helps give me a general idea of what the final piece will be like. So I compose with the synthesizer and then write down the score. But I can also write it directly on the score and then play the piece until it's right. It depends on the circumstances. When you read your scores and play at the same time, you can change things according to your inspiration. I listen, then record an A version. If I want to change something I do a B version, and so on until I'm totally satisfied. I record the versions at home and then choose the best one.

Mix: What kind of instruments and equipment do you have at home?

Loussier: I have an Emax hard disk, an Emulator, Synergy, Prophet D-8, Oberheim, DX-7 synthesizer and two drum machines, one for drum sounds and the other for Latin percussion. The advantage of having a synthesizer is that it enables me to have a string orchestra, brass or percussion section. I also have a small Akai 12-track mixing console, a Sony PCM digital recorder, a Revox PR-99 2-track audio recorder, some echo/reverb/delay systems, monitor amplifiers and UREI monitor speakers.

Mix: It sounds like you could be an engineer.

Loussier: Even with all this equipment, I'm not searching for newly created sounds, but for different music from common sounds. Some pieces sound better played on a synth, others are better played with a full orchestra.

—GS

NEW PRODUCTS

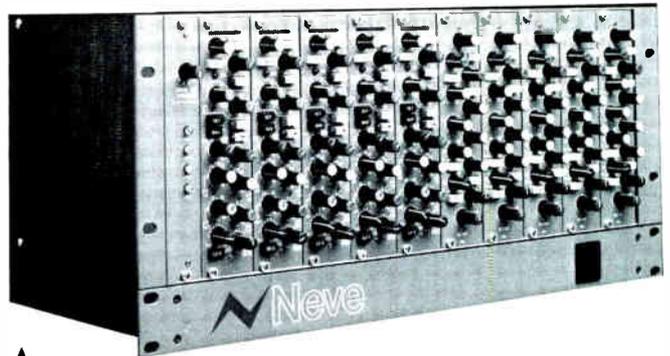


▲
Ensoniq EPS and SQ-80

Two new keyboard instruments designed primarily for the live performer have been brought out by Ensoniq (Malvern, PA): the EPS Performance Sampler (\$1,995) and the SQ-80 Cross Wave Synthesizer

(\$1,895). The EPS can keep all keyboard functions active while the disk drive loads sounds, and its instant patch select buttons can bring in alternate programs or wavesamples in real time. *And* it can play all Mirage sounds with improved fidelity. The SQ-80 enhances expressiveness by enabling the player to graft one sound's characteristics (e.g. bow, pick, breath or hammer attack) onto the beginning of another. Onboard are 75 sampled and synthesized waves, including drums, and a built-in 880K disk drive. Both the EPS and SQ-80 feature Poly-Key™ pressure sensitive keyboards, where each individual key has its own aftersound.

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▲
Neve Prism Series

Neve (Bethel, CT) has developed a line of rack mount outboard devices derived from their V Series console. The Prism Series is designed as a 4U rack unit that accommodates ten modules, powered by an existing console or optional 2U power supply. Modules available are the

Formant Spectrum Equalizer and the mic amp/dynamics unit (compressor/limiter/gate/expander). Both feature electronically balanced line-level inputs and outputs, and the mic amp also offers transformer-balanced mic input and variable high- and low-pass filters.

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▲
Symetrix SX200 Series

The first three products in the new Symetrix (Seattle, WA) "half rack" line include the SX201 parametric EQ/preamp (\$239) featuring +15dB boost/-30dB notch filter capability, with unbalanced pre-amp input, balanced/unbalanced line-level input, and balanced line driver output. The SX202 dual microphone preamp

(\$219) features two pre-amps, variable gain, 15dB pad, +48V phantom powering, and L, R and L+R outputs. The one-in/four-out SX204 (\$269) headphone amplifier uses high-voltage converter technology to drive high- and low-Z 'phones. Also in the line is a rack mount pan that holds two devices in one rack space.

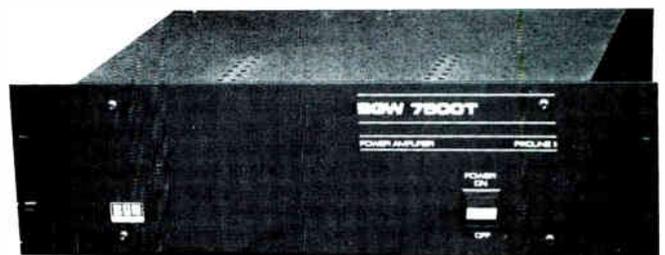
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▲
J.L. Cooper Mix Mate

J.L. Cooper (West Los Angeles) has developed Mix Mate, a low-cost fader/mute automation package for the 8-track studio. The 10"W x 7"D x 2"H device features a SMPTE time code or "smart" FSK reader/striper, dbx VCAs, and on-board memory.

Run it from SMPTE code or slaved to software packages, MIDI clocks or song position pointers. At a suggested price of \$995, it is also available with Mix MatePlus (\$245), an optional interface for the Atari ST computer, offering graphics display, expanded memory and disk storage.

Circle #155 on Reader Service Card



▲
BGW 7500T Amp

The 7500T is a lower priced version of the 7500 power amp from BGW

Systems (Hawthorne, CA). Listed at \$699, it offers the same power (200/250W per channel at eight/four ohms), performance

specs and audio circuitry as the more expensive unit. According to BGW, this was accomplished by using a steel front panel and barrier strip terminations and by providing accommodation for one internal crossover card instead of two.

Circle #156 on Reader Service Card

UK Recording Guide Available

The Association of Professional Recording Studios (APRS), in Rickmansworth, England, has published *The Guide to Recording in the U.K. 1987*. In a handy format, *The Guide* features over 100 studios with color photos and key details of the facilities. Included are major London studios, top-class residencies, smaller studios, mobiles and other specialized operations throughout the entire United Kingdom. Maps, articles and an alphabetical listing of all APRS members (studios, manufacturers, services and educational members) complete the new *Guide*.

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Publison Hard Disk & Tape Streamer

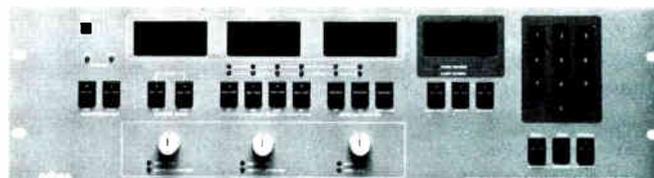
The French company Publison has developed a 21-Megabyte hard disk for their Infernal Machine 90. It can store up to six minutes of 20kHz sampled sounds with all parameters, up to 99 banks of the 400 function memories, and up to 100,000 SMPTE/EBU time code events. Also debuting is an external tape streamer that lets up to eight minutes of digital sound (or the contents of the Machine 90's hard disk) be stored on a digital tape cassette.

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TAC Automation Interface

Just out from TAC in the UK is a universal automation interface, available as an option on all Scorpion and Matchless consoles. The interface enables the boards to be run with the new breed of low-cost fader/mute automation systems that run on personal computers.

Circle #159 on Reader Service Card



New Urban Parametrics

From Orban in San Francisco comes two new parametric equalizer/notch filters. The programmable 764B is a stereo analog EQ that stores 99 full sets of control settings (all parameters) for instantaneous recall, and is available with MIDI and other control interfaces. It's 4-band and dual-channel.

Each section offers overlapping tuning with a 25:1 frequency range, +16dB boost/-40dB cut in each band. The projected unit price is under \$2,500. The 642B provides switchable 4-band stereo or 8-band mono parametric EQ/notch filtering and tunable 12dB/octave low-pass and 18dB/octave high-pass filters.

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Aphex Type C Enhancements

According to Aphex (N. Hollywood, CA), greatly reduced output noise and less noise enhancement of noisy signals are provided by the new circuitry in their improved Type C Aural Exciter (model

103A). The circuit has a dynamic range of 115dB, allowing it to operate continuously without adjustments at any input level between -10dBm to +4dBm. The suggested retail price has not increased from the original \$299.95.

Circle #160 on Reader Service Card

Studiomaster Consoles/MIDI Update

The new Session Mix consoles for live

applications are now available from Studiomaster (Anaheim, CA). The 8-2 features eight

—CONTINUED ON NEXT PAGE



—CONTINUED FROM PAGE 87
 balanced mic/line inputs, 3-band EQ, four aux sends, two aux returns, and flexible rack mount or free-standing design. It can be expanded to the capacity of the 16-2, which features 16 inputs, direct outputs on input channels, sweepable mid on the 3-band EQ, and two mono and two stereo aux returns (can be expanded to 24 inputs).

Additionally, the company has introduced a MIDI update for all Series II consoles, available in all new units or as a user-installed retrofit. The MIDI controller uses note on and note off data (generated by a keyboard or

sequencer) to mute and "de-mute" input channels and aux returns.

Circle #162 on Reader Service Card

Australian Monitor Power Amp

From down under comes the "Australian Monitor" line of MOSFET power amps, distributed in the U.S. by Grafton Sound (Marina del Rey, CA). Developed to withstand hot Australian "diesel and dust" touring conditions, the AM 1600 delivers 1,600 watts at four ohms, and 2,200 watts at two ohms, while the AM 900 delivers 900 watts at four ohms and 1,400 watts at two ohms,



▲ Rocktron Prochorus

The Rocktron Corporation (Rochester, MI) has released the Prochorus, a multi-tap delay chorus stereo processor priced at \$449. Its six discrete time delays are assignable to

left mix, right mix, center, or off. Features include pitch shifting, RMS-controlled random chorusing for realistic doubling effects, and regeneration for various flanging effects and ambience enhancement.

Circle #163 on Reader Service Card



with bridge mode capabilities. Both units feature ultra-quiet "on demand" cooling fans, extruded

heatsinks, slow turn-on, and a five-year chassis warranty.

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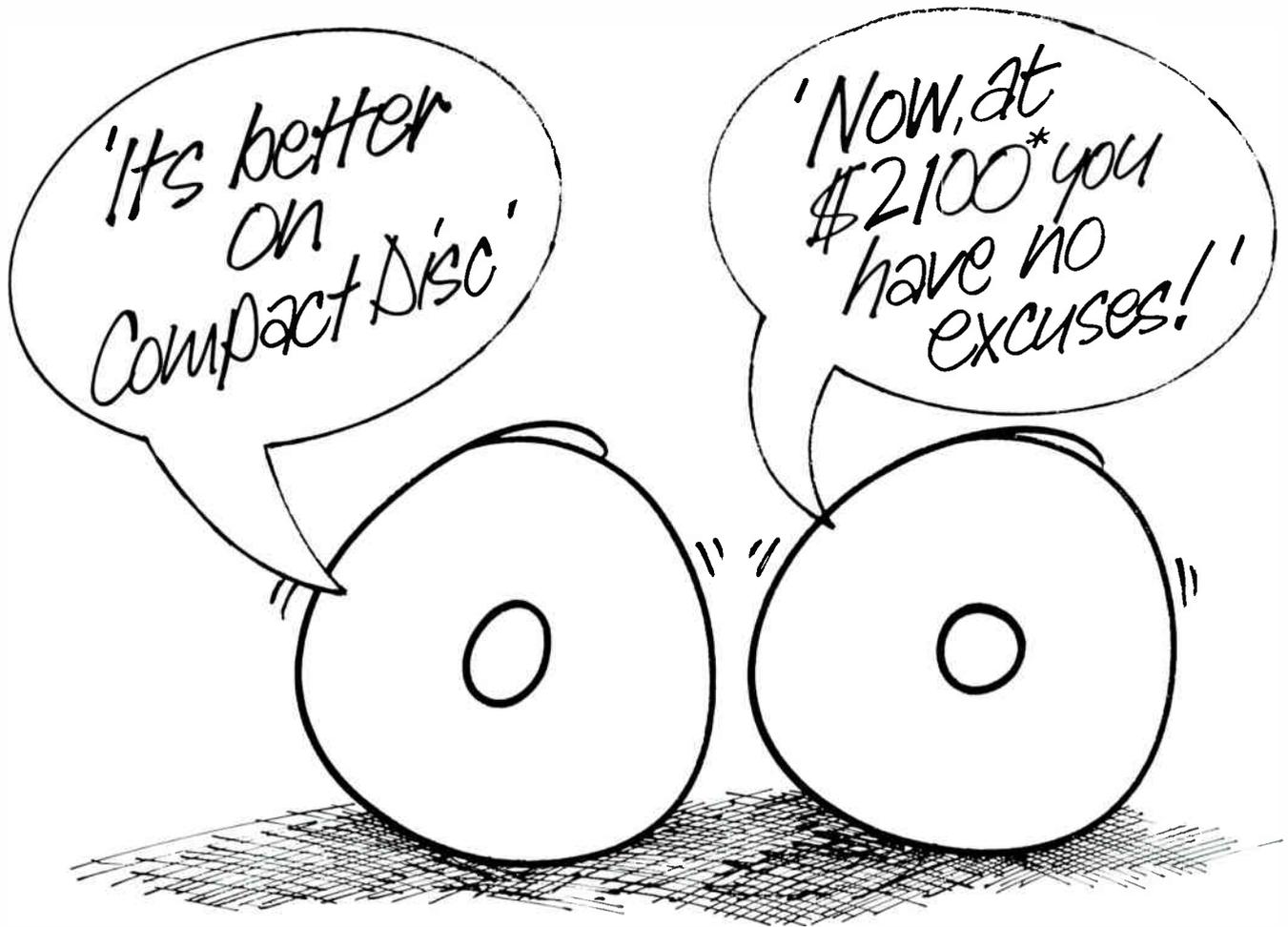
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by Guy DeFazio

KIA XZ100

DIGITAL AUTOMATION SYSTEM

Designed especially with the small budget studio in mind, the XZ100 console automation system from Kia Electronics (formerly A-kia, the name was changed to avoid confusion with the Japanese electronics manufacturer, Akai) offers the kind of affordable technology that bridges the gap between semi-pro and professional systems.

The XZ100 is a computer-based automation system which can operate with any mixing console. The system is optimized for 32 channels, but can accommodate up to 128. It utilizes two systems of sync-to-tape, has both snapshot and real-time control of all channels, and allows for over 9,000 mixing

events (mutes, fader "moves," etc.), storable on floppy disk.

System hardware for the XZ100 includes a rack mount, 16-channel VCA controller box that Kia refers to as a Recording Studio Computer/Controller (RSC), an XZ100 Interface Cartridge, an XZ100 software disk, and an operating manual. The cost of the total package is \$1,999.

A big part of the XZ100's affordable performance comes from the fact that it is designed to work with the inexpensive Commodore 64 computer. The C-64 system consists of a Commodore 64 computer, a Commodore 1541 disk drive, a color (preferred) or black-



The Kia XZ100's edit screen can display the relative gain levels of up to 32 mixing channels simultaneously.

and-white monitor, a 5-pin DIN MIDI-spec cable, and a Commodore 5-pin DIN computer-to-monitor cable. A Commodore 128 computer can also be configured to run XZ100 software. The total cost of the C-64 and the C-128 systems is under \$500 and \$800, respectively.

Using RCA input and output jacks, the RSC easily installs into a patchbay, between a tape machine and mixer, or into a mixer's send/return loops. The XZ100 can control up to 32 channels. The system can control up to 8 RSCs for a total of 128 channels of automation.

The C-64 computer stores your mixing "moves," and sends this data first through its XZ100 Interface (which attaches to the expansion port on the C-64), and then through a MIDI cable to the RSC. If your system requires more than 16 channels of automation, you'll need a MIDI through box to distribute the interface signal to the additional RSCs.

Upon powering up the system, inserting the XZ100 software disk, and loading the XZ100 software into the C-64, you're greeted by the main menu, allowing you to select from three editing modes. You can choose a practice mode (for helping you get started), a multi-track mix mode, or a Status Maker editing mode. The Status Maker is a very useful tool we'll explain later.

Gain changes are made using the lower three rows of the C-64's QWERTY keyboard. Moving from top to bottom and from left to right (i.e. pressing Q, A, Z, W, S, X, etc.) increases the level of the channel or group you're currently editing. The shift key is used to select levels between the gain keys. For example, pressing "shift Q" gives the level between Q and A, and so on. The "crsr up/down" key can also be used to adjust levels one at a time or in repeated steps (fades). Once you've finished editing a channel, the "crsr left/right" key can be used to move to another channel, or you can return to the main menu and assign the next channel or group to be edited.

The muting function of the XZ100 is pretty straightforward. Pressing the

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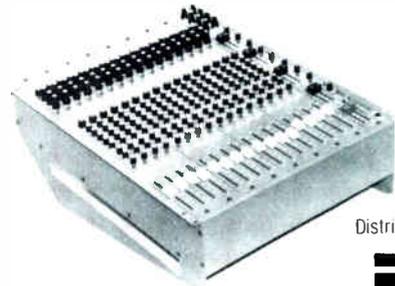
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FIELD TEST

spacebar mutes the channel or group, and pressing the "*" (asterisk) key restores the channel or group to the level prior to muting. Incidentally, the 2 ms response time of the XZ100 makes muting virtually instantaneous.

Operationally, the XZ100's editing features are logical and efficient, with all the necessary operations easily accessible via the main menu. New moves can be overdubbed in addition to or in place of existing moves. A channel or group which is in edit can be soloed, to facilitate equalization, panning or processing. Plus, moves can be copied, erased, deleted or saved to disk at any time. A system with this kind of editing flexibility and operating ease permits you to concentrate more on the music than on the mechanics of the mix.

The XZ100 offers two kinds of synchronization. The first method, which Kia refers to as "free running," records a sync tone at the head of the tune that triggers the computer's internal clock on playback. Thus, audio events on tape are synchronized to mixing events programmed into the computer. This method is somewhat crude, but nevertheless it frees up an entire tape track normally devoted to time code.

Kia took its free running sync method one step further by allowing you to record additional sync tones, called "timepointers," anywhere there is open track space in the tune. Timepointers enable you to go over individual sections repeatedly, without going back to the beginning of the song. However, you do need to erase each timepointer as you finish that section, and start the tape from the first sync tone (for reference) before recording your next timepointer. The XZ100 will integrate all of your mixing moves with respect to the first sync tone.

In addition, the XZ100 synchronizes to any system that provides MIDI song position pointer. MIDI synchronization allows the XZ100 to auto-locate to any location on the tape and assume the moves associated with that part of the recording. SMPTE-to-MIDI conversion is the current standard in the industry, but newer, inexpensive systems are on the market from J.L. Cooper and Harmony Systems that convert MIDI clock and song position pointer data to audio tones that may be recorded on tape. This data can be retrieved from

tape and used to synchronize the XZ100.

The Status Maker is a very powerful editing tool, yet easy to use, and can save a lot of time during a mixing session. Status Maker allows you to create, store, and recall static mixes ("statuses") of all 128 channels. When creating statuses, the computer's internal clock is off, so initially they're not synchronized to anything. Once you have created and stored your statuses, you return to real-time editing, sync the XZ100 to tape, and recall the statuses where you want them to occur. This fixes their location in memory.

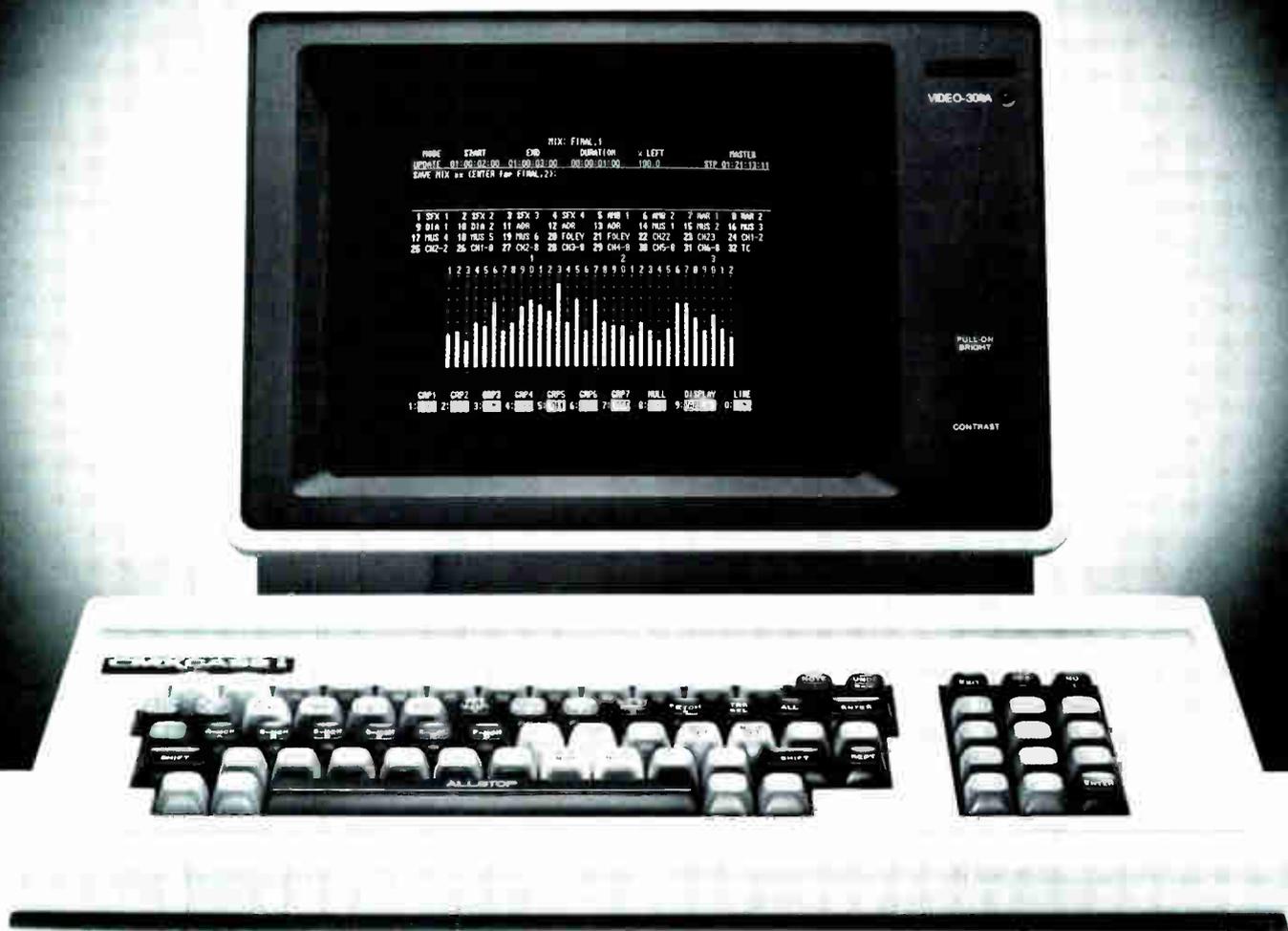
Besides providing you with the ability to create and insert statuses quickly and easily, the XZ100 allows you to edit your mix, which is now a sequence of statuses, using all of its normal overdub, delete and copy functions. Thus, the user can spend the rest of his time tweaking his mix to perfection.

After perusing the owner's manual, and feeling my way around the XZ100's operating environment, using the "practice" mode, I was ready to mix. First, I created and stored statuses of the individual sections of my tune (i.e. intro, verse, chorus, etc.). Then, with the XZ100 synced to tape via a SMPTE-to-MIDI converter, I effortlessly dropped in my statuses according to the structure of my tune. Next up was editing the individual channels, where the C-64 keyboard as well as the Commodore's mouse proved to be fast and effective editing tools. I finished my session by testing timepointer synchronization, and again the XZ100 operated exceptionally.

All in all, Kia has come up with a serious contender in the area of retrofit automation packages. The folks at Kia are listening to user feedback and constantly upgrading their product. The XZ100 will soon support Atari ST compatibility, an external fader package, better grouping functions, improved graphics, and programmable gating functions. If you've been considering console automation, the XZ100 is absolutely worth looking into.

Editor's note: since the writing of this Field Test, Kia Electronics has unveiled a number of new options and upgrades for the XZ100 system, including a dedicated rack mount computer with 3.5-inch disk drive, MIDI in/out and internally loaded software; automatic noise gating; and endless-loop digital faders. ■

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man to approach a pretty girl.

Bonzai: "Girl Fight Tonight" is another good one. How do women respond to that?

Brown: Well, it was the most requested song at a big station in Houston. The DJ, John Landers, told me that every morning he got lots of requests for that song. All these girls called and explained things like: "I want that song, because this girl took my boyfriend and I just really hate her." I think every woman has a woman in their past that stole their boyfriend.

Bonzai: Women can be much nastier to each other than men.

Brown: That's because society doesn't say it's OK for women to beat the shit out of each other. When I was a guest VJ, I sang that song on MTV to a girl who had written me a letter. I had been doing a bit about Bon Jovi calling me and bugging me on the air. Girl fans of Bon Jovi got really pissed and wrote to me. This one girl said she wanted to beat the shit out of me, so I read her letter and sang the song. I found a picture of a chubby blond and said it was her—too many Milky Ways. I talked about her all day. She probably hates me, but the worst that could happen was that she got famous in her high school. I hope she writes again. I'm glad I was on MTV—I had a lot of fun. I wasn't sure about doing it, because VJs don't normally look like they're having a very good time. Some of them do—the other Julie Brown looks like she enjoys herself.

Bonzai: How do you like the music business?

Brown: I have mixed feelings about it. There are some wonderful people involved—people who love the artistry of making music. And then there's a lot of slimeballs, just like you suspect there are.

Bonzai: Is it the same throughout the entertainment industry?

Brown: No. I'm also in the film industry and function in both worlds. The people are different. There's more money involved in film projects and I find more pretentiousness and people who think they know everything. But for records, you're talking about something that is three or four minutes long.

Most record people are willing to admit they don't always know the secret for success. It's hard to tell if it's going to work. People get their feelings about songs, but don't act like they absolutely know. It's amazing—you'd think the music business would have more pretension.

Bonzai: Where is your focus? In the music or in film?

Brown: It's in both, and I know I'm confusing people a lot. The movie, *Earth Girls Are Easy*, is a combination of everything I'm trying to do. It has music—a legitimate soundtrack coming out. I sing four songs in the movie, I act, and I wrote the movie with Charley Coffey and Terrance McNally.

I can't say that I'm concentrating on one or the other. I really like the idea of combining theatrical things with music. In the '30s, no one would have asked me which one I was concentrating on. Judy Garland was a singer *and* an actress. There were vehicles designed for a variety of talents. Musicals were so common; now it's different. I think I'm really lucky that I have the chance to do both.

Bonzai: When will the film come out?

Brown: In June. The shooting is done.

Bonzai: Are you happy with the results?

Brown: I don't know yet. It's being edited. What I've seen is visually exceptional. The director, Julien Temple, is very gifted. In a comedy, though, the editing has a lot to do with the results. What I've seen is wonderful, but you just never know. It'll be frightening to see the first rough cut.

Bonzai: Well, sometimes the editing can enhance and expand.

Brown: That's what I'm hoping for.

Bonzai: What's your favorite quality in men?

Brown: (laughs) It changes from man to man. Sometimes you just like the way they look. Sometimes it's a sense of humor. One of the things I love about men is when they really act like men.

Bonzai: You mean, like if you're having a good time and you get stopped by the cops and somebody has to take care of business?

Brown: Yeah. I love that. I love the

part of men where they get caveman-like. When they aren't victimized by being civilized. Not that I like guys who are macho and get in fights. It's just that when they have to be strong, they are willing to do it. It's fascinating. Not that women can't do that, but it's the inherent nature of men to deal with and confront things. But, I do it too. I confront people, and I get better at it. I'm becoming a better business person and I speak up for myself. But I still find it very attractive in men when they have that certain strength.

Bonzai: When did you start wearing makeup?

Brown: As soon as I could. I wasn't allowed to wear it right away but I would buy it and then put it on when I got to school. I think I was about 12. I wanted to wear it as soon as I could—makeup is a girl's best friend.

Bonzai: What makes us sad?

Brown: When you miss something—maybe even something you've never had, but you want. Or something that you had and it's gone. Nostalgia for a

"I have mixed feelings about the music business. There are some wonderful people involved—people who love the artistry of making music. And then there are a lot of slimeballs, just like you suspect there are."

happier time. It's weird how you can miss things you never had. I think sadness comes when you miss something. Or a person. You're in between relationships and you feel sad, even though you don't know the person you will be with. Like missing something that you know you need.

Bonzai: What makes us happy?

Brown: Getting the things we need.

Bonzai: What are your needs?

Brown: They change a lot. Up until a short time ago, it was to become suc-

cessful and to be in a relationship. The more success I have, the more I value relationships. A relationship that really works is very important to me. Now I have a basic faith that my career is going well. You move to the things you don't have covered in your life and you want them.

My girlfriends that have children want their careers to really work. Now that my career is happening, I would like to have a relationship, and to have kids. I'd like the normal aspect of my life to develop. I want to have a family that is a big focus in my life. Children

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just blow me away. That's something that makes me sad, because I'm missing something that I don't have. But I don't think it's quite the time for me.

I was recently with a girlfriend while she was having her baby. It was staggering. And when I left, I got very depressed. It's such a real thing, and much of what I do deals with fantasy. And a lot of people in show business are dealing with fantasy.

I feel lucky that I am having success, because it is helping me to not live in the illusion that show business will make you happy. Friends who are older than me, and not as successful, are always willing to delay their happiness. They think that if they just get that deal, they'll be happy. It's dangerous, because you're not living in the real world. I'm pleased with my career, but it is not what brings complete happiness.

Bonzai: What terrifies us?

Brown: The feeling that you will miss something. What's the fear of death? That you will miss things. Also, losing control is frightening. I don't think that

humans like to lose control.

Bonzai: What brings peace?

Brown: Balance brings peace—when you have somehow achieved balance in your life. But peace is not a constant thing, and it's not supposed to be. It's something that you have to keep achieving. As you grow as an individual, you get out of balance again. You struggle with your growth, find peace, and then it goes. Continued peace is an illusion. Life doesn't work that way.

Bonzai: That's death.

Brown: Exactly. Life is a struggle, and it's painful. You actually have a better life when you realize it's true. This first screenplay was upsetting. I kept struggling with the fact that it was so hard. Finally, after thinking about it, I realized my idea was illusion. It's just hard to accomplish anything in life. Once you accept that it's hard, you're actually happier. It's naive to think that life is supposed to be easy. It gets in the way for kids who think that if something is hard, it's not worth it.

One of the worst things about drugs is that they are an attempt to eliminate anxiety. You're *supposed* to feel anxi-

ety in life. Anxiety is life's way of telling you that you have to do something—there is something you have to work through in order to accomplish something. If there is something that will squash the anxiety, you're not confronting your unconscious—the things that are trying to come through.

Bonzai: How is it different for a woman, as opposed to a man, who is trying to make it in show business?

Brown: Well, first of all, most of the business is run by men. And your sexuality will become an issue at times. Most men don't have to deal with it, but there's no way to avoid it if you are a woman. You just have to learn to deal with it.

Also, a lot of men—not all men—have trouble really listening to women. They want to believe that they know better than women. A woman really has to make sure she is being heard. For me, it's even harder, because I'm small, and my image is cute. Yet, I know what I want to do with the records and the films. Some men have been brought up to believe that women don't know as much as men do.

But there are also a lot of wonderful men, who listen to what you have to say, and are open.

Bonzai: Who is your favorite songwriter?

Brown: I especially like Paul Westerburg from The Replacements. He writes from the character's point of view. That's something that I want to explore more in my writing. I also like some of Bruce Springsteen's stuff. Prince is a creative, wacky guy—I'd love to do a song, or a short film with him. Something absurd. We are the same size and we could share clothes.

Bonzai: From your videos and your still photos, I expected you to be much bigger.

Brown: Everyone does, but I'm getting used to it. So when I showed up, you thought, "God she's so little!"

Bonzai: Petite.

Brown: Why do you think people have the impression that I'm a big woman?

Bonzai: Maybe it's the way you project, the way you express yourself.

Brown: Maybe I should feel good about it. It's a big image, right?

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Bonzai: What's the greatest compliment that has been paid you?

Brown: The idea of a compliment has changed as time has gone on. One of the biggest compliments was when I was elected Homecoming Princess in high school. I didn't put my name on the ballot and my cheerleader girlfriends put it on for me, and I beat them. They were kind of upset. I realized I had won because people like the lowriders and the nerds had voted for me. I was into science and everything—the nerd kids voted for me. The real people voted for me. I found that to be a compliment.

Bonzai: What high school was that?

Brown: Van Nuys High.

Bonzai: So you really are from the Valley...

Brown: Yes. My grandparents were Valley settlers and my parents were born and grew up in the Valley. I call myself third generation Valley.

Bonzai: Where would you like to be and what would you like to be doing in ten years?



PHOTO: JIM BONZAI

Julie discusses being trapped in the body of a Valley Girl.

Brown: I'd like to have a house somewhere away from Los Angeles and I'd like to have at least two kids that I spend most of my time with. As far as my career, I'd like to be writing and directing movies that I star in. ■

Mr. Bonzai, a 15-year veteran of the music industry, is former manager of a major Southern Cal recording studio, and author of Studio Life: The Other Side of the Tracks (Mix Publications).



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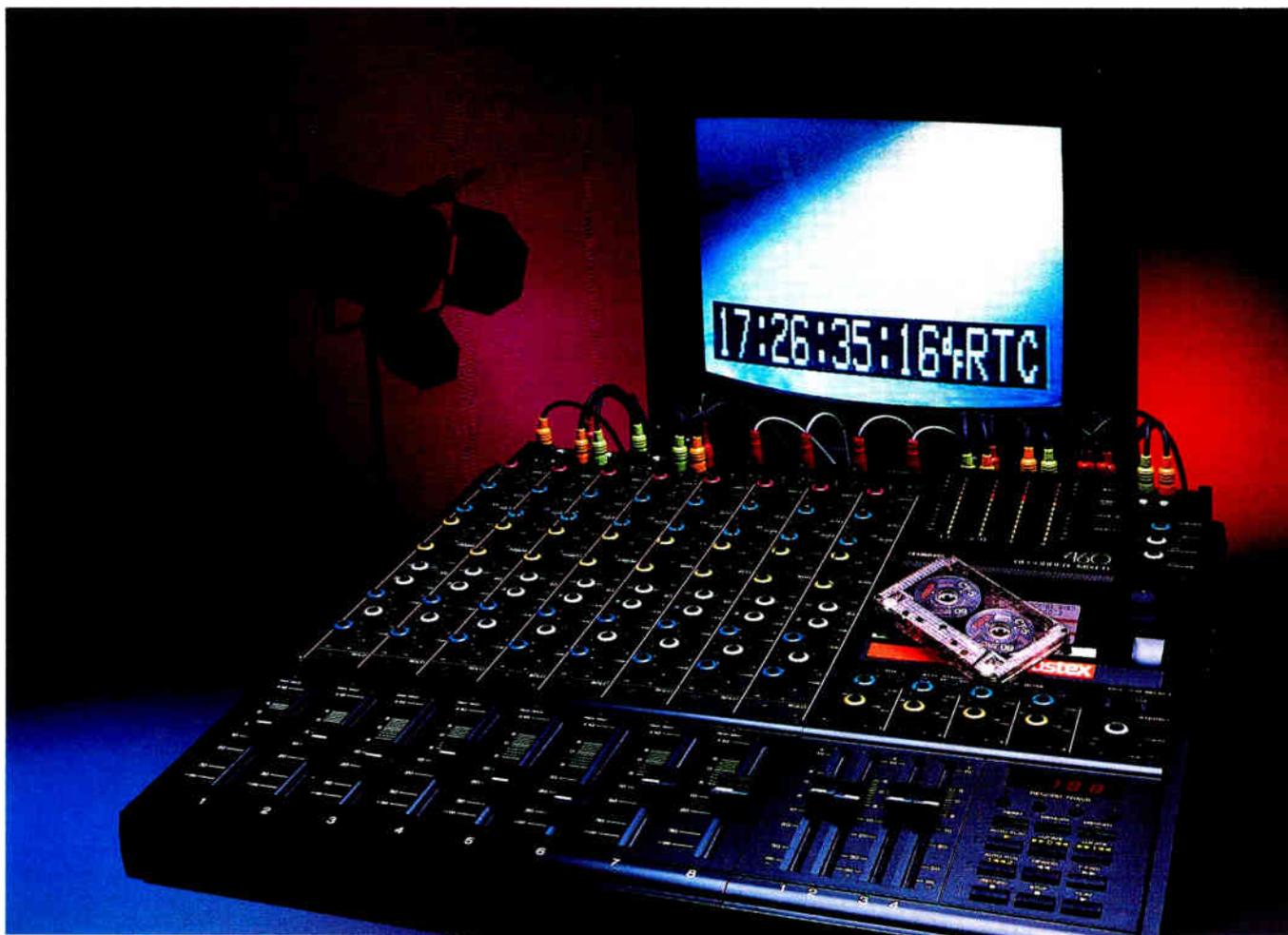
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AUTOMATION & CONTROL SYSTEMS

by Linda Jacobson

"Thank God for automation!" says Craig Bishop, one of the independent recording engineers recently contacted by *Mix*. We wanted to find out how and why people use (or don't use) automation and control systems in the studio. While specific definitions of "automation" and "control" vary from engineer to engineer, it's generally agreed that automation refers to mixing consoles and control refers to tape machines.

Based in New York City, Bishop is a past Grammy nominee with international credits who has worked with Spyro Gyra, Kool & The Gang, and Billy Cobham. Lately he's been doing jingles and album basics at A&R, and recently finished a digital LP at George Benson's private studio. Bishop is acquainted with all forms of console automation, and notes, "Most tape-based systems are similar, but from the original MCI [JH-50] system to the ARMS, things have become simplified. I find the Alison [65K automation programmer by Valley People] on many Trident boards and that's very simple to use. I like the fader null point being at the zero point. It doesn't change to wherever the fader was left at the last pass, like on other systems."

The second generation of automation systems, disk-based, includes Bishop's favorite—the Solid State Logic console. Because the system is disk-based, Bishop can "easily zero in on the details of a mix. I can go over a part of a mix in segments. I don't have to back up to the top and roll through, which I'd have to do if it were tape-based. And things can be stored out of sequence."

Bishop's affiliation with a production company has involved him in a

recording studio installation with a MIDI mixing setup, "where we plan to install Diskmix [IBM PC-based console automation software by Digital Creations]. Because it's SMPTE-based, the Diskmix requires only one track on a 24-track. The idea of using the IBM to mix is a little mysterious, but the SSL keypad was a little mysterious at first also."

It took Karen Kane "a long time to give up the idea of manual mixing. That's the most creative part, or it was before automation was around. You either made or broke the mix then." Based in Boston, Kane has engineered over 60 records for independent labels (Rounder Records, Flying Fish, Icebergg, Ladyslipper) and major New England regional artists. "Most of my work is acoustic—folk, bluegrass, jazz, new age," she says. "It took years for me to use automation because I was doing

'human being' music, rarely using drum machines, computers. But I had to do a complex mix for an R&B project and thought, 'Why kill myself?' So I used the ARMS on the Harrison console at Newbury Sound. It took about an hour to learn how to use it. I was pleased with how simple and helpful it is. Since then I've used the SSL at Normandy Sound in Rhode Island, and I'll be using the SSL at Bluejay in Carlisle [MA]. The board has every feature you've ever wanted, and the computer keypad is easy to use. I specialize in lower-budget projects, so what I do is record basics in a small, non-automated studio, then take it to a studio where there's a high-end board to upgrade the quality in the mixing process, and to be able to mix down to half-inch analog or digital format."

In 1977, Richard Adler ordered Nashville's first console automation sys-



Craig Bishop at the Massenburg-automation, Neve-equipped Sorcerer Sound in NYC.

by Tony Thomas

THE INDEPENDENT EDGE

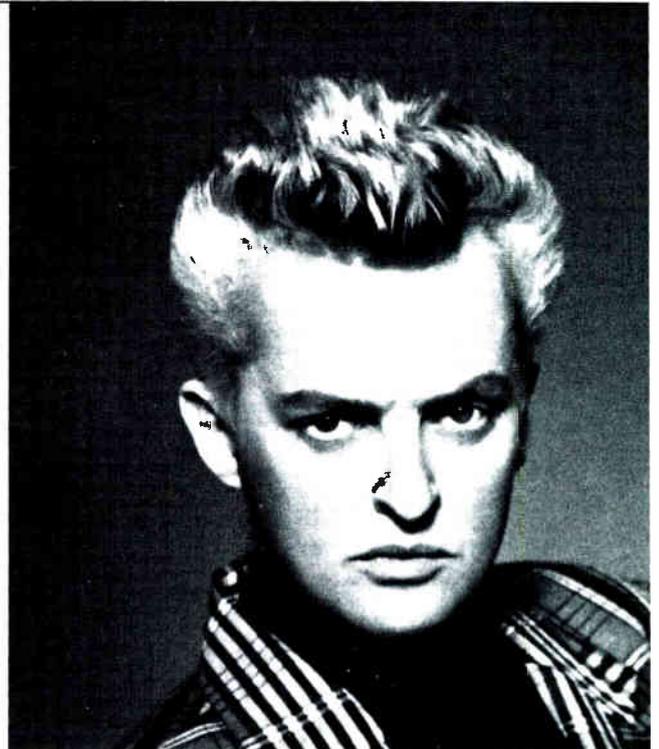
AN INTERVIEW WITH PETER WOLF

Being an independent producer these days is like living in a war zone. The victories may be sweet and the spoils substantial, but you have to be prepared for the painful volleys of criticism from unsympathetic record reviewers and the agony of defeat when your last production ends up in the bargain bins.

Then there are realities of the production game. It is no longer a business of longevity—you can count the ones that have been really successful for a protracted period of time on one hand. The rise may be meteoric and the heights stratospheric, but the burn-out is as inevitable as that of a shooting star.

Is the independent producer becoming an endangered species? To find out, we spoke to producer/arranger Peter Wolf, a member of the new breed of producer which combines production skills with arranging, composing, programming and playing ability. Wolf, who began his career as a classical and jazz pianist in his native Austria, moved to L.A. in the mid-'70s and joined Frank Zappa's band. From there, he became a first-call session player with the likes of Ted Nugent, Pablo Cruise, Survivor, Henry Gross and Freddie Hubbard.

His production career began when he was invited by producer Dennis Lambert to co-produce The Commo-



dores' *Nightshift* album. That led to co-production work on Heart's mega-hit *These Dreams* and production credit on Wang Chung's last album (featuring the '80s anthem "Everybody Have Fun Tonight"), as well as Starship's *Knee Deep in the Hoopla* (which yielded two smashes: "We Built This City" and "Sara"). We found Peter hard at work mixing Nik Kershaw's new album

AUTOMATION & CONTROL SYSTEMS

by Linda Jacobson

"Thank God for automation!" says Craig Bishop, one of the independent recording engineers recently contacted by *Mix*. We wanted to find out how and why people use (or don't use) automation and control systems in the studio. While specific definitions of "automation" and "control" vary from engineer to engineer, it's generally agreed that automation refers to mixing consoles and control refers to tape machines.

Based in New York City, Bishop is a past Grammy nominee with international credits who has worked with Spyro Gyra, Kool & The Gang, and Billy Cobham. Lately he's been doing jingles and album basics at A&R, and recently finished a digital LP at George Benson's private studio. Bishop is acquainted with all forms of console automation, and notes, "Most tape-based systems are similar, but from the original MCI [JH-50] system to the ARMS, things have become simplified. I find the Alison [65K automation programmer by Valley People] on many Trident boards and that's very simple to use. I like the fader null point being at the zero point. It doesn't change to wherever the fader was left at the last pass, like on other systems."

The second generation of automation systems, disk-based, includes Bishop's favorite—the Solid State Logic console. Because the system is disk-based, Bishop can "easily zero in on the details of a mix. I can go over a part of a mix in segments. I don't have to back up to the top and roll through, which I'd have to do if it were tape-based. And things can be stored out of sequence."

Bishop's affiliation with a production company has involved him in a

recording studio installation with a MIDI mixing setup, "where we plan to install Diskmix [IBM PC-based console automation software by Digital Creations]. Because it's SMPTE-based, the Diskmix requires only one track on a 24-track. The idea of using the IBM to mix is a little mysterious, but the SSL keypad was a little mysterious at first also."

It took Karen Kane "a long time to give up the idea of manual mixing. That's the most creative part, or it was before automation was around. You either made or broke the mix then." Based in Boston, Kane has engineered over 60 records for independent labels (Rounder Records, Flying Fish, Icebergg, Ladyslipper) and major New England regional artists. "Most of my work is acoustic—folk, bluegrass, jazz, new age," she says. "It took years for me to use automation because I was doing

'human being' music, rarely using drum machines, computers. But I had to do a complex mix for an R&B project and thought, 'Why kill myself?' So I used the ARMS on the Harrison console at Newbury Sound. It took about an hour to learn how to use it. I was pleased with how simple and helpful it is. Since then I've used the SSL at Normandy Sound in Rhode Island, and I'll be using the SSL at Bluejay in Carlisle [MA]. The board has every feature you've ever wanted, and the computer keypad is easy to use. I specialize in lower-budget projects, so what I do is record basics in a small, non-automated studio, then take it to a studio where there's a high-end board to upgrade the quality in the mixing process, and to be able to mix down to half-inch analog or digital format."

In 1977, Richard Adler ordered Nashville's first console automation sys-



Craig Bishop at the Massenburg-automation, Neve-equipped Sorcerer Sound in NYC.

AN EFFECTS AUTOMATION SYSTEM

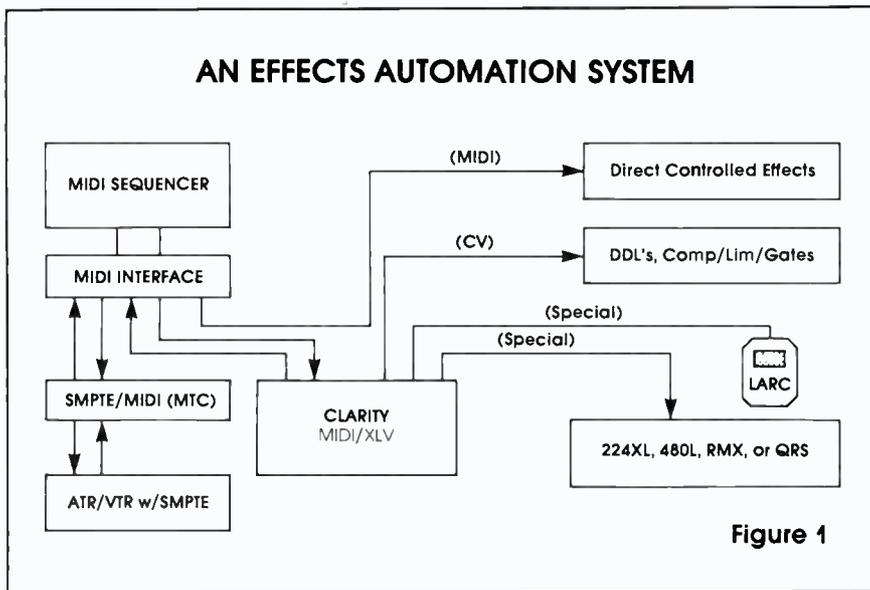


Figure 1

Bring Signal Processors to Life with Automation

by Alex Noyes

Automation has been around for some time now, but when we think of automation we traditionally think of changing the position of faders for audio signals from a pre-recorded source. But something new is brewing in the minds of studio effects designers and a few forward-thinking engineers and producers. The idea is to extend the range of automation to include outboard effects.

Imagine gradually increasing the room size of a reverb program at the end of a chorus, then suddenly shrinking the room at the beginning of the next verse. Imagine switching between several different delay times at pre-programmed locations in a song. These same concepts can be extended to all signal processors—equalizers, compressors, noise gates, etc. If you used to manually change a setting on an effects device and couldn't achieve predictable results, now you only have to do it right *once*, and it then becomes recorded information. This drastically changes our perception, and in many cases the actual applications of these effects devices. It makes them come alive.

A distinction must be made between *programmability* of an effects device and *automation*. Most current effects units can change their program from one complete setting of all parameters to another setting. Most of them do this through MIDI program change commands. This can be very useful; for example, for changing delay times on a DDL. True automation, however, involves dynamic, continuous control of a parameter. A small but growing list of effects devices can accomplish this kind of dynamic control.

The Lexicon PCM-70 digital reverb was the first device to allow use of MIDI to dynamically control a signal processor. Up to ten parameters from any program could be controlled in real time. However, to set up a patch you select a parameter to be modified, then a MIDI data source, then find some way of generating that data. Not very easy unless you are a keyboard player or have some willing person nearby.

A more recent product development in signal processor automation is the Clarity MIDI/XLV. The MIDI/XLV allows you to control four different high-end reverb processors (the Lexicon 224XL and 480L, AMS RMX, and Quantec QRS), as well as control up to eight other devices that respond to control voltages. A great many effects can respond to these CV outputs, including delay lines (usually through pedal inputs), compressors, limit-

—CONTINUED ON PAGE 104

tem—the JH-50 for the MCI console. And he's used both the SSL and the Neve Necam systems. Nevertheless, very little automated mixing has been done lately by this freelancer (Ricky Scaggs, Dolly Parton, Neil Young, Natalie Cole, Johnny Cash) who works at Audio Media, Studio 19, Cowboy Arms Hotel & Recording Spa, Treasure Isle and Masterfonics.

"Automation is a great tool for people who like to go back in [the studio] and pick up where they left off," Adler comments. "It is a tremendous reliever of having to keep a lot of things in your head—it's a scratchpad for mixing. But it is also a tremendous consumer of time because it takes just as long to teach the computer how to do something as it does to teach people involved in a mix how to do it. You may end up with a possibly better, more refined mix, but the total number of hours invested in a mix using automation ends up being equal to or more than doing it manually."

"Automation is a blessing, but it can be a big pitfall as far as time goes, since you have a computer to get it exactly like you want it," comments Barry Rudolph. Based in North Hollywood, CA, Rudolph has engineered for Hall & Oates, Rod Stewart, Johnny Mathis, Stanley Clarke and Natalie Cole (among others), plying his craft at Larrabee, the Record Plant, Kendun [now defunct], and EMI/Australia. He's used all types of automation, and for sound quality prefers the Neve Necam, but he notes, "The SSL is really intuitive. You do everything as if the computer weren't there. The only thing to remember is to end the mix and title it." He tends to use automation just "to get through the mix quicker so I'm less burnt on the whole thing, and to use the computer as a way to be more objective. If you use automation, mixing should take less time. But it generally ends up taking longer and you get a better product—but how much better at what cost? I prefer to mix as if it were not there and then go back and touch things up by way of the computer."

Bob Missbach, an engineer in the San Francisco area, agrees that SSL automation is hot stuff but adamantly states, "Automation was never meant to be a time-saver. It doesn't save time, it *takes* time. The purpose of automation is to let you have detail in your mixing. You can get in there with a microscope and pick things apart and make them per-

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ers and noise gates (usually through key or side chain inputs). But the main achievement of the Clarity MIDI/XLV is you can use the LARC to automate the 224XL, 480L or anything else for that matter. The process of automating signal processors becomes as easy as traditional fader automation.

As mentioned, a growing number of effects devices respond directly and dynamically to MIDI and are therefore "automation ready." These include ART reverb units and T.C. Electronics' remarkable graphic EQ/real-time analyzer. Also, a number of traditional fader automation systems use MIDI to add automation to existing consoles. The Yamaha DMP7 looms above most of these in terms of capabilities; all DMP7 parameters can be automated through use of a MIDI sequencer—faders, sends, EQ, everything except (ironically) its three internal effects processors.

System Design

So how do we automate? We automate by using MIDI (for those who hoped you had finally figured out what MIDI can do, this is something new to fit into the equation). The first step is to assign the parameter of your effects device to respond to a particular MIDI controller. There are 64 continuous controllers, and 64 switches within the MIDI specification, only a few of which are assigned to such mundane tasks as pitch bending, or the ubiquitous mod wheel. You then find a device that can generate the appropriate control data and record that into a MIDI sequencer. If you synchronize your sequencer to tape, preferably

through SMPTE/MIDI time code, you are ready to automate.

Any effects automation system contains a MIDI data recorder (sequencer), a synchronization interface (preferably SMPTE/MIDI time code-based), and the effects to be automated. **Fig. 1** shows a typical effects automation system. The most important aspects of a useful automation system are reliability and ease of use. With the use of a MIDI time code-based sequencer, and a little work in standardizing your environment, you can create a very user-friendly effects automation system.

"Q-sheet" by Digidesign is a MIDI sequencer program specifically designed for automation. With it you can create your own graphics interface for the effects device you want to control (knobs, sliders, or switches). The program will then allow you to record changes on-screen, or through any external controller such as a keyboard (or even the 224XL's LARC, if you have a Clarity MIDI/XLV).

Applications

To what use do we put all these new capabilities? The most obvious is traditional record production. For engineers or producers who are familiar with an effects device that can be automated, that added control can become part of their signature sound. Another area of interest is the use of effects automation by live sound companies. This is an application where every second of setup time saved during performance can be critical, and automating a reverb, or any other effect, makes its usefulness multiply. The last area, and one which is most promising, is the area of film and video

sound. Here room simulation in particular plays an important role in Foley and dialog replacement techniques. Automating these changes makes the work predictable and repeatable, something that should warm the hearts and ears of everyone involved.

In the future, perhaps we will see more general digital signal processors capable of several different functions at the same time (either in parallel or in series). Hopefully, these will allow for dynamic control of their parameters through MIDI. Also the integration of signal processors in consoles and even synthesizers seems inevitable (this is already happening with devices like the Yamaha DMP7 and the Roland D-50).

The expansion of automation to include outboard effects seems inevitable, especially because of the increased productivity that results from being able to set up and control all your effects in one pass, and then have them reproduce those changes automatically. To be sure, there will be times when effects automation just won't be necessary (the same thing is true of traditional fader automation). It is clear, however, that dynamic control of effects is an important addition to the arsenal of creative people working with sound, and that MIDI has become the standard protocol for achieving this control. ■

Alex Noyes is a staff member of the Center for Electronic Music (CEM), a faculty member of the Institute of Audio Research, product specialist for Clarity Inc., and a freelance composer/synthesist/engineer who works in NYC.

fect. The computer makes it possible to do whatever we want, but it doesn't make it mandatory."

Missbach works at The Plant, Fantasy Studios, Studio D, and Live Oak, and has mixed in L.A. at Larrabee and A&M and in NYC at the Power Station. He's engineered for Huey Lewis & The News, Journey, Santana, Van Morrison, ConFunkShun, and various Windham Hill artists. "I've used the SSL, the Ne-cam II, Melquist, and Diskmix [on an IBM PC], all for just mixdown," says Missbach, noting he's probably put in the most hours using Melquist automa-

tion on The Plant's Trident board. "The Melquist only takes one track on the tape and that's for SMPTE time code, the same time code you use for synchronizers and everything else, so you're not using any extra tracks. It can store more than one mix, so you can go back four or five mixes to pick something up. It's just level and mute automation, but it's quick, you can start and stop anywhere on the tape. It's just like recording. You can punch in, punch out, you don't have to do a whole section, you don't have to complete the song. You can do as many faders and

mutes as you want simultaneously."

Phil York, who lives in Dallas, agrees that automated consoles may "help" complete half the work in twice the time, "but I recently finished a TV movie using an MCI 548 board with the original automation. It would have been a 200-hour mix—but I couldn't find anything else I had to do after 22 hours."

York has recorded over 30 *Billboard* chart hits, and was voted "Best Recording Engineer" by the Texas Music Association in 1983. He usually works a job as both engineer and producer, primar-

AMEK AND GML... THE FORMULA

AMEK/GML... the marriage of two of the most creative forces in audio engineering today. AMEK is renowned for its equalisation, operational flexibility and build quality. The GML Moving Fader Automation System is proven in prestigious studio installations in LA, New York, Nashville, Tokyo and London to be the world's most advanced computer-assisted mixdown system. It is now available on three AMEK console ranges – APC1000, G2520 and CLASSIC – manufactured by AMEK under licence from GML, Inc.

George Massenburg, one of America's most respected recording engineers, designed his system from the engineer's point of view, aiming to enhance professional audio master recording with a unique and innovative approach which more or less transparently follows the engineer's natural workflow.

The GML System facilitates the use of today's most complex and sophisticated mixdown techniques, giving total control of the mix data through powerful easy-to-use data processing methods and remarkable off-line fader and mute mix editing operations.

The GML System is purpose designed for multitrack and audio video post production applications, offering an intelligently advanced 'visual-mixing' environment with versatile automatic timecode recognition and programmable timecode 'off set value' commandability in each mix.

GM L programmes are divided into two sections. The outer shell is used in normal mixing operations to enable the various write and read modes for each fader, and for initial storage of mixes. The inner shell contains the 'mix editor', which is the command centre for the editing of all data. The GML mix edit

utility provides the engineer with the capability of advanced mix editing. The user can selectively modify mix data, merging, splicing, copying, swapping, erasing, inserting and deleting as required. Additionally, data for individual tracks or for a whole mix can be shifted back and forwards in SMPTE-time.

GM L also has a simple and flexible subgrouping facility, using 6 dedicated faders as submasters.

The GML System uses two Motorola 68000 series microprocessors clocked at 12.5 MHz with the Idris software operating system, 100% compatible with Unix V6 from Bell Labs, residing on a 40 Megabyte Winchester hard disk. A 1-Megabyte Dynamic RAM memory is provided for the 'mix in progress', with finished mixes stored on the hard disk and later, archived to floppy diskette. Provision is made for the structuring of mixes into directories and subdirectories, so that where a number of producers, engineers or clients use the system their mixes can be kept entirely separate and password-protected.

The system is slaved to SMPTE code and has an internal resolution of 8.33 mS (quarter frame) and can control up to 128 faders and 7 switches per channel to that accuracy. Necam and Solid State Logic fader and Mute data can be converted to the GML format by way of the floppy disk drive input.

Ongoing software development will continue to hone the edge of the GML System, enabling it to remain at the forefront of technical excellence for the foreseeable future.



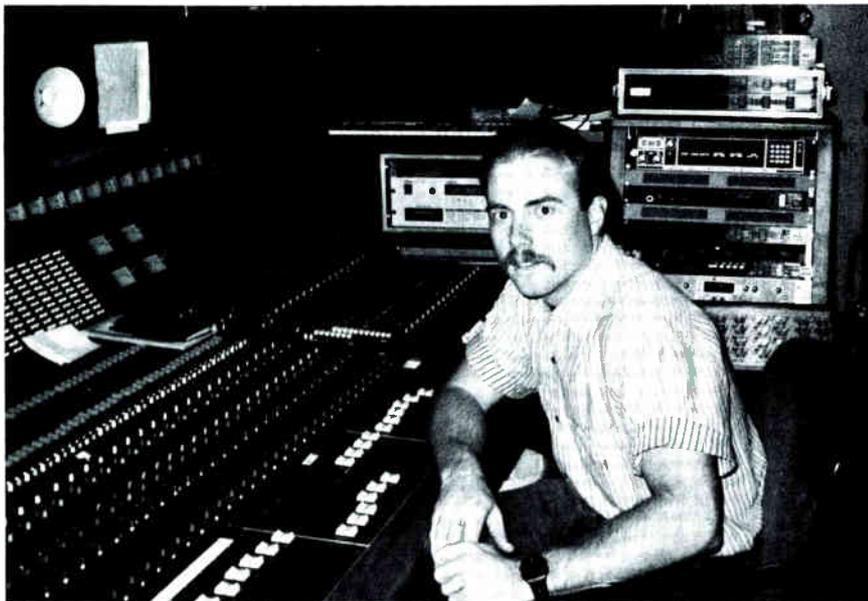
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Bob Missbach, SF Bay Area

ily at Studio Southwest, Crystal Clear, Goodnight Audio or Omega Audio in the Dallas area. Along with the MCI system, York's experience covers the Necam 96 and the Alison 65K. "They all have their virtues," he says. "I think the best use of automation is to free up attention to complete a mix to its fullest degree. I mix a cut manually until it's very close to what I want. That way it has a more human feel. *Then* I commit it to automation. Dump it in the computer and play it back, listen from different viewpoints, then start making refinements, which I couldn't do if I had to do the basic mix over and over."

While he admires the MCI JH-50, York says, "The advantage of Necam and its floppy disk is that you don't have to start your automation track at the beginning of the song. You can stop where you are, back up, re-program the computer and handle a different function at the same location on the tape, without having to make a clean sweep from beginning to end. That is a time-saver."

Another Neve fan is Jay Henry, a New Yorker with gold records on his wall and Grammy-nominated albums (Larry Coryell, Run-DMC) on his credit list. Henry has worked at Unique Recording, Shakedown, and Quad (among others). His background is in TV sound, and he specializes in audio/video pre- and post-production. "I'm excited about the new Neve V console with Necam 96 at Chung King House of Metal, where I work a lot. I've always been enthusiastic about the sound quality of Neve consoles. Their mov-

ing faders provide audio quality by taking the VCA out of the circuit. And their soft-keys let you reduce 60 key-strokes down to one. I like working with the Neve for music production." However, Henry prefers SSL for video post-production "because of the recall. You're usually pressed for time and repeatability in post applications for TV. In commercials, you do exactly the same mix over and over, except for one element such as voice-over, and doing it with the SSL works well because a lot of elements in the channel path affect the level besides the fader and the mute."

Joe Chiccarelli (Hollywood, CA) also appreciates a moving fader. Artists for whom Chiccarelli has manned the console include Frank Zappa, Lone Justice, The Bangles, Bob Geldof and George Thorogood. He's worked on Neve with both Necam II and George Massenburg Lab systems, and the SSL (at A&M Studios, Ground Control, Sound Castle, Capitol Records, and Conway Studios). "It's great to see the faders move up and down past your pencil marks," enthuses Chiccarelli. "You get a secure feeling that you know what's going on. I use the SSL a lot. It's fun, fast, and with the total recall, I can get back to my mix in an hour or two and touch it up in a matter of hours. But sometimes the SSL sound is not what I want. So if I cut tracks on an SSL, I like to mix on another system. If I track on a Neve, then I mix SSL. Using different consoles rounds things out. The SSL has its own clean 'high-tech' sound. The

ENVIR

INTEGRATING DIGITAL

PCM 70 parameter settings.
Program Row 3
Concert Hall:

REVERB
DESIGN

CONTROLS

MIX 100% WFT

REFLECTION 60

F= 0.10 + 6.00

REFLECTION 60

50% 4.00

REFLECTION LEVELS

WIDE 200%

1.00

WIDE OFF

1.00 REFLECT

PRE RE 20% 10

1.00 REF OFF

NO 90% 10

4.00 100%

PRE RE 0% 10

4.00 100%

PRE RE 0% 10

4.00 100%

PRE RE 0% 10

4.00 100%

REVERB
TIMES

REFLECTION
DELAY TIMES

RT LOW 20%

3.00 100%

RT MID 20%

3.00 100%

RT HIGH 20%

3.00 100%

RT OFF 20%

3.00 100%

"SPACE SHIFTER" Dynamic MIDI patches
for use with the YAMAHA DX7

MIDI CONTROLLER	PARAMETER	SCALING	LIMIT VALUES
DATA SLIDER	1.0 RT Low	+13	2.8/ 52
DATA SLIDER	1.1 RT Mid	+22	1.1/ 26
MOD WHEEL	1.2 Crossover	+17	350 Hz/ 4.85 kHz
MOD WHEEL	2.1 Attack	+81	15/ 95
FOOT PEDAL	0.8 Chorusing	+17	51/ 68
LAST VELOCITY	3.1 Lt. V1 Reflection Level	+33	Off/ -8.5
LAST VELOCITY	3.3 Rt. V3 Reflection Level	+30	Off/ -6.5
MIDI CLOCK	0.3 Size	-33	29.8 @ 100 BPM
MIDI CLOCK	4.0 Delay Master	-110	0 @ 100 BPM

"Space Shifter" was written by Lexicon Applications Engineer Will Eggleston

ENVIRONMENTAL IMPACT

EFFECTS INTO MUSICAL PERFORMANCE: A LEXICON APPLICATIONS BRIEF

We developed *Dynamic MIDI*[®] to take digital effects beyond static environments and flat textures. With it, you can use MIDI controllers to change your music's sonic space or texture as you're playing.

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Why do we give you more MIDI patches than most effects have parameters? Because the PCM 70's algorithms (like the Concert Hall algorithm shown here) give you more parameters than some units have programs. Complex as it is, Concert Hall is only one of six (seven if you have optional Version 3.0 software) PCM 70 algorithms.

"Space Shifter" is based on Concert Hall: it's a good example of how *Dynamic MIDI* adds new dimensions to performance. The Data Entry slider lengthens the Mid and Low reverb times. The Mod Wheel moves your audience farther away by controlling

two parameters at once. As it raises the Crossover frequency, sending more reverb energy into the longer RT Low decay, it lengthens Attack time. The foot pedal choruses the reverb, while keyboard velocity controls the level of left and right reflections.

MIDI clock (included as a controller in our optional Version 3.0 software) adjusts Room Size and Delay Master for different tempos. The chart at bottom left shows that most controllers are scaled to vary the effect from a "minimal" space to one with a powerful impact. But the MIDI Clock patches are negatively scaled: as tempo goes up, size and reflection levels go down, to keep the reverb from "washing over" the beat.

For PCM 70 owners, "Space Shifter's" parameter settings and MIDI patches are in the charts on the left. The tenth MIDI patch is empty: it's yours to experiment with. In fact, the whole program is a starting point for exploration.

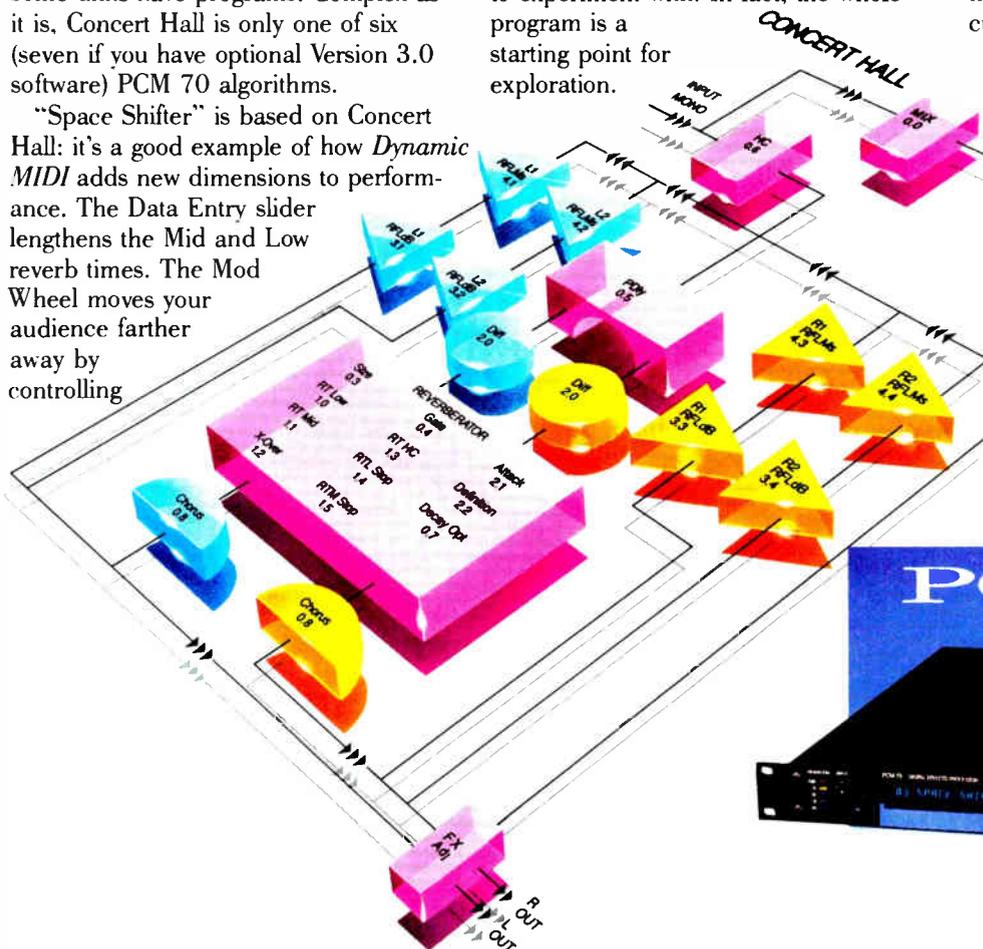
Try adjusting the Scaling function to get the polarity and range of control you want. If you need a wider range than a controller offers, you can "double assign" it to the same parameter for up to twice the variation.

These are by no means the only controllers you can use. Pitch Wheels, Sustain pedals and over 120 others are included in *Dynamic MIDI*. Engineers often use Last Note when recording parameter changes to a MIDI sequencer for automated playback during mix-down.

Now a word of warning: If you don't yet own a PCM 70, don't drive yourself crazy trying to duplicate "Space Shifter" or other PCM 70 sounds using less advanced devices. With 30 to 45 parameters, every PCM 70 algorithm gives you multi-dimensional control that's simply not available in simpler units. Concert Hall alone generates many more sounds than we could discuss on one page.

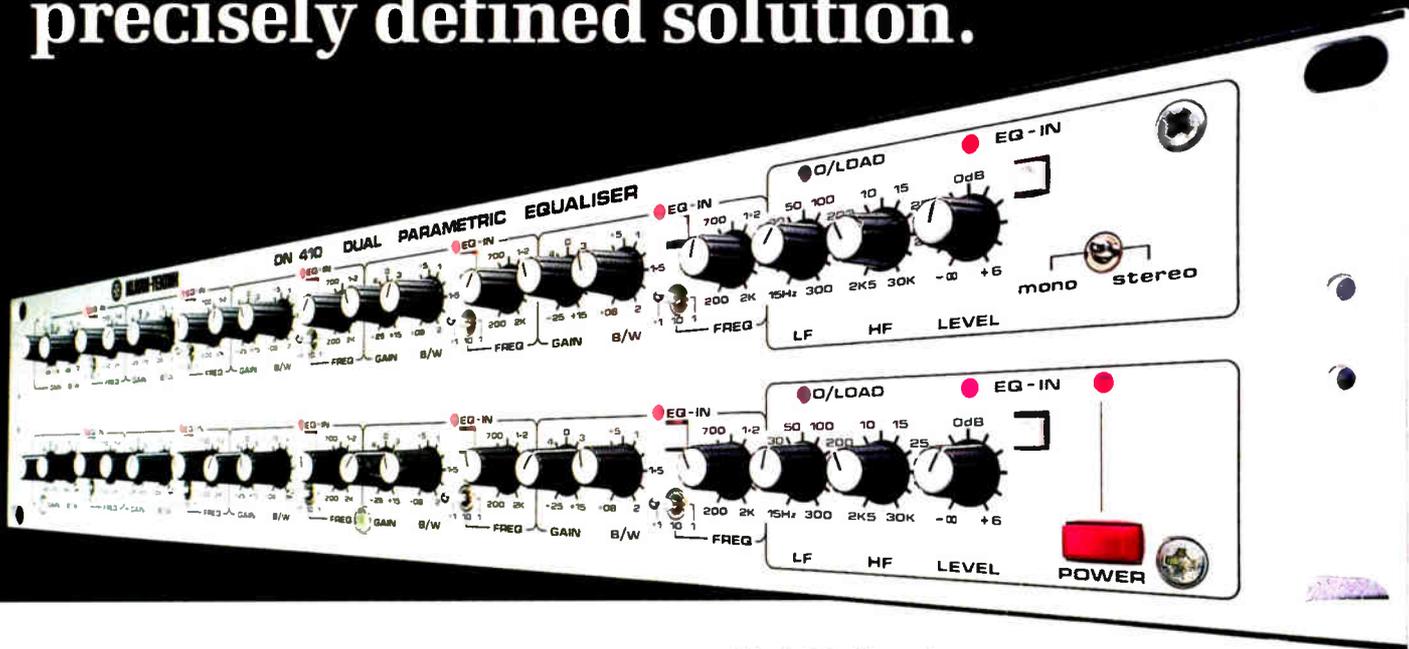
Every PCM 70 has five more algorithms (six with optional Version 3.0 software, including Inverse Room). All of them are equally powerful, equally complex, equally ready to take you into new musical spaces. Which is why thousands of creative studios, innovative producers and productive musicians agree that the PCM 70 has no equal.

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Barry Rudolph, L.A.

Neve is a more thick, warm, musical-sounding console.

"I like using Neve with Massenburg automation, which is very accurate and reliable," continues Chiccarelli. "I love the Massenburg's moving faders. Those faders have over a thousand volume steps. That's what you need for vocal moves or anything finite. And the fader can jump from zero to a given value at any SMPTE number."

Jim Boyer concurs, "Of all the newer systems, I'm happiest with the Massenburg. George Massenburg is the engineer's engineer." Boyer works in New York City and has racked up engineering credits with Billy Joel, Steve Winwood, Paul McCartney, Linda Ronstadt, Paul Simon and the Manhattan Transfer. He's mixed at the Hit Factory, Power Station, Record Plant, Right Track, RPM and Sorcerer Sound. Boyer reports, "In a lot of mixes I only automate ons and offs. I'll set up the mutes and everything to be turned on and off, and then I'll mix without using the computer on the faders. Every time I make a mix it's a new performance, and if it's something I like, I'll keep it. Automation has taken off a lot of pressure, like worrying about making an on and off move in the old days when four hands weren't enough.

"The Massenburg," Boyer adds, "lets you trim the faders on the computer screen, or take moves from one fader and put them on another. But as far as I'm concerned the best system ever is the early Necam, because you don't have to think about making an entry in the computer before you do a

move. You just grab the fader and mix. My one bone of contention with the new systems is that they force you to think computerese instead of thinking music."

Rob Freeman says of the Massenburg, "You just grab for a fader and it knows you grabbed that fader and it records the action. It seems to be more related to running the tape than running the computer." He lives in Pelham, NY, but goes to Manhattan to work at the Record Plant, Unique, Sound Works and Quad, among others. His engineering credits include Kiss, Blondie, Ramones, Abba and Rupert Holmes. Freeman has worked with the early systems, Neve Necam, the SSL, and the Massenburg on a Trident board.

However, Freeman doesn't use automation in the mix process. He says, "The mix is as much a performance as anything on the record. Even though I work with computers and sequenced drum tracks, I try to put in as much humanity as I can. The least I can put in that I *know* is human is my own touch. So I only use automation at the end of the session, to take a photograph, to 'freeze' where we left off. Maybe at the end of the day I had something close but didn't quite nail it, or I had an idea for a different vocal approach—the next day that 'snapshot' puts me right back where I was, and then I proceed the way I was going, with my hands on the faders."

Freeman has also tried MegaMix (by Musically Intelligent Devices), a PC software-based console automation system at Tiki Recording in Long Island. He says, "I'd like to do it again. It was a little cumbersome because I was doing one fader at a time. But that Macintosh system has possibilities, besides being cost-effective. I have a Mac at home and wonder about the possibilities of compatibility in terms of taking the mix home. If there were a way to monitor the mix, maybe through your own MIDI system or a visual representation of it; maybe take a 2-track mix with a tone to sync the computer to the tape, and you can proceed to trim what you did in the studio—at home."

Glenn Feit is a Hollywood freelancer who also doesn't mind thinking in "computerese." He specializes in remixes and has engineered for the New Edition, Bobby Womack, Motley Crue and the O'Jays, working at such studios as Larrabee and Village Recorders. Recently, Feit has been installing and run-

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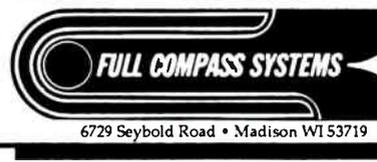
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ning 24-track studios in producers' homes. It is the home studio trend that has Feit looking beyond the "high end" at PCs, particularly the Atari ST. Now exploring MIDI-based muting systems, Feit was about to try MegaMix when we spoke.

"I try to keep recording quality high and cost low," says Feit, "so I've gotten involved in MIDI. I look at MegaMix as an easy automation package that can travel with me. It stores the on/off information of the mute buttons, much like on/off note information, in any MIDI sequencer. If you're synchronizing your sequencer to tape, then you might as well have one of the tracks controlling the automation. Volume adjustments are just MIDI messages. I expect to see a lot more automation packages based on MIDI, hopefully right in the onboard computers in consoles. If we're using floppy disk-based systems to lock the mixes to tape through SMPTE, why don't we do some of the stuff through MIDI too?"

"These type of systems make the mix part of the recording," adds Feit. "You suddenly have extra hands. MIDI is much easier to work with. And some

programs even have event list editing where you see MIDI messages in text form—you can edit them like a word processor."

Donna Summer, Missing Persons, the Go-Gos and Shalimar are some of Bob Stone's past clients, but recently he's concentrated on Frank Zappa's albums, CDs and music videos. Stone reports on the approach to automation he and Zappa have taken at Zappa's Utility Muffin Research Kitchen:

"We've developed a system that locks together our digital [tape] systems. We basically do it the old-fashioned way with a new twist—having machines lock together so you can do punch-in type edits without any noticeable punch-in." And the way to do that is with digital tape. "Our automation is not really 'console' automation, but we can punch in anywhere in the mix on a video basis and the digital system lets us change segments or re-arrange the console."

System components are Sony's PCM-3324 digital multi-tracker and 1610/1630 PCM processors linked to the BVU-800 ¾-inch video deck. The mix-down machine slaves to the multi-track.

"They're locked to time code and everything is locked to a video rate generator," explains Stone, "so everything is done at a 44.056 kHz sampling rate as opposed to 44.1 [which is normal for CD format]." Transport control, time code generation, and lock-up are provided by the TimeLine Lynx. "If you don't like your mix at a certain point, rather than re-recording over the tape or having to do the editing later, you correct the section without having to load it into the memory of an automation system. Everything is recorded directly to the mix tape. It makes locking to video a lot easier. The console is a 48-input Harrison, but we don't use its automation system."

Using a keypad to locate cue points or specific locations, Stone says, is "slower than manual rewind and manual insert at the point where you want to change. With our volume of work, manual cue winds up being ultimately faster. And for editing, we use the Sony DAE-1100, so rearranging the sequence of tunes or taking parts of a tune performed in one city and inserting them in the same tune done in another city can be done easily."

And what *about* editing? The concept of automated editing has changed with the advent of speedy microprocessors and MIDI. Now there are audio-for-video editing systems that let you write an edit list, go eat lunch, come back and play back a finished tape.

Engineer Paul Christensen owns Omega Audio outside of Dallas, and freelances as a remote recordist. He's helped out Johnny Cash, Willie Nelson, the Oak Ridge Boys, Pat Benatar, the Boomtown Rats, and more. Specializing in audio for video since 1980 (he recently finished the HBO musical special *Fats & Friends*), Christensen notes that the first tape-based control systems were somewhat volatile for punch-ins and built up time lags upon updating. The complex mixes used in video and film did not jibe with this. The ensuing disk-based systems were more suitable, "but there are inherent advantages of going to a hard disk or optical system for storage and retrieval, and this is the third generation," says Christensen.

Christensen now uses the CMX CASS system built around the IBM PC/AT with a 20-Meg hard disk and 1.2 Meg of RAM. It edits and controls machines, and its automation system interfaces to virtually any console. "You can't edit audio for video unless you do it the

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way video people do it," he notes. "The audio editing protocol is no different from video. You deal with the place where you're putting it and the place you're taking it from, and you want to do it electronically because it's more efficient. It's got to be subframe-accurate, with a fast trim function. You must be able to see any edit event over and over, then be able to quickly move something to two frames earlier. RAM coupled with a hard disk lets you do that. The hard disk provides for auto-save, so every time you do an edit or a move with automation, it saves it to hard disk. So if anything happens to the power you only lose the last thing you were working on. Also, on the hard disk you can have hundreds of files that can be brought up in a few seconds."

Christensen uses the CASS system in album mixing, too. "I use the disk-based automation portion to mix. It's a powerful automation system—at the flip of a switch it controls the console in an audio-only application."

For transport control, Christensen likes linking the CASS system to the Adams-Smith or Timeline Lynx synchronizers. "The Adams-Smith interface is complex; one advantage is you can solve more problems that are the exception rather than the rule. You have to be more technical and creative to invoke the system's programs, like the splice-track program that lets you deal with dissimilar time code and dropouts in time code. You can tell the computer to ignore it or how to respond."

"The Lynx is good for more straightforward work, and works well out of the box. It's software-based and does a lot of stuff, all you have to do is punch up the machine you're using and there it is, all loaded in."

Jay Henry also edits audio for video: "I do automated editing in conjunction with MIDI control devices where you run everything off SMPTE. My company, Visual Music, put together a digital audio production system for video. We never have to lay down and transfer audio from one video tape to another while editing, the way people are used to doing it. It's all done with sampling, even sampling announcers—why have him speak into mic and go to tape when you can go into a computer? We can do everything you normally do to audio, like time compression, but with MIDI control capabilities plus all the editing capabilities of samplers. We

—CONTINUED ON PAGE 135

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by Tony Thomas

THE INDEPENDENT EDGE

AN INTERVIEW WITH PETER WOLF

Being an independent producer these days is like living in a war zone. The victories may be sweet and the spoils substantial, but you have to be prepared for the painful volleys of criticism from unsympathetic record reviewers and the agony of defeat when your last production ends up in the bargain bins.

Then there are realities of the production game. It is no longer a business of longevity—you can count the ones that have been really successful for a protracted period of time on one hand. The rise may be meteoric and the heights stratospheric, but the burn-out is as inevitable as that of a shooting star.

Is the independent producer becoming an endangered species? To find out, we spoke to producer/arranger Peter Wolf, a member of the new breed of producer which combines production skills with arranging, composing, programming and playing ability. Wolf, who began his career as a classical and jazz pianist in his native Austria, moved to L.A. in the mid-'70s and joined Frank Zappa's band. From there, he became a first-call session player with the likes of Ted Nugent, Pablo Cruise, Survivor, Henry Gross and Freddie Hubbard.

His production career began when he was invited by producer Dennis Lambert to co-produce The Commo-



dores' *Nightshift* album. That led to co-production work on Heart's mega-hit *These Dreams* and production credit on Wang Chung's last album (featuring the '80s anthem "Everybody Have Fun Tonight"), as well as Starship's *Knee Deep in the Hoopla* (which yielded two smashes: "We Built This City" and "Sara"). We found Peter hard at work mixing Nik Kershaw's new album

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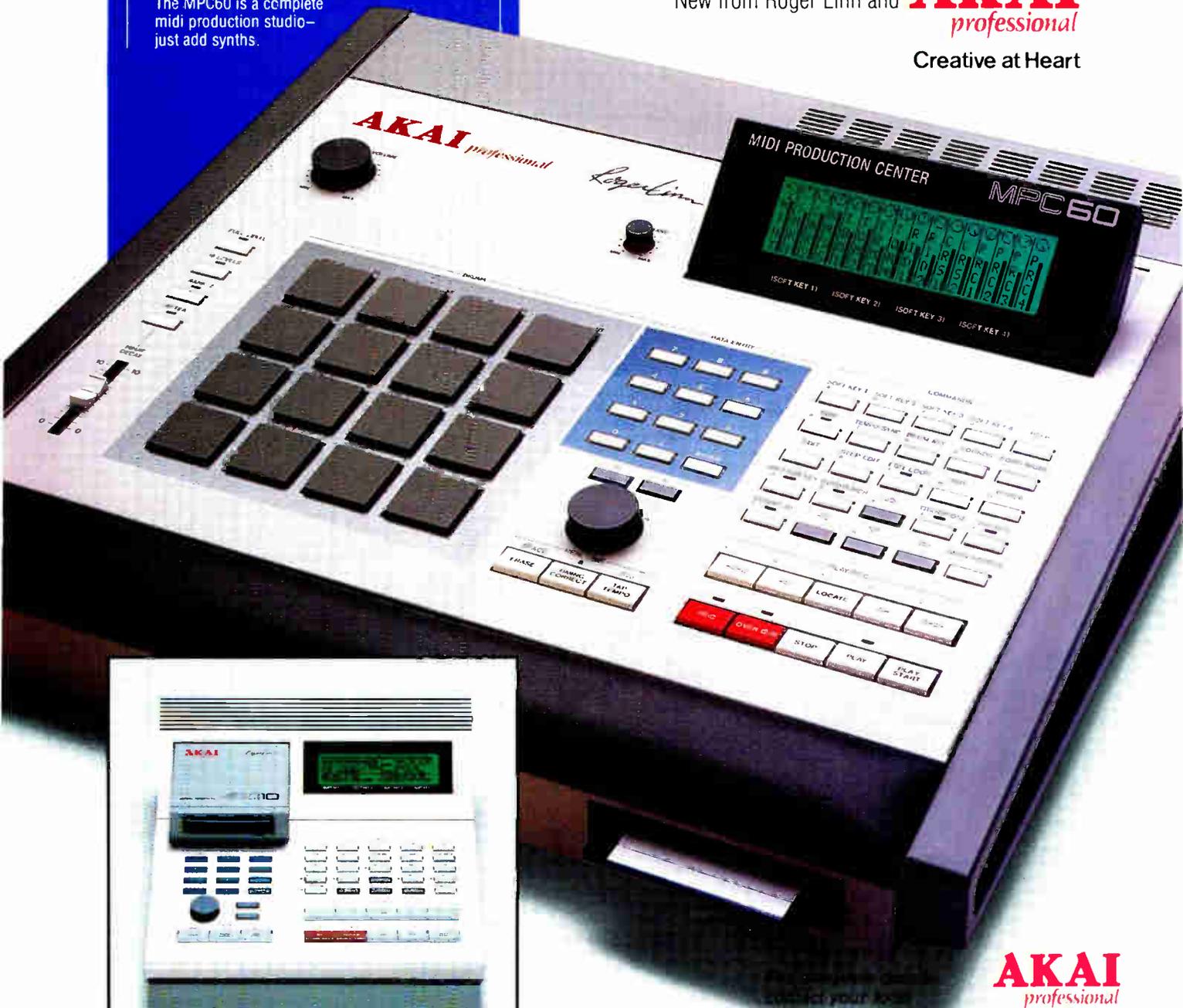
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Mix: What was it like making the transition from session player to producer?

Wolf: Well, I've been pretty lucky over the years that I have been successful enough not to have to worry about a gig. Right now, I'm booked almost a year in advance. The music business has been very, very good to me. I've always said that the luxury of being successful is not just the money. It's being able to work with and produce cats that I absolutely love. For example, I loved Wang Chung and when that opportunity came along, I jumped at it. Right now, I'm producing Nik Kershaw. I've been listening to his stuff for years and I'm one of his biggest fans. He's a superstar in Europe but he has never broken here. The record we're working on now is going to be fantastic. In January I'm going to do Big Country, in March I'm doing Paul Young and after that I'm doing another Wang Chung album.

Mix: How are you usually remuner-

ated as a producer?

Wolf: I get an advance before I start a project and I get points afterwards. Dif-

"For me, having a manager is essential. I don't want to have to be in the position of having to negotiate with the artist. I don't want to talk money with them."

ferent producers get different points based upon how successful they are. When I started, I worked for half a

point and I just worked my way up. Right now, I'm a four-point producer. I have a manager who negotiates the deals and handles the business end of things for me.

Mix: Do you think that it is important for an independent producer to have a manager?

Wolf: Yes. For me, having a manager is essential. I don't want to have to be in the position of having to negotiate the deal with the artist. After all, I have to work with that artist. I don't want to talk money with them and they don't want to talk money with me. I just prefer to let my manager and their manager battle it out.

Mix: Do you handle the negotiations with the studios for booking recording time?

Wolf: That's a different story! I'm merciless with studios! After all, as a producer, I get a certain amount of money from the record company and I'm responsible for delivering the record. If I go over budget, then it comes out of my pocket. So, I have to battle it out with studios.

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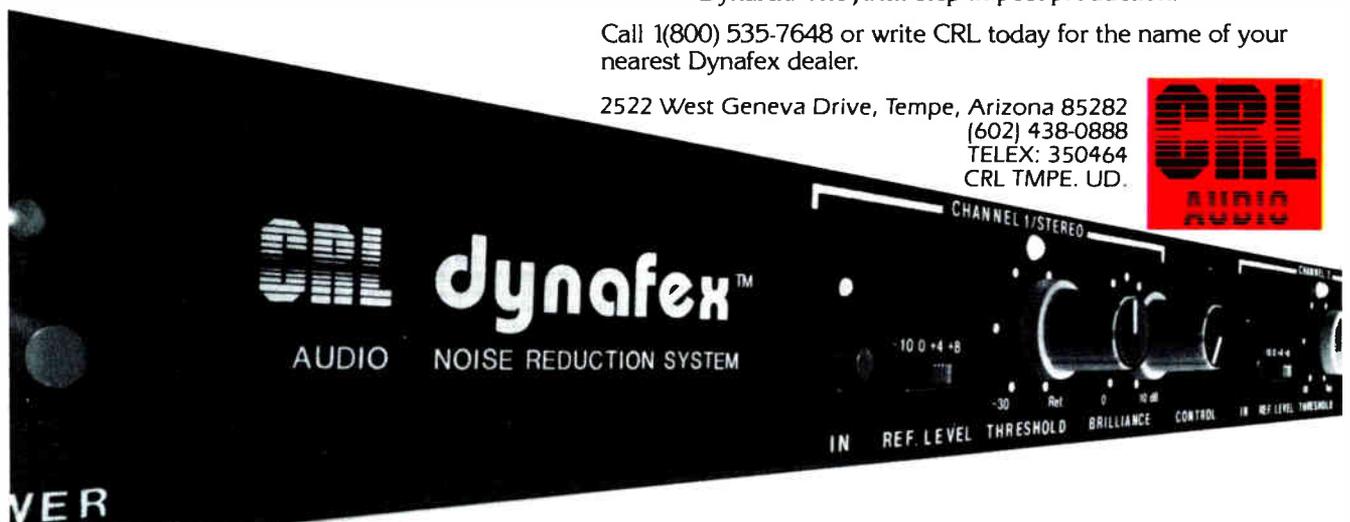
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Mix: What kind of budgets are we talking about, in round figures?

Wolf: I get pretty good budgets—about \$300,000 to \$350,000 a record. I worked on a Kenny Loggins record where they had a budget of close to a million dollars. I did five cuts and got about \$200 grand. I still don't know where the other \$800,000 went! There are groups that spend millions to make records. But you can quote me on this—I don't know how they do it. I don't think that any record is worth that kind of money!

Mix: You have a Synclavier. Is that one of the ways you can help keep the budget under control?

Wolf: Absolutely. Besides the Synclavier, I also have my own Mitsubishi 32-track digital tape recorder, and I've found that I'm spoiled. I can't go back to working without them. In addition, I have my own rack of signal processing gear, preamps, Massenburg EQ and my own monitors.

Mix: With all of that gear, have you ever thought about setting up your own studio?

Wolf: Yes, I've thought about it but when you have your own place, you can never get out. Plus, some of the artists I work with don't always want to record in the States. If I had my own studio, I would have the problem of overhead when I'm not using it. With my own gear, I just pack it up and go. Of course, my cartage bills are high when going overseas, but on the other hand, I can rent my multi-track to the project for less than I can get one in Europe.

Mix: Do you use the fact that you have your own gear as leverage when negotiating with studios?

Wolf: Sure. All I really need is a good room and a clean board. I could record in my bathroom if I had to. At some point, I'll probably have a small studio at home for overdubs.

Mix: What do you think about splitting projects with other producers as is the common practice these days?

Wolf: Well, everybody tries to take their best shot. They think if they have five producers on a project then they have a better shot at getting a hit. I don't subscribe to that philosophy. By splitting the project, there is no line that unifies the project. Every producer

is competing to get the biggest hit. We all have in our contracts that if we have a Top Five record, we have a half-a-point override over the other producers. So you end up with a big race where everybody is trying to outdo the other guys.

Mix: Do you have any advice for upcoming producers and players?

Wolf: Stay out of the music business. Even though I love music, it's real easy to lose perspective. There is no longevity in this business. Even if you're good, if you go one year where you don't have a hit, you're dead. It's like

David Foster once told me: when he was first starting out, it was: "Who's David Foster?" At the next stage of his career it was: "Get me David Foster!" Then it was: "Get me a young David Foster." And then it was: "Who's David Foster?" ■

Tony Thomas has been involved in broadcasting, recording and publishing for over a decade. He is managing director of Target Communications International, a full-service ad agency, broadcast production firm, and MIDI-based recording studio based in Southern California.

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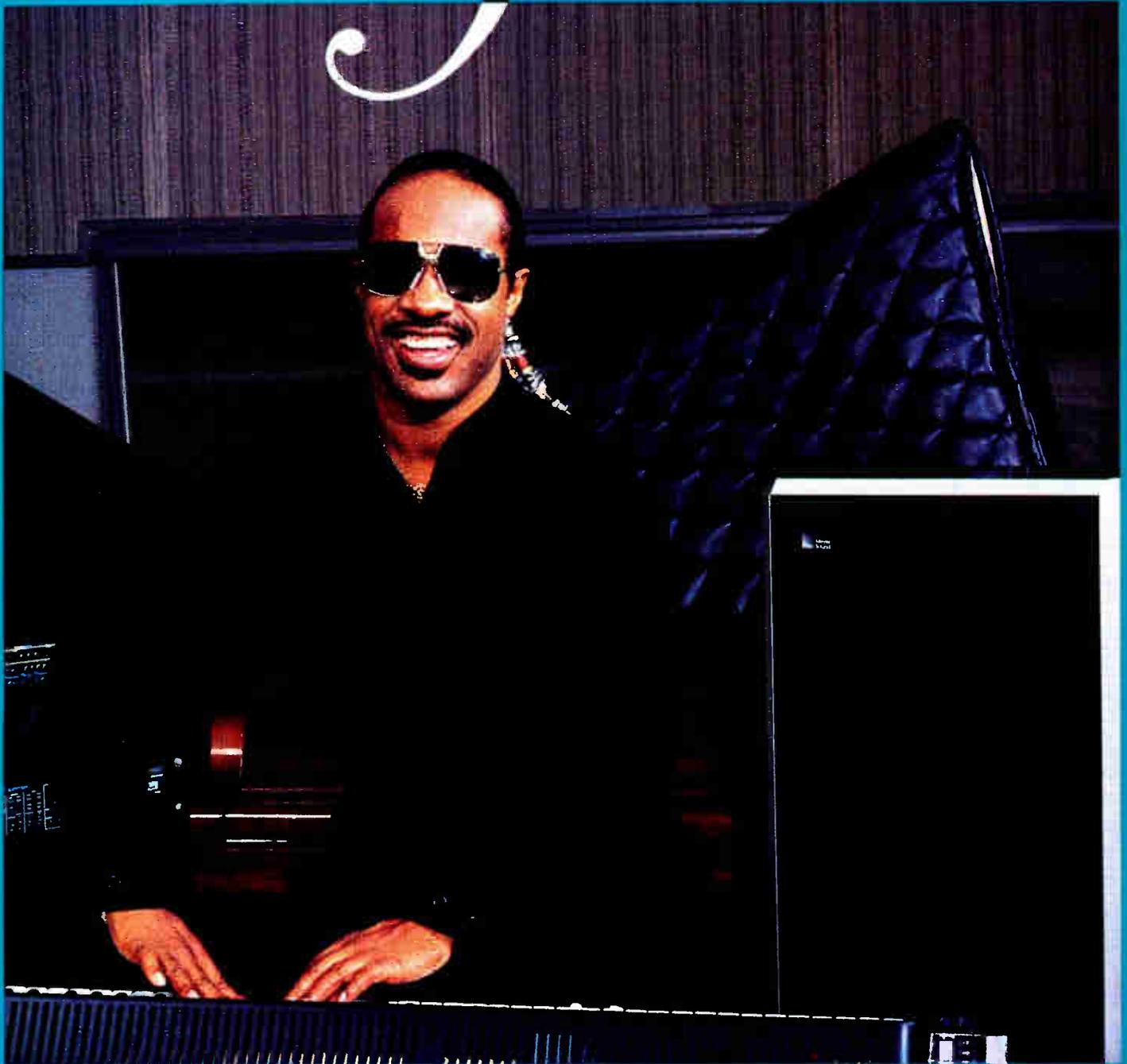
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by Mark Herman

SOUND REINFORCEMENT NEWS

Cleveland's largest sound company, **Eight Day Sound Systems**, provided sound reinforcement for **Jethro Tull's** European and North American tour (see chart). The system was composed of a 60-cabinet Turbosound PA powered by AB Systems amps with a Soundcraft Series 4 40-channel console for the house and a Soundcraft 800 24 x 10 for the stage. . . **Kool & the Gang** finished their European tour in December and returned to the U.S. for two more weeks split between the Midwest and the East Coast. **Tom Arko** says that he has been making preparations to send, via ship, an entire sound and light package to Africa to do two 40,000-seat shows and a large private engagement with Kool & the Gang in the Ivory Coast. . . Eighth Day is the primary sound contractor for Cleveland's new 4,000-seat venue called the **Nautica Stage**. Many national acts have already passed through this pleasant modern amphitheater. . . Also filling Eighth Day's calendar were some conventions, regional dates with **Johnny Mathis**, a national mini tour with **Frank Sinatra**, several national one-offs and a grand opening for a giant mall.

Extensive Brazilian projects have kept **Clair Brothers** busy. **Sting's** outdoor South American tour in December imported an entire Clair Brothers system. The former Police-man performed six stadium shows in Brazil and one in Buenos Aires, Argentina and then set off to England for five shows at Wembley Arena. After a holiday layoff, Sting planned to resume touring in North America in late January. The first three weeks of 1988 also saw Clair Brothers provide sound for a huge Brazilian festival called **Hollywood Rock**. Four stadium shows each in Rio and Sao Paulo featured a lineup of two-thirds Brazilian and one-third international acts. . . Great gig: U2's Philadelphia outdoor show, with **Bruce Springsteen** jamming on the last song. The crowd was caught off guard as Bono and the Boss whipped into "Stand By Me" and finished off an excellent show with a nice touch. . .

Over in France Clair has been supporting several French acts that are currently breaking box office records right and left. While unknown in America now, these acts are sure to draw international attention soon. More on this in a later issue.

Plans have been announced for this year's **Amnesty International Tour**. Scheduled to hit all seven continents, it has all the trappings of becoming the most sensational tour of the 1988 tour season. At this writing **Sting**, **Peter Gabriel**, **Bryan Adams**, and possibly **Jackson Browne**, **U2** and others, are rumored to be the headline acts for this massive six-week undertaking. Corporate sponsors and selling movie and video rights will help ease the financial strain for this worthwhile cause. **Michael Ahern** will be the tour director, **Mary Daly** tour producer, and look for the ever resourceful **Bill Graham** as tour promoter. Some of the sites being considered are countries close to South Africa and others behind the Iron Curtain.

MSI briefs: **Earth Wind & Fire** rehearsals began in December and a tour in early January. The 60-city trek should run a good three months or so with **Maryland Sound Industries** supplying the equipment. . . **Whitney Houston** has been out working North America, spent a week in Australia and, after a break, plans to conquer Europe in April. . . **Pink Floyd's** great-sounding American tour ended in mid-December and then proceeded to Australia, New Zealand and Japan. They're due to come back to the U.S. in the spring before finally ending in Europe. . . **The Cure** is out in Europe. . . **Anita Baker** has an MSI monitor rig. . . **Dan Fogelberg** finished in December. . . **Kenny G** finished early January. . . Jazz guitarist/singer **George Benson** was out with **Earl Klugh** in December-January. . . **Peter Allen** and **Frankie Valli** are out. . . **Anne Murray** finished her year-long stint and resumes touring in February. . . **Paul Simon's** star-studded benefit concert December 13 at Madison

Square Garden was handled by MSI. . . The first leg of the **Yes** tour (see chart) ended in late December and was scheduled to start back up sometime in January, with the band continuing to roam North America. Equipment for the first leg utilized one Harrison and five Yamaha consoles, MSI and Meyer monitors, and 72 MS2 main speakers and 20 MS2B subs powered by Crest 4001 and 8001 amplifiers. Yes is also using MSI's digitally selected monitor system. **Ronnie Smith** explains, "Instead of having to patch and repatch your sends, you can push a button and select one of 16 sends to go to. It also has onboard dual select MSI crossovers." The monitor system utilized nine MS 2 x 15s, eight MS 2 x 12s, four Meyer UPAs, 12 Meyer UM1s and two MS sidefills. Most of the speakers were hidden under the stage. . . Ronnie Smith on 1987: "We're ecstatic with the business that MSI has had this past year and feel we work with an excellent roster of clients that are good to work with."

Salsa anybody? At New York City's **Palladium**, **See Factor Industry Inc.**, based out of Long Island, NY, supplies a sound system for "Latin Tinge at the Palladium," a weekly Thursday night salsa event that attracts the biggest names in Latin music. It has been going on since August of '87. Six Meyer MSL3s, two 650R2s, a Midas Pro 32 x 8 x 2, and Meyer monitors comprise some of the equipment that is brought in each week. **Harry Martinez** handles the house mix and **Steve Schwartz** the stage. They also worked two other salsa shows around town—at Madison Square Garden for the **Cheer Fest** (as in soap), and a **Crest** toothpaste-sponsored event. Good clean fun. . . See Factor is doing the sound for the '88 **Squeeze** tour that begins in February. They also did their short Nov.-Dec. USA tour (see chart). . . **Anthrax** finished their U.S. tour in December. They used 32 Martin cabinets along with eight Meyer 650R2 subwoofers. The house engineer, **George Geranium**, used a Yamaha PM3000 while

by Alan Parsons

PARSONS AND POE

TALES OF RE-MIXERY AND IMAGINATION IN THE DIGITAL AGE

A

lan Parsons recently brought state-of-the-art analog and digital techniques together for a total re-think on the first Alan Parsons Project album—*Tales of Mystery and Imagination*, first released in 1976. Based on the works of Edgar Allen Poe, the album is considered by many to be a classic. It has now been released for the first time on CD. Here, Alan reminisces about the original recording and explains how new technology contributed to the new version.

When it was first suggested that the *Tales of Mystery* album should be released on CD, one thought was to get Abbey Road to make the best possible PCM-encoded tape



Artwork from the first Alan Parsons Project album in 1976



(left) A recent picture of Alan Parsons at his country studio in the south of England

by Mark Herman

SOUND REINFORCEMENT NEWS

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Over in France Clair has been supporting several French acts that are currently breaking box office records right and left. While unknown in America now, these acts are sure to draw international attention soon. More on this in a later issue.

Plans have been announced for this year's **Amnesty International Tour**. Scheduled to hit all seven continents, it has all the trappings of becoming the most sensational tour of the 1988 tour season. At this writing **Sting**, **Peter Gabriel**, **Bryan Adams**, and possibly **Jackson Browne**, **U2** and others, are rumored to be the headline acts for this massive six-week undertaking. Corporate sponsors and selling movie and video rights will help ease the financial strain for this worthwhile cause. **Michael Ahern** will be the tour director, **Mary Daly** tour producer, and look for the ever resourceful **Bill Graham** as tour promoter. Some of the sites being considered are countries close to South Africa and others behind the Iron Curtain.

MSI briefs: **Earth Wind & Fire** rehearsals began in December and a tour in early January. The 60-city trek should run a good three months or so with **Maryland Sound Industries** supplying the equipment. . . **Whitney Houston** has been out working North America, spent a week in Australia and, after a break, plans to conquer Europe in April. . . **Pink Floyd's** great-sounding American tour ended in mid-December and then proceeded to Australia, New Zealand and Japan. They're due to come back to the U.S. in the spring before finally ending in Europe. . . **The Cure** is out in Europe. . . **Anita Baker** has an MSI monitor rig. . . **Dan Fogelberg** finished in December. . . **Kenny G** finished early January. . . Jazz guitarist/singer **George Benson** was out with **Earl Klugh** in December-January. . . **Peter Allen** and **Frankie Valli** are out. . . **Anne Murray** finished her year-long stint and resumes touring in February. . . **Paul Simon's** star-studded benefit concert December 13 at Madison

Square Garden was handled by MSI. . . The first leg of the **Yes** tour (see chart) ended in late December and was scheduled to start back up sometime in January, with the band continuing to roam North America. Equipment for the first leg utilized one Harrison and five Yamaha consoles, MSI and Meyer monitors, and 72 MS2 main speakers and 20 MS2B subs powered by Crest 4001 and 8001 amplifiers. Yes is also using MSI's digitally selected monitor system. **Ronnie Smith** explains, "Instead of having to patch and repatch your sends, you can push a button and select one of 16 sends to go to. It also has onboard dual select MSI crossovers." The monitor system utilized nine MS 2 x 15s, eight MS 2 x 12s, four Meyer UPAs, 12 Meyer UM1s and two MS sidefills. Most of the speakers were hidden under the stage. . . Ronnie Smith on 1987: "We're ecstatic with the business that MSI has had this past year and feel we work with an excellent roster of clients that are good to work with."

Salsa anybody? At New York City's **Palladium**, **See Factor Industry Inc.**, based out of Long Island, NY, supplies a sound system for "Latin Tinge at the Palladium," a weekly Thursday night salsa event that attracts the biggest names in Latin music. It has been going on since August of '87. Six Meyer MSL3s, two 650R2s, a Midas Pro 32 x 8 x 2, and Meyer monitors comprise some of the equipment that is brought in each week. **Harry Martinez** handles the house mix and **Steve Schwartz** the stage. They also worked two other salsa shows around town—at Madison Square Garden for the **Cheer Fest** (as in soap), and a **Crest** toothpaste-sponsored event. Good clean fun. . . See Factor is doing the sound for the '88 **Squeeze** tour that begins in February. They also did their short Nov.-Dec. USA tour (see chart). . . **Anthrax** finished their U.S. tour in December. They used 32 Martin cabinets along with eight Meyer 650R2 subwoofers. The house engineer, **George Geranium**, used a Yamaha PM3000 while

by Mark Herman

ON THE ROAD

SOUND COMPANIES, EQUIPMENT, ARTISTS & PERSONNEL ON TOUR

Artist Sound Company Tour Dates & Region	House Console #1 House Console #2 Monitor Console #1 Monitor Console #2 Crossovers	Main Speakers Other Speakers Subwoofers Monitor Speakers Monitor Speakers	Main Amplifiers Other Amplifiers Sub Amplifiers Monitor Amplifiers	Engineers: (B) = band (H) = house (M) = monitor
Eric Clapton Showco Jan-Feb Europe, Spring USA	Harrison HM-5 32x16x2 ---- Harrison SM-5 32x16 ---- Showco	48 Prism (12 columns) ---- 12 Prism Subwoofer Showco 100, 200, 300, & 400	Crown PSA 2, MT1200 ---- Crown MA2400 Crown MT1200	Mike Ponczek (H) Paul Santheimer (M) David Conyers
Joe Cocker Ultra Sound/Audio Support Dec '87 USA	Gamble HC 40x16x2 +8 ---- Gamble SC 40x16 ----	24 Meyer MSL3 ---- 8 Meyer 650R2 Meyer UM1, UPA, MSL3, 650R2	Crest 4000, 4001 ---- Crest 4000, 4001 Crest 3500	N/A (B, H) N/A (B, M) Mike Brady Bernie Granet
Alice Cooper Electrotec Oct-March N. America	Soundcraft Series 4 40x16x2 ---- Lab Q Soundcraft 32x18 Lab Q Soundcraft 32x18 BSS	48 Lab Q ---- 8 Lab Q Electrotec floor wedge	JBL 6233, UREI 6400 ---- JBL 6233, UREI 6400 JBL 6233	David McCullough (H) George Barnes (M) Mark Tooch
INXS Delicate Productions Oct-Nov '87 N. America	Yamaha PM3000 40x8x2 ---- Soundcraft Series 4 40x16 ---- SG Engineering	24 stack Martin (modular component system) 6 Delicate Sub (2 JBL 2245s) Martin LE200A	AB Systems 1200 & Carver 1.5 Ramsa WN220 AB Systems 1210	Colin Ellis (B, H) Ian Digance (B, M) Steve Venezia Mike Brown
Jethro Tull Eighth Day Sound Oct '87 Europe Nov-Dec '87 N. America	Soundcraft Series 4 40x16x2 ---- Soundcraft 800 24x10 ---- BSS MCS Series	48 Turbosound TMS-3 ---- 12 Turbosound TSW-124 Band's custom	AB Systems 1200 & Hafler P500 AB Systems 1200 Crown DC300	Chris Amson (B, H) Paul Tebbutt (B, M) Rod Price Mike Pasquale
Barry Manilow Electrotec Nov-May N. America	Soundcraft Series 4 40x16x2 Lab Q Soundcraft 32x8x2 Soundcraft Series 4 40x24 Lab Q Soundcraft 32x18 BSS	48 Lab Q ---- ---- Electrotec floor wedge	JBL 6233, UREI 6400 ---- ---- JBL 6233	Greg Delancey (H) Bill Chrysler (M) Jeff Forbes Darren Cray
Squeeze See Factor Nov-Dec '87 USA Feb-June N. America	Midas Pro40 24x12x2 Midas Pro5 18x4x2 Midas Pro40 32x12 ---- Meyer	16 Meyer MSL3 ---- 8 Meyer 650R2 Martin LE200 & McCauley 612	Crest 4001 ---- Crest 4001 Crest 4001, 3500	Ronnie Box (B, H) Ian Wilson (B, M) Robert Nelson Jason Polanski
Yes Maryland Sound Ind. Nov-Dec '87 N. America	Yamaha PM3000 Harrison Alive 32x2 Yamaha PM2000 32x14 Yamaha PM2000 32x8x2 & 2 Yamaha 916 Yamaha F 1030	72 MS2 ---- 20 MS2B MS 2x15, 2x12 Meyer UM1, UPA	Crest 4001 ---- Crest 8001 Crest 3501, 4001 SAE P50	Paul Devillers (B, H) Craig Melvin (M) Paul Wheeler Bruce Emerick Mark Bradley Greg Salmon

the monitors were mixed by **Thursby Pierce** on a Soundcraft 400 24 x 10.

I asked **Albert Leccese** of **Audio Analysts** to give us two predictions for 1988. His reply: "First, it's going to be just as busy as last year. Everything so far indicates that we will be very active in the tour market. And second, sometime this summer we will introduce our *new* PA system." I also asked him about the new sound reinforcement mixing consoles being designed by CADD (Audio Analysts works very closely with CADD), and he explained, "They will be coming out this spring. There are three prototypes that should be finished by March. The monitor board will be 40 x 16 with four remix buses, and the house board will be 40 x 16 x 6 with an 8 x 8 matrix and 12 aux sends, eight mono and four stereo." As of this writing Audio Analysts had sound system rigs touring with **Hear**, **John Cougar Mellencamp** and **Rush**.

Electrotec Update: **Alice Cooper** (see chart) stalks North America till March. . . Big country-rock act **Alabama** just got off a month-long break and continues their usual steady touring pace. . . **The Cars** finished cruising the U.S. in December. . . **Def Leppard** is on the road and still playing in the round in the U.S. until March. After that they head to Europe for two months where Electrotec's European branch, located in London and run by **Lars Brogaard**, will provide sound reinforcement. The band will return to the U.S. and Canada for more touring. **Barry Manilow** (see chart) took his act out in November for a full-scale world tour. The first leg will cover North America and should end in May. . . The hot **Randy Travis** is finishing sporadic dates before beginning a serious year-long tour stint. . . Electrotec's spokesman **Mike Renault** said, "We've had a very successful 1987 and with the tours that are stretching into '88, we're looking forward to a strong spring and summer for 1988."

Hood Industries went out again for a short tour with top drawing comedian **Sam Kinison**. . . Other work included providing a sound installation from Thanksgiving to New Year's for a public square in downtown Cleveland; several national one-nighters; and sound systems for numerous conventions. Hood Industries is a dealer for pro sound products and sells a variety of commercial and industrial products in the Cleveland area.

Showco Shorts: . . . **Eric Clapton** will be using a Showco 12-column Prism PA for his European tour. . . Those veteran rockers **The Kinks**, with a tour that comes to the USA from Europe will be using a Show-



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SOUND · ON · STAGE

coAX sound system. . . The Clapton sound rig in Europe will switch over to do the **Saga** tour. Saga is very popular in Europe but still struggling to break in the States. . . The Australian band **Pseudo Echo** finished their five-week tour of America. . . *Habla Espanol?* I guess **Linda Ronstadt** must—she's doing what Showco's **Wil Sharpe** calls, "our first all-Spanish speaking tour." He also added, "The Ronstadt

tour will primarily be concentrated in the Southwest. I hear she's bringing a mariachi band with her when the tour begins in January."

Who's Making the Big Bucks Report \$\$\$. . . At press time some of the acts that seemed to be pulling in the really big money and attendance were **Pink Floyd**, **Aerosmith**, **U2**, **Fleetwood Mac**, **John Cougar Mellencamp** and **Def Leppard**. . . Pink Floyd, for example, grossed over \$3.6 million in under three weeks. ■

Author Mark Herman owns Hi-Tech Audio, a sound reinforcement company specializing in console rentals.

Got any news? Call (415) 726-2428 or E-Mail Herman-US IMC 2560 or send press releases, photos, etc. to: Sound Reinforcement News, *Mix* magazine, 6400 Hollis Street, #12, Emeryville, CA 94608.

—FROM PAGE 51, ITALY

The studio is comprised of three major recording spaces, each with a distinctive quality. The first studio is situated in an essentially unmodified—although carefully restored—room of the castle. This room is built exclusively of wood, with ornate moldings and frescoes on the walls. Its dimensions are 49 ft. x 16 ft., with 18-foot vaulted ceilings. The stone floor and wooden walls give this room a unique reverberant characteristic, which is one reason this studio is specifically requested by many artists. It provides an excellent environment for recording violin, strings and drums.

The largest of the three spaces is the result of a mixture of original construction and modern recording practices. This room occupies 1,300 square feet, and its acoustics have been carefully tuned by the application of sound absorbent material.

The final studio takes up 350 square feet, and its walls are entirely lined with mirrors; an extremely live reverberant environment.

Clearly, The Castle is best suited for live recording. In addition to the selection of rooms and their characteristic sounds, the artist has almost total flexibility in selecting and arranging the instruments, effects and other equipment. The studio is equipped with two Studer A-800 24-track recorders, and there are plans to replace the current Cadac mixing console with a new Neve Series V3 board. Some of the other equipment available includes a Yamaha MIDI piano, an Akai S900 sampler, several other synthesizers and drum machines, and a Macintosh computer with an array of music software.

Because of its unusual nature, the Carimate Castle Recording Studio is famous throughout Europe—so famous that it is referred to only as "The



The MIDI room at Psycho Studios

The recording business in Italy is actively involved in incorporating the latest digital and analog technology, yet there is also a sense of the traditional everywhere.

Castle," and no address is required. But The Castle offers more than just a recording facility; it also offers living quarters which are maintained in the period style of the castle (although updated with modern conveniences), as well as kitchens, a restaurant and a billiard room.

Artists from almost every nation have chosen The Castle for their recording projects. Yes recorded much of their recent album, *Big Generator*, there. Paul Young, Nena from Germany, and many notable Italian artists have also come to regard The Castle very highly. ■

Fiorella Terenzi is currently developing her doctoral thesis in physics with an emphasis on computer music and sound synthesis at University of California, San Diego. She is also a writer for a major publisher in Italy, where she writes on developments in the scientific and musical fields.



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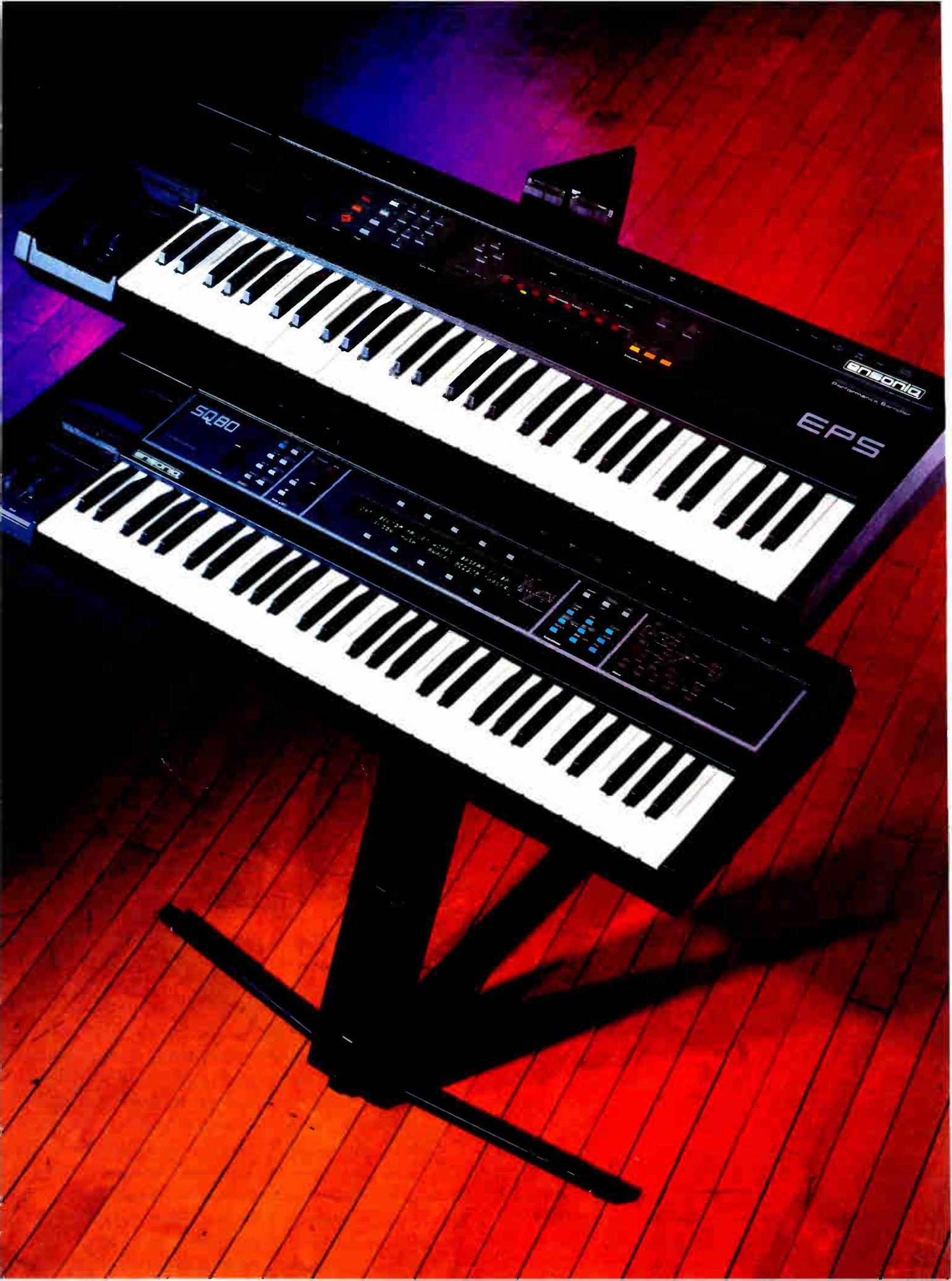
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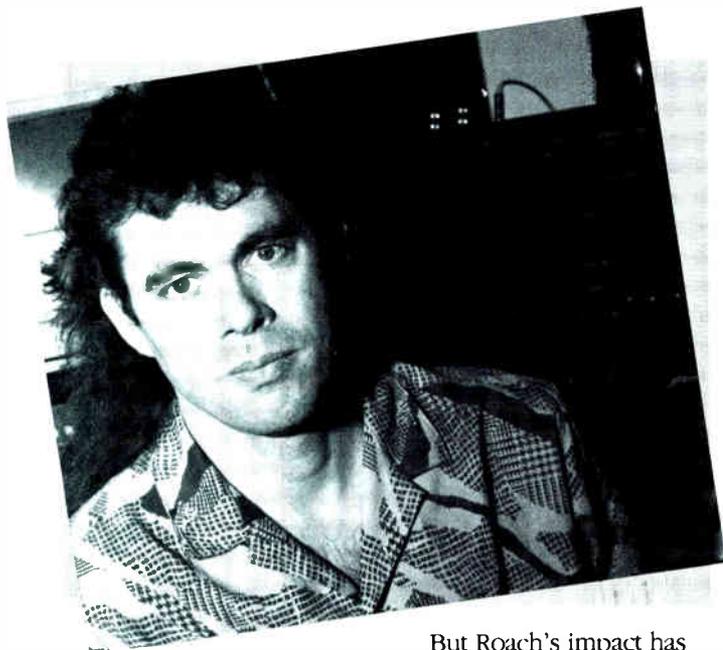
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STEVE ROACH: SPACE AGE TECH IN THE NEW AGE

by John Diliberto

"I like adrenaline," declares synthesist Steve Roach with a gleam in his eye. "I like that feeling of rushes from high-speed traveling. It's not necessarily the bike, the car or the jet. It's just that motion, that feeling of weightlessness that I feel in a lot of music and that I strive for in my music." That sense of overdrive motion isn't surprising for someone who became a musician only after spending his teen years as a motocross bike racer, riding the circuit in Southern California, where he grew up and lives. The rush of acceleration and crunch of dirt bike trails can be heard in Roach's *Traveler* and *Empetus* recordings.

But Roach's impact has been felt most strongly with his inner space works like *Structures From Silence* and the three-volume *Quiet Music*.

These are recordings of decidedly contemplative music—lush, sweeping environments of synthesizer textures and fragile, lightly sketched melodies.

Steve Roach is less a child of the new age than the space age, growing up in the post-Apollo moon landing years, traveling the musical spaceways with German electronic artists like Tangerine Dream, Klaus Schulze and Michael Hoenig.

"I was moving into meditation and lots of different areas of learning about myself, and that's when I ran into electronic music and Klaus Schulze," Roach recalls fondly. "I was working with some friends and we'd get together one day a week and we were listening to music that would maintain an openness for us. Electronic music would do it for us."

Roach taught himself how to play synthesizer,

and began performing in groups with cosmic names like LEM, Paradigm Shift and Moebius, who recorded an album in 1978.

Today, Roach is a synthesist with a capital "S," creating his own music solo, in the isolation of his home studio. His compositions are marked by minimalist sequencer patterns driven with gyroscopic perfection. On tracks like "TBC" and "Conquest," his DMX drum machine is locked to the Oberheim DSX and ARP Sequencers in a spiraling maze of patterns.

"The sequencers that I worked with for quite a while were the ARP 6 stage

—CONTINUED ON PAGE 128

JOEL SILL: POP SOUND-TRACK MAGICIAN

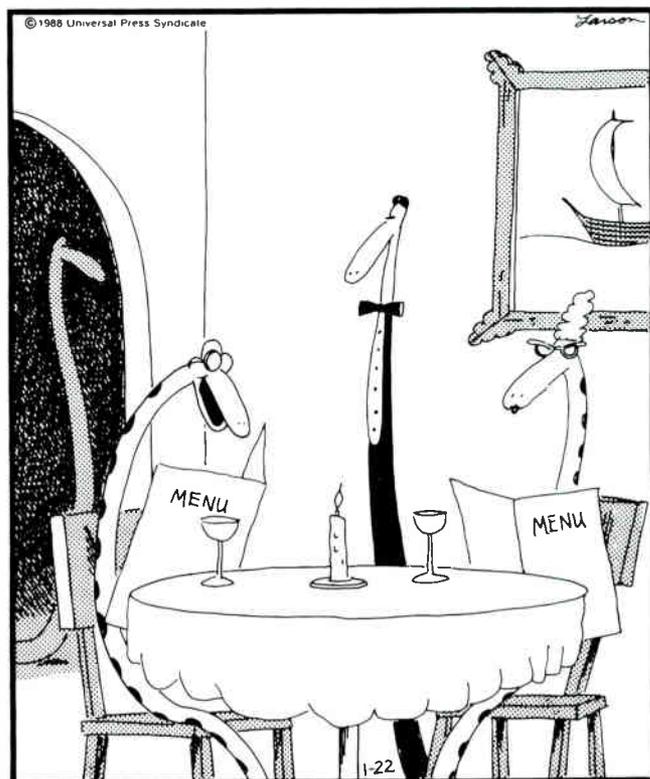
by Iain Blair

These are boom times for soundtracks. Formerly the ugly duckling offspring of a hastily arranged marriage of convenience between film and music, this hybrid art form has in the last few years blossomed into a beautiful sight—big business at cash registers everywhere.

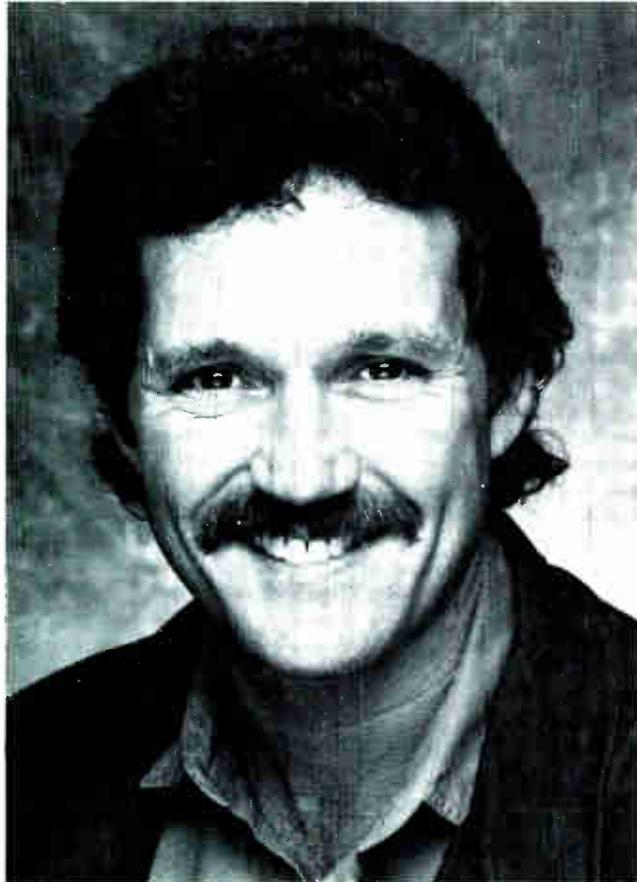
A quick glance at the top of the charts this summer told the story. The hottest single and album in the

THE FAR SIDE

By GARY LARSON



"Well, this may not be wise on a first date, but I just gotta try your garlic wharf rats."



country was *La Bamba*. And right behind it were Madonna's *Who's That Girl* and the *Lost Boys* album, two soundtracks that outperformed the films themselves. And this past fall, soundtracks for *Dirty Dancing* and *Less Than Zero* made waves.

Add in multi-platinum successes like *Beverly Hills Cop 2* which placed three singles in the Top Ten at the same time, and the soundtrack from *Disorderlies*, which spawned hits from the Fat Boys, Bananarama and Bon Jovi, and you begin to get the picture.

"Soundtracks have simply exploded in the '80s, and particularly in the last year or so," comments Joel Sill, a veteran soundtrack coordinator who is generally regarded as being one of the best in the business. "In the '70s, you'd get the odd big smash like *Saturday Night Fever*, but it was really in the '80s that soundtracks suddenly came into their

own, with hits like *Flashdance*, *Footloose*, *The Big Chill*, *Against All Odds*, *Ghostbusters*, *An Officer and a Gentleman*, *Purple Rain*, *Top Gun*—the list just goes on and on.

"The surprising thing is just how well some of the smaller projects have done," Sill continues. "Everyone expects the big commercial blockbusters like *Beverly Hills Cop* and *Top Gun* to go through the roof. But when something like *La Bamba* goes to Number One as a movie, single and soundtrack album, you know you've pulled off something special in this business."

And Sill should know, for as Taylor Hackford's partner in their New Visions Music Group, he's the man responsible for putting together the *La Bamba* soundtrack, one of 1987's most unlikely success stories.

Energetic and a fast-talker, Sill is well known, and well connected in the music business. His father

is president of Jobete Music and his brother is chairman of Warner Bros. Music.

But this guy doesn't need any help from family or friends to do what he does probably better than anyone else in the industry

—CONTINUED ON PAGE 130

VICTORIA WILLIAMS: DIFFERENT ON PURPOSE

by Josef Woodard

Victoria Williams, a.k.a. Mrs. Peter Case, a.k.a. the latest songstress to bust molds with a striking and fresh sound, is a displaced

Southerner in SoCal. She looks bemused and a tad bewildered in an interview at a popular Hollywood eatery, surrounded by dapper power lunchers. With her new debut album out on Geffen Records, Williams is learning quickly about the differences between being a street musician and a contract player in the majors. Though she's been navigating the Los Angeles music scene for seven years, you can't take the Shreveport, Louisiana out of her. "There are a lot of things I love about [L.A.], spots that I like to go," she says with her customary gentility. "But I still feel very connected to

—CONTINUED ON NEXT PAGE



PHOTO MARK ABRAHAMIS

MUSIC · NOTES

—FROM PAGE 125, WILLIAMS

Louisiana and the South in general.”

And that could help explain why *Happy Come Home* is such a charming wild card record compared to the prevailing winds of current pop releases. Williams' imaginative song structures and organically adventurous arrangements harken back to the early work of Rickie Lee Jones or the grainy music of Randy Newman and Van Dyke Parks (whose arrangements on Williams' album are worth the price of the record). “It's hard for me to step back. Now that it's out, I see how different it is, but it wasn't planned that way. It's hard for me to tell. It's only when I started reading reviews about my different voice that I even thought about it.”

Williams possesses a high, fluttering soprano; her voice has a girlish purity and innocence that is often bolstered by a vivid imagination fueling her lyrics. More than just a set of songs, though, the LP also sports some of the most sweetly eccentric—and non-synthetic—production values heard recently on a pop record.

Williams had originally intended to

put T-Bone Burnett at the production helm, but the lanky, busy producer got locked up working on the last Los Lobos album. East Coast drummer/producer/concept man Anton Fier had just finished his Golden Palominos record and ran into Williams while she was a lady-in-waiting. Along with coproducer Steven Soles, Fier wound up doing the project in New York with a smattering of different musicians.

The Fier factor might seem, initially, an odd artist-producer pairing. Fier's work with The Feelies, Pere Ubu and The Palominos tended toward much harsher edges, whereas Williams' songs are dealt with delicately, emphasizing mostly acoustic textures and quirky mixtures of instruments. But Fier's studio gaminess and Williams' feisty bird-song manage to meet halfway, as exemplified by the sampled tympani parts that show up as a more manly sort of kick drum.

No two cuts are alike on the album, in style or sonic treatment. “There were quite diverse methods of producing this record,” she says. “There were the piano-type pieces that were sent to Van Dyke for arranging. He put strings on them, which gives it that Van Dyke

flavor of ornate Americana. Accidentally, Geffen sent him a song, ‘Shoes,’ which I had a whole ‘nother idea about how to work up. But now I like what he did.” As it turns out, Parks' slinky string arrangement on the opening “Shoes” sets the tone for the rest of the album nicely.

Williams' debut creates a magical, personal world of small, poignant tales and metaphorical images. Many of her songs spring from some visual image, extended into a poetic statement. “When you think of ‘Main Roads,’ everybody's on their red bike, and it's about the things you learn as a child and take with you. I'd say that ‘T.C.’ is definitely cinematic, going into a little story. I wanted to go into another world.”

Williams' own world recently came under scrutiny when veteran documentarian D.A. Pennebaker (*Monterey Pop*) filmed a quasi-documentary on Williams and her environment. “It's really not a video, but a film he made,” Williams says. “He just kind of followed me around with a camera. We went to Shreveport. It was painful for me, because I went back and played with all of these musicians I used to play with. They've gone through all of these changes. In your mind, you remember things as different. You've got these big Mack trucks going by, and all these kids playing out in the field—everybody I know has millions of kids now.”

The small town of Shreveport didn't prevent Williams from developing her own creative side as a child. “When I saw musical movies, I would remember all the songs. My father listened to the country stations every morning. When the alarm would go off, I'd still be asleep and the music would start up. On Saturdays, my mother would listen to opera. All the windows in the house would be open, we had to work out in the yard and this opera would come wailing out of the house. I didn't like it, but I used to imitate it.” She lets out her easy, infectious laugh.

In Williams' case, the talespinning instinct is as important as chord voicings. “I started writing thoughts and theories and I'd stick them away in this little cigar box when I was about 7 or 8,” she recalls. “I probably did it until I was 13 and then I thought it was a really corny thing to do. I look back now and I think, gosh, why did I stop that? I started writing songs when I was about 18. I first wrote music because I knew this guy who went to jail.

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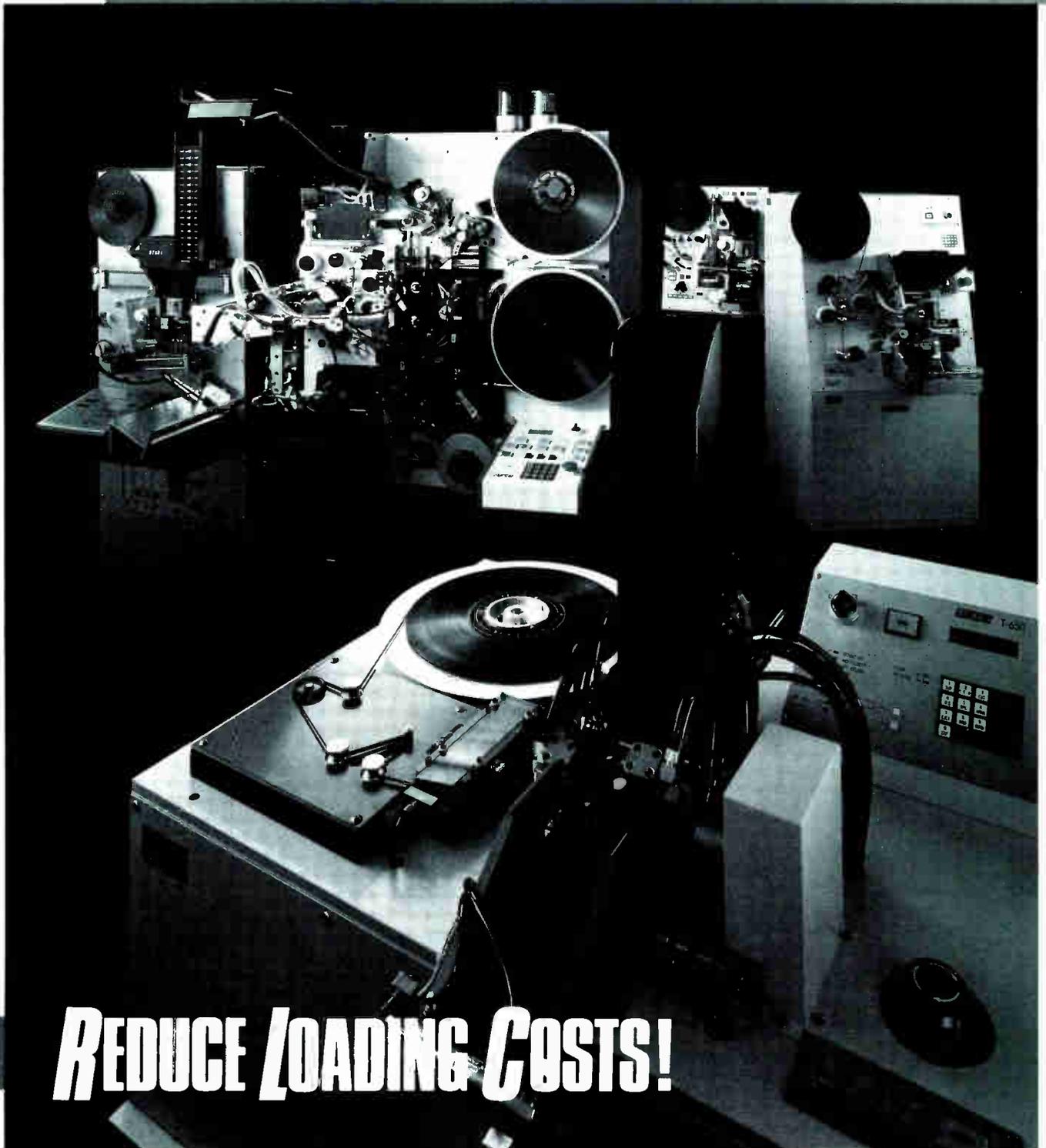


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MUSIC · NOTES

He'd send me poems and I'd put them to music."

Playing in country bands around town and working on her own music, it became apparent to Williams that she'd have to leave—not only for career reasons, but for sanity's sake. "I came out West to California because I thought that was the land of freedom, and I had to leave this backwoods town," she says. "I was out here for six or seven months and stayed at this little place right on the ocean called the Seaside Hotel—\$125 a month in Malibu, set up on pilings."

She played music where and when she could, working day jobs and playing through a Pignose on the street in Venice, California or at hoot nights at The Troubador in Santa Monica. Through her Troubador job, she met Van Dyke Parks, who produced demos for her, and she cut an album that aborted after the company folded. Geffen Records was there to pick up the ball.

Williams is clearly tapping into the rich Southern storytelling tradition with her record. What is it about the South that produces such tall stories? "It might just be the pace of life you grow up in," she says. "There's so much to see and you're not being rushed along. There's so much time to really see things. Maybe there are that many interesting people here in L.A., but there's so much that you can't focus. The first time I got reviewed in the newspaper, they said I reminded them of Flannery O'Connor and Eudora Welty. I said, "Who are these people?" and went out to the bookstore and started reading them. I love both of them now."

Her literary penchant isn't always greeted with open arms by market-wary executives. One of the songs which didn't make the album is about a hapless lumber man named Johnny K. Hardman. She capsulized his woes by juxtaposing sitar with cajun fiddle, "so you'd see where he was, but the sitar was his inward journey. To me, it all seemed fine. To them, they said 'This is just too wild.' They look at it in terms of what they can mass market.

"I listen to Tom Waits' stuff. He can put that out and people will accept it. It's great that Waits is opening the door for other things.

"It's amazing how the people who

are running the business might as well be in the clothes business. They took me in the office and said, 'Look, we've just been selling red dresses and every now and then a blue dress. You come in here with your yellow pantsuit. We just don't know what to do with you.'"

Whether or not the general public takes notice, the woman in the yellow pantsuit with the elegant chirp has given us one of the year's brightest pop music anomalies. Armed with a satchel of endearing songs and some new ideas, she has snuck in the side door of the music industry. "To me," she shrugs, "I just entered the only door that was there for me to enter. I don't know if that was the side door. Maybe it was. Now I've got to build a room for myself, find someplace to camp inside the room." ■

—FROM PAGE 124, STEVE ROACH

sequencers," he says. "They're analog. You set them up one step at a time. Each note has a two-octave range; you set up a note within that range and it runs through that pattern and repeats. If you have two or three sequencers, you have different combinations of notes. So you could have different sequences within a chord and have one running in one time signature and one running in another and have one triggering another one at off beats from the first and again that triggering a third. So that type of combination of phasing and syncopated gating, much like clockwork, was exciting to me."

Now he's transferring his sequencing over to the Ensoniq ESQ-1 and his recently acquired Macintosh computer, using the Intelligent Music M and Jam Factory software.

When I first met Steve Roach in 1983, he was living in a hobbit-like cottage in Los Angeles, his modest synthesizer arsenal bunched in an 8 x 8-foot room with an ancient Tascam mixing console. He's since moved into a large six-room house with his wife, artist and photographer Georgianne Cowan, and his arsenal has increased immeasurably with Ensoniq ESQ-1, two Oberheim Xpanders, an OB-8, Emulator Emax, Casio CZ-101, Yamaha REV7, all run through a new Soundcraft 200 B 24 x 4 mixing console.

Of course, it's all MIDI'd together, which is essential for the multi-layered sound Roach achieves. "MIDI was such a natural progression," enthuses Roach.

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MUSIC · NOTES

"I've always felt the music in terms of layers and I've found ways to clock several things together to have layered sequencing. A lot of it had been monophonic. Now with MIDI I've been able to continue that form, working within the structure of harmonies and chordal composition. It's changing my whole approach to music in terms of my writing. I'm writing sequencer layers and chordal structures that intertwine and intermix."

Roach's biggest selling recordings, *Structures From Silence*, *Quiet Music* and *Western Spaces* (a collaboration/

compilation with Kevin Braheny and Richard Burmer), fall under the new age rubric—a label about which Roach is ambivalent. "The 'new age' umbrella for this music is encompassing all aspects of new instrumental and vocal music. I feel that the background to the music has a quality to it that's evoking strong feelings, a certain quality that's maintained throughout all these different recordings, whether it's electronic, acoustic or ethnic types of music."

If that seems a little vague, it is. However, when Roach starts talking about his own work, like *Quiet Music*, a set of three cassettes released on

Fortuna, he becomes more eloquent and thoughtful. "Throughout the day I find myself playing two or three different types of music," he says, "and then about 2 or 3 in the morning I have this whole wind-up where I'm playing with my moods and that's a type of music that I move into at night. It really clears a place for me to feel or think, or a place not to think and to dream into. In the same way as high-speed music or slow drone music; it's ultimately doing the same thing."

Some artists make jingles and do sessions to support their habit; Roach does it by making meditation tapes. "Companies and individuals who've heard my lighter, meditative music have called me in to score half-hour sets of music for motivational, self-help tapes," he says. "There's one company called Consciousness Tapes, with 30-odd titles. *Weight Loss* is the number one seller here in America."

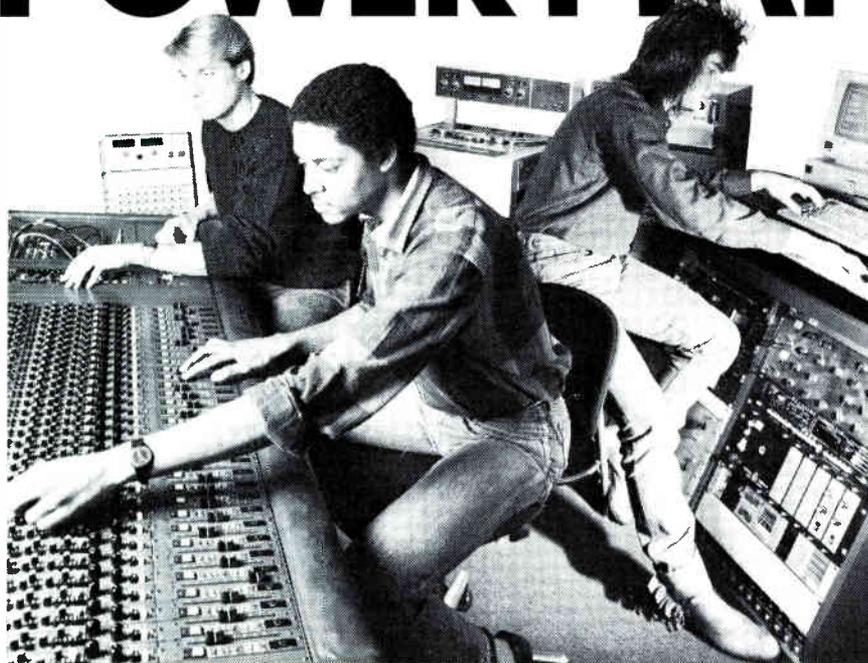
The appeal of Roach's music is difficult to define. It combines the unerring perfection of sequencers and rhythm computers working like an Escher painting in motion with a grace and physical power that belie its electronic nature. "It definitely has something to do with time—the distortion of time, the changing of time, and the playing with time," says Roach inside his womb-like studio, trying to explain the forces behind his music. "Ever since I was very young I always liked to move in and out of time. I remember when I was young I liked to spin in circles like children do, and feel that feeling, just stop and feel that disorientation. I really enjoyed that feeling." ■

—FROM PAGE 125, JOEL SILL

—find the right music, and the right people to perform it, for soundtracks. His Midas touch has spanned three decades, since his first project back in 1968, a small film that went on to take the box office by surprise, called *Easy Rider*. Subsequent successes have included such pictures as *Terms of Endearment*, *Vision Quest* (which produced another No. 1 single for Madonna), *Trading Places*, *48 Hours*, *Flashdance*, *Mannequin*, *Purple Rain* and *An Officer and a Gentleman*.

Not bad for someone who swears he started doing soundtracks "by accident" while working as a music publisher at ABC/Dunhill Records in the '60s. "Bert Schneider, the guy who

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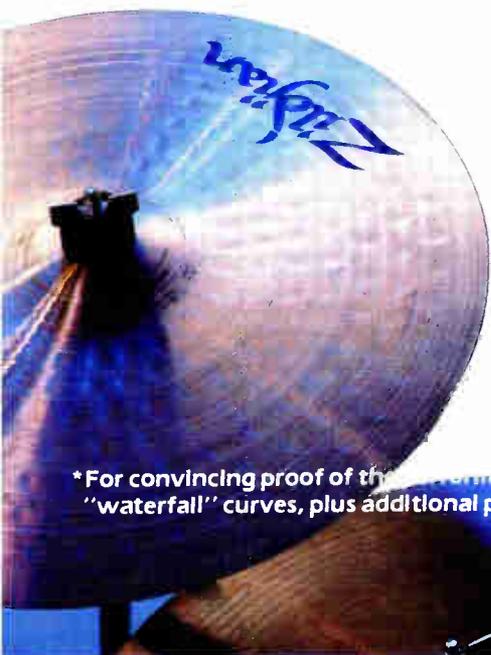
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MUSIC · NOTES

did *The Monkees* TV show, called me up out of the blue one day, saying he desperately needed some music for this real low-budget biker picture, and could we give him Steppenwolf who were on our label," recalls Sill. "So I went over to check out the film—it was *Easy Rider*—and it just blew me away. It was so timely, and the ultimate in '60s attitude.

"Of course, they had no money, so I raced around buying up masters, re-recording where necessary, and within two days I'd put the whole soundtrack together," he adds. "The moment I saw how 'Born To Be Wild' and the film played off of each other, I *knew* we had something—I just didn't know quite what. Man, I was as surprised as anyone when it became the huge success it did, and that's how I got started in this crazy business."

Sill, who later moved to Paramount and then to Warners, reports that, "Back then, it was a pretty revolutionary way of scoring a soundtrack. Film studios didn't really understand contemporary music, and vice versa. Occasionally, they'd use some rock and roll if they wanted something 'freaky' and it was a teen movie. But most of the time, they still automatically thought along the lines of getting in a big orchestra to do a traditional score.

"By the same token, record companies and rock and rollers had very little in common with the film people—they were from two very separate worlds. They'd meet from time to time to do a project, and then go back to their own thing."

Despite increasing, and increasingly successful, cross-fertilization between the industries during the '70s and early '80s, such attitudes were fairly prevalent until recently, Sill reports.

"I had a hell of a battle over *An Officer and a Gentleman*, the project where I first hooked up with Taylor Hackford," he says. "We immediately hit it off 'cause here was a guy in movies who really understood the link between visuals and music, and who wanted the soundtrack to play a prominent part, not just the usual number at the end of the credits.

"But the studio, Paramount, had a very different conception of what they wanted to hear in the film. The fight was basically over the title song, 'Up Where We Belong,' which had been

written by Jack Nitzsche, his wife Buffy St. Marie, and lyricist Will Jennings, who writes with Stevie Winwood. I'd put together Joe Cocker and Jennifer Warnes, 'cause their rough and sweet voices together evoked and reflected the Richard Gere-Debra Winger leads in the movie. Taylor and I both felt it was a great song with great performances, but not only didn't Paramount like the song, they wanted bigger names to sing it. Can you believe it? They actually hired someone else to go in and re-record it, but the star got cold feet at the last moment, and our version stayed in the picture. Needless to say, after it won Best Song at the Oscars, all the executives promptly forgot they'd hated it."

Sill followed that triumph with *Flashdance*, before moving to Warner Bros., where he coordinated, among others, such hit soundtracks as *Vision Quest* and *Purple Rain* ("My easiest gig yet—Prince had all this great music, all I had to do was sequence it").

Despite such successes, by the mid-'80s Sill had become "burned-out on the studio system. Release schedules are so tight that they run like factories—theatres are booked, advertising's keyed in—and you have this window in which you have to get it all together, or it's over. So when you're doing 18 to 25 pictures every year, and they all have tight schedules, you inevitably begin to suffer an enthusiasm decay. And I could see that happening to me."

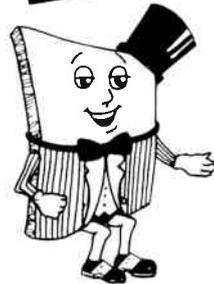
So when Sill got a call from Taylor Hackford wondering if he'd be interested in heading up the music division of his new production company, he jumped at the opportunity. And on the strength of their first project, *La Bamba*, the signs are that their partnership will become increasingly effective in Hollywood.

"I don't think anyone expected *La Bamba* to be as big as it is," he comments, "although we all felt we had something special. I think all of us—Taylor, Luis Valdez, who directed, and his brother Danny, who originally conceived the project—also felt a big responsibility to get it right. We were dealing with a true story, with characters, some of whom are still living. And there were other important considerations, such as the underlying theme of the Hispanic community and its need to assimilate and become Americanized, yet retain its cultural

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identity.”

A key issue early on in the project was whether to use Valens' original masters for the soundtrack. “In the end, we decided against it for purely technical reasons,” reports Sill. “The quality just wasn't there, so we decided to go in and re-record everything ourselves.”

“The next big problem was choosing the right musicians, and Los Lobos was Taylor's idea,” adds Sill. “We all felt they were perfect for this project, and I think they also felt a sense of responsibility to their Latino heritage and community. Musically, they provide a direct link to Valens and his era. I don't think it would have worked with a bunch of white rock and rollers from New York.”

Faced with the same problem in casting Buddy Holly, Eddie Cochran and Jackie Wilson, Sill again opted for musical authenticity over appearances. “I believe it's always more effective to use someone who sounds right, rather than some actor who looks right, because obviously Brian Setzer openly

models himself a lot on Cochran, and Marshall Crenshaw is kind of like a latter-day Buddy Holly.”

In addition to careful planning and casting, Sill credits all the principals' close collaboration both during and after production for the success of the soundtrack. “Usually, the music is an afterthought, added on while they're editing. But with Taylor, you're in there designing the soundtrack from the beginning,” he says. “We'd go through every scene, and how we wanted it to play, and then start weaving in the music. All that was happening at the script stage,” explains Sill. “Later, during the actual production, we had the film and music offices next to each other, so that we could all run back and forth and build the soundtrack from the inside out. That's why it feels so organic, I think. Everything that made the final cut really *belongs* to the story.”

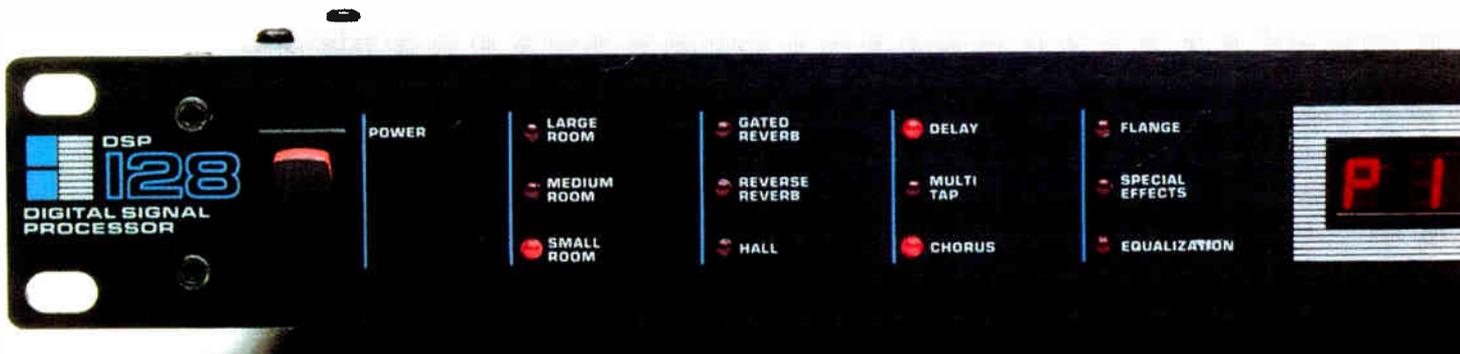
Following *La Bamba*, Sill went to work building up the soundtrack for *Bright Lights, Big City*, the film version of Jay McInerney's novel about a coked-out New York magazine editor. This time, Sill enlisted the services of ex-Steely Dan heavyweight Donald

Fagen. “It's going to be *amazing*,” he predicts confidently.

With soundtracks conquering the charts in greater numbers than ever, does Sill see a danger in over-saturating the marketplace? “I don't think so. After all, they were predicting this massive backlash a year ago, but the market's just kept expanding since then,” he points out. “And the reason so many soundtracks are so hot is that film companies and record companies have finally learned how to work together, and make the most out of music in a film.”

“The truth is, you can't save a bad film with a great soundtrack. But when both mesh together successfully, and *belong* to each other, it's going to work. If you can put the right piece of music with the right visual, you've got an enormously powerful and emotionally satisfying experience, and that's what it's all about.” ■

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—FROM PAGE 111, AUTOMATION

can have any number of MIDI control devices locked in sync and running off a SMPTE/MIDI converter, following the video, so we get first-generation digital audio in the video production.”

The system is comprised of available hardware—40-input Trident board, Akai S900 samplers, Yamaha FM synthesis voice modules, Series II Fairlight CMI, Sony ¾-inch video deck and F1 PCM digital processor, and Southworth's Jambox 4 MIDI/SMPTE interface. Software is Personal Performer, running on a Macintosh computer. Henry also designed special interfaces and customized software for this system, which constantly evolves as he makes it more multi-tasking.

“Any automated system should be multi-tasking—you don't want to use all that power doing one thing at a time,” he says. “The exciting thing about the system is that it's fully portable. I think more people want to use a type of integrated hardware/software package that incorporates control of both video and audio devices, MIDI-based devices. You can insert elements with surgical precision and guaranteed repeatability.”

Jim Boyer has worked on video post projects with a customized AMS Audiofile System at Sync Sound in New York. “I think it's the next tape machine,” he says. “I hope hard disk memory will replace tape. If you change your mind about the sequence of tunes on a record, it's normally difficult to change things around and the client wants to hear it right away. With the Audiofile you can almost instantly re-sequence. Editing is quicker, you can hear it, move it around, and it's fast because it all resides on the hard disk. And that's the key.”

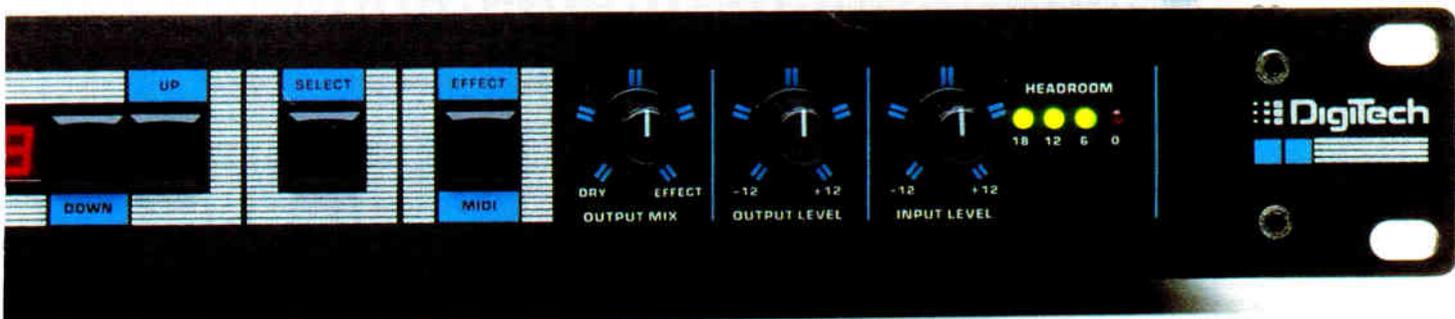
If an editing control system is to be competitive, says Peter Lewis, “it must be SMPTE-based.” Lewis is based in Seattle, where he has designed and engineered sound for thousands of radio/TV spots and corporate projects (Nike, Boeing, IBM, NBC, Apple Computers). He and his partner Susan McArthur have won over 200 awards including a gold Clio. They usually can be found at MacDonald's Recording, Telemation, McArthur Recording, or the Audio Design Group. “Editing requires a human with emotion and feeling, and once you accomplish one event with the Audiofile or Synclavier or

Adams-Smith, the unit can do it repeatedly,” says Lewis. “I just finished a radio spot with five edits in the music; I didn't actually physically cut the music, but used the [Audio Kinetics] Q.Lock, the granddaddy of synchronizers. It's a workhorse we've been using every day for six or seven years.”

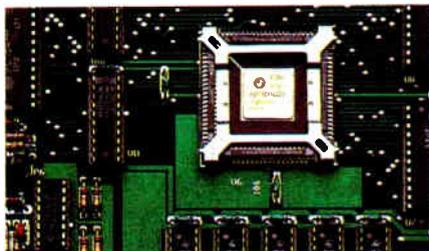
Lewis also uses the Audiofile for editing and sound effects placement in video and film, and although he feels it's still evolving, “the random access memory lets you access sounds real quickly. You just type in what sound effects you want to happen at what time code number. Digital boxes don't wow, and the time it takes to wind analog audio tape from the end of one spot to the beginning of the next just evaporates. It goes so fast you have to be thoroughly prepared before you go into the studio.

These boxes are all very delightful, but if you don't know what you can do in sympathy with the picture to make the picture better, all these boxes don't help at all.” ■

Mix assistant editor Linda Jacobson wishes someone would develop an automated proofreading system.



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by Alan Parsons

PARSONS AND POE

TALES OF RE-MIXERY AND IMAGINATION IN THE DIGITAL AGE

A

lan Parsons recently brought state-of-the-art analog and digital techniques together for a total re-think on the first Alan Parsons Project album—*Tales of Mystery and Imagination*, first released in 1976. Based on the works of Edgar Allen Poe, the album is considered by many to be a classic. It has now been released for the first time on CD. Here, Alan reminisces about the original recording and explains how new technology contributed to the new version.

When it was first suggested that the *Tales of Mystery* album should be released on CD, one thought was to get Abbey Road to make the best possible PCM-encoded tape



Artwork from the first Alan Parsons Project album in 1976



(left) A recent picture of Alan Parsons at his country studio in the south of England

made from the original non-Dolby 1/4-inch 2-track master. After all, this policy for our later albums from *I Robot* right up to *The Turn of a Friendly Card* had contributed towards our status as best-selling CD artists on our record label.

Then they said, "What about another mix?"

I recovered from the inevitable trauma that all producers suffer when confronted with these words, but then they said, "Or you could re-record it."

When I had picked myself up off the floor, semi-comatose, I started pontificating about the seemingly impossible task of trying to reassemble a cast of thousands that had included Ambrosia, Pilot, and Arthur Brown whose "Crazy World" had long since disbanded. The eventual outcome was a partial re-recording of the album with the original key performances left intact, a few carefully executed overdubs on digital multi-track, the addition of a previously unreleased narration by the late Orson Welles, and a new computer-assisted digital remix and compilation.

The first question everyone asked was, naturally enough, "Is he going to destroy the original magic?" I was only too aware of the criticisms that had accompanied the re-release of Mike Oldfield's remixed version of *Tubular Bells*. On the other extreme was the disappointment by many at the mediocre technical quality of the early Beatles CD re-issues, which had been left virtually untouched, to emerge only as good as the 1/4-inch mono masters from which they came. In an effort to satisfy not only "Project Purists," but also those who wanted to show off their mega-turbo-zillion-times-oversampling CD systems, I thought, "Let's give them something a little bit different, and more importantly, something with an element of *surprise*."

Awesome Welles

The surprise element is almost immediate on listening to the new version. A spoken introduction featuring the unmistakable voice of Orson Welles opens the new album. The "Voice of Poe" was recorded only a matter of days before the album was originally

released. Those in the audience at an early laser extravaganza to launch the album at the Griffith Park Planetarium in Los Angeles had been the only privileged few to hear this narration.

We never met Orson Welles. Soon after a script had been submitted to him, a 1/4-inch Nagra tape arrived at the

bum was first transferred from the 24-track analog originals to Sony 3324 format at my own studio outside London. Soundcraft kindly loaned us a brand new Saturn machine for this purpose. (My studio possesses no analog machines except a Revox B77 and a cassette deck.) The pure orchestral music, originally recorded on 8-track, was transferred to Sony format at Abbey Road.



An orchestral session for the album, 1976

record company's Hollywood offices. The opportunity to include this narration on the 1987 version was truly thrilling. I knew it should have always been there. Unfortunately the 1976 record was already in production and it was too late to incorporate it.

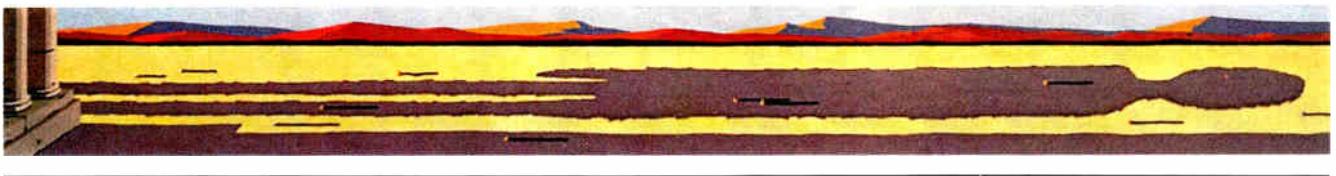
The voice was transferred to a Sony 3324 digital multi-track. A short line of wild *cor anglais* (or English horn as it is known in the U.S.), playing a motif recorded during the orchestral sessions, was then added as a preface to the opening instrumental cut of the album, "A Dream Within a Dream."

All the remaining music on the al-

Artwork from the first Alan Parsons Project album in 1976

The idea behind making these transfers was two-fold. Firstly, repeated playing of the digital tapes would not cause any noticeable audio degradation. It is an established fact that every time an analog tape goes over the heads, there is a small loss of quality. Secondly, we had the option to overdub new, first-generation material, on a slave tape if necessary. Rarely did the digital overdubs replace the original recorded tracks. On most occasions they embellished the existing picture.

I was rather anti-synthesizer back in '76. The only synth on the original version was filtered white noise for a wind effect in "The Fall of the House of Usher," and a couple of bass notes. The synth in question was an EMS



Synthi "A" suitcase job, which I understand is now quite collectable. Well, it was good enough for *Dark Side of the Moon!*

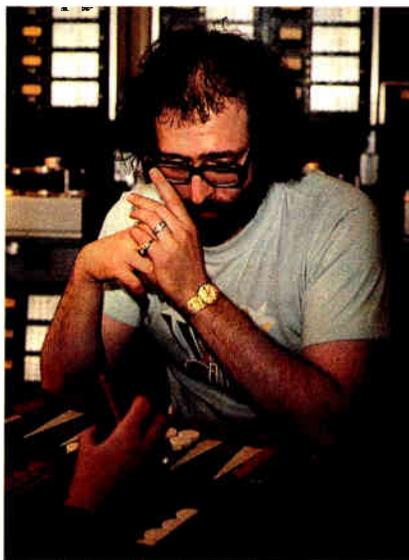
Few could have predicted the lighting-speed takeover of the industry by microchip-based musical machinery. It is hard to accept that the hours we spent getting sounds in the '60s and '70s can today be effortlessly reproduced at the touch of a note on a keyboard or a button marked "play sample." Bitch bitch bitch... Engineers have never had it so easy... Nobody knows how to record drums any more... etc., etc., etc. But I digress.

Projectronics

I think our music has been an aural testimony in support of the philosophy that synths cannot, and will never, replace an orchestra. But this is not to say that I don't feel that synths have a rightful place in today's music. In fact, soon after hearing sounds from the Roland D-50, I was motivated to feature it in all kinds of ways for this re-release. We were very careful, however, not to go for machine age over-



ADSR envelope of a series of tape loops on a keyboard. One step ahead of the Mellotron, it used voltage control technology and a studio multi-track tape machine as its source. We called it the "Projectron." Many painstaking hours were spent recording voices going "Ooh" and "Ahh," wind instruments being blown by vacuum cleaners, multi-layered percussion sounds and individual instruments being plucked, hammered or otherwise abused. Glitch-



Composer/lyricist Eric Woolfson pictured presumably during the course of a mixing session

John Leach plays the cimbalom, an unusual Finnish instrument, 1976

free tape loops with low angle splices had to be compiled from these recordings. Further loops had to be made for all the pitches where VSOing produced too much of a Mickey Mouse effect. This is analogous to multi-sampling on a present-day sampling keyboard.

One observation on rock music in the machine age has been the recent obsession with holding a metronomic tempo, and hair's breadth precision in musical timing between instruments. It seems almost laughable that we used to put an old wooden clockwork metronome ticking away in a studio isolation booth if we wanted a timing reference. Usually we didn't, however, and relied instead on our own judgment. "It feels good to speed up a bit there," I seem to remember saying. Oh well.

A Dream Within A Dream

When I was going through the multi-tracks back in June last year, I must

admit there were occasions when I flinched at the timing errors that I had allowed to go through on the original version. One case in point was the timing between the bass and the kick drum on "Dream Within a Dream." The band had originally played to an analog tape loop of a repetitive one-note bass line. The nature of the loop made it very difficult to play to, since there were gaps of two full beats during the sequence. The timing of the kick drum to the loop was particularly crucial and very exposed.

In order to improve matters, we sampled a bass note from Joe Puerta's original performance and retriggered it with itself (!) when it was playing solo, and later from the original drums. This meant the sound remained consistent for the transition to "The Raven," which was a real-time performance and therefore an earlier tape generation. The trigger signal was derived from a Sequential Studio 440 using its invaluable Trigger Holdoff facility to mask off spurious hi-hat beats. While triggering the bass, we discovered that we preferred the kick drum trigger signal being generated by the 440 to the one on tape. The original track was mixed out. In effect we had made the section more human and tighter, since all the sounds were in essence sourced from the original performances, and not from loops.

Although we did not trigger via MIDI, a small timing delay was apparent through the triggering operation and the unusual attack characteristics of the bass sample. This kind of thing was very easy to correct with our pair of digital machines. We simply transferred the relevant tracks to a slave multi-track, and then bounced them back (in the digital domain) with an offset of a few milliseconds. No analog generations, no turning tapes upside down for pre-delays, no brainwork—brilliant.

The Raven

When *Cashbox* magazine saw fit to vote me the 13th best male vocalist in 1977, they might have been interested to know that I don't sing. A rare exception was on "The Raven" when I was given considerable help by a prototype digital vocoder designed by EMI's Central Research Laboratories near London. Perhaps the fact that I sang the word "Nevermore" with an unprocessed voice was an early indication of

kill, which obviously would have been a big mistake. I feel all the new material is in the spirit of the original, which, after all, is the whole point.

Believe it or not, we had already touched on "sampling" in a rather crude analog form long before the likes of the Fairlight were even thought of. Keith Johnson, a brilliant audio and electronics engineer from Los Angeles, developed a means of controlling the

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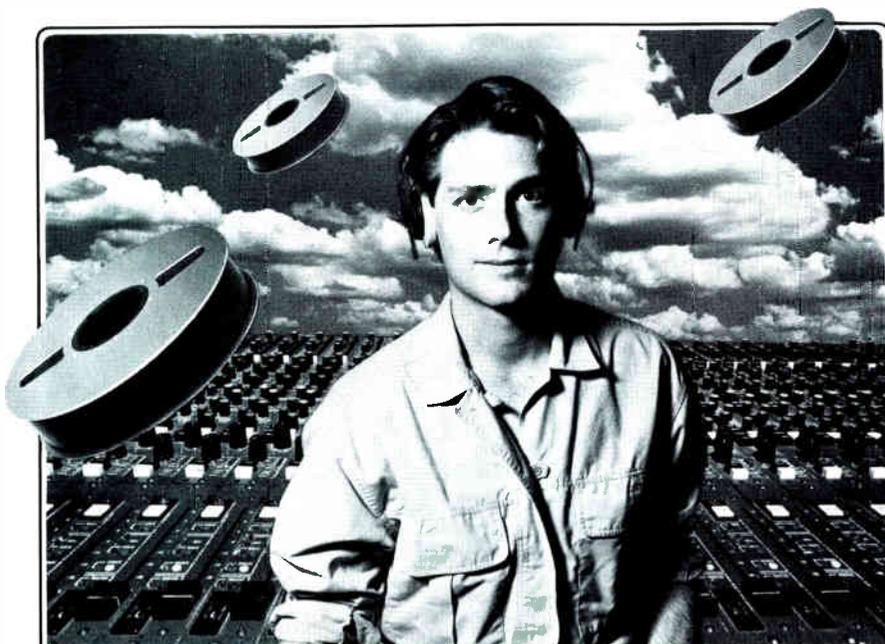
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my fate as a vocal performer!

This vocoder was the grandfather to devices which appeared in later years with big commercial manufacturers behind them. It was notoriously level-conscious. All the vocal input had to have a dynamic range of about 2dB. I couldn't bear the thought of trying to revoice my monotone voice track for the sake of technical perfection. In its original form, it represented a time slot of technological nostalgia. We would never have gotten near it anyway.

I remember not being happy with the original snare sound on "The Raven." Soon after the first sessions, we added in new offbeats with a different snare and a different drummer. With no click reference, there were differences in opinion as to the exact point at which each offbeat occurred. Again, the 440 helped us to retrigger a new snare offbeat sample, which was perfectly in time with the original kit, although as before we had to fly the new sampled track back onto the master with a small offset.

Ian Bairnson came in for a day to put a great new solo on a bridge section of "The Raven" and a few other bits and pieces. It had been his first appearance on the song, since the original guitars had all been played by David Pack of Ambrosia, well known to readers of this magazine for his contribution to the TEC Awards and his support for the House Ear Institute.

The Tell-Tale Heart

No one seems to have heard of the whereabouts of Arthur Brown for many years. He is best known of course for the classic "Fire" single in 1968. I will always remember the moment when Arthur, seemingly a quiet, rather timid individual, wandered casually into the studio after hearing Eric Woolfson's guide vocal on "The Tell-Tale Heart" and whispered into the mic "OK—let's try it." The very instant the first note of music hit his ears, he was transmitted into the "Crazy World" we knew and loved—leaping into the air, arms waving, as if possessed. Most of it was there on the first take. My initial limiter settings, thankfully, coped with his unbelievable dynamics. We only took two versions and knew we had it. On the new remix, there are a few snippets of the other take, which will hopefully

—CONTINUED ON NEXT PAGE

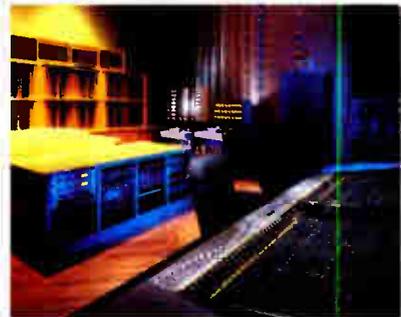
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A few additions were made to the instrumental excursion section. Ian added some new weird and wonderful guitar and I played some spacy chords with the D-50 on "glass voices," a sound everybody loves, and by the time you read this, it will doubtless have been featured on at least 50% of the Top Ten albums.

The Cask of Amontillado

Eric Woolfson, who writes nearly all of

the Alan Parsons Project's songs, has always resisted telling anybody (except me) at the time of recording what the theme of each of our albums is. In fact we often give fake titles to many of the songs in order not to give the game away. One such song was "The Cask of Amontillado" which was given the working title "Bristol Cream," another very popular sherry. This was all taken quite lightly until the orchestral sessions. The players took one look at the title on the music score and rubbed their hands together with glee. They thought they were going to be paid jingle rates!

"Amontillado" was the first song I worked on with John Miles outside his own band. We had already achieved considerable success in Europe with his *Rebel* album, and the singles "High-fly" and "Music." It was a natural choice for John to be one of the principal singers on this album.

Although we now live in the age of musical partnerships like Michael Jackson and Paul McCartney or Tina Turner and Bryan Adams, the idea of an artist guesting on someone else's album was somewhat rare in 1976. We always felt that musicians took an entirely different attitude to their art when working for us, because their careers did not depend on it. They were not frightened to assume a different identity for a day or two, and they'd give a part of themselves that did not exist in their own career roles. Since Live Aid, of course, no one can surprise anybody with a guest appearance!

A little retuning of the horns on "Amontillado" was in order for the new version. They were slightly under-pitched on the original, and I seem to remember we were too short of time for a retake. A Publison Infernal Machine harmonized them up to the correct pitch. Once again we took advantage of a slave offset to compensate for the processing delay in the Publison. Various other tuning discrepancies were corrected throughout the album in a similar manner.

The System of Dr. Tarr and Professor Fether

This was possibly the most obscure of all the Edgar Allen Poe works that we chose to incorporate on the album. It was one of the rare occasions when Poe wrote in a light-hearted vein. I would even go so far as to say it is a *funny* story, as well as being bizarre. Although the title sounds like a new-fangled form of noise reduction, the story is actually all about a madhouse where the patients are mistaken for the warders. This meant a field day for the Project sound effects department. Again, the star of the show was John Miles. I added a D-50 "cathedral organ" for the new version, to improve the rather tinny sound of the original Hammond B-3. Some fairly vicious EQ brought about increased clarity on the backing vocals and guitar sounds.

Rather surprisingly, little was done in general in the way of EQ on drums on the new remixed version of the

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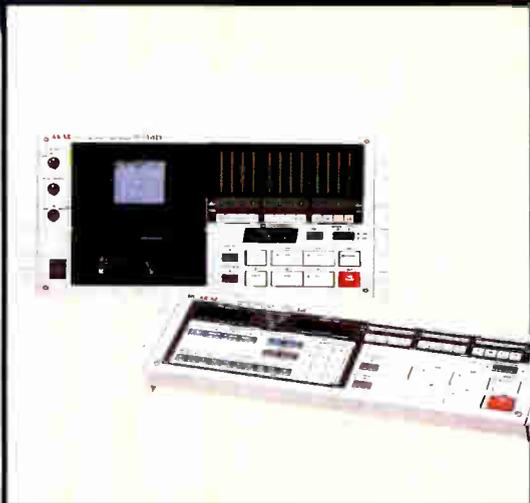
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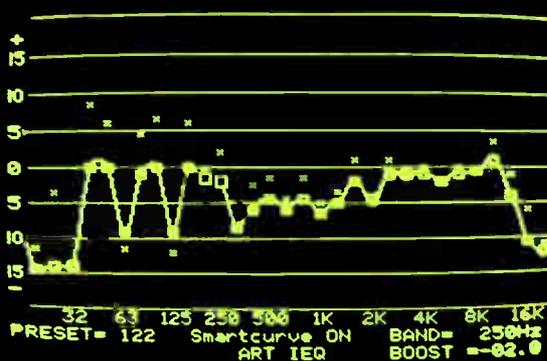
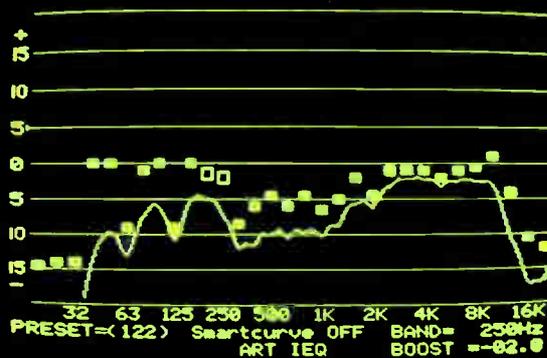
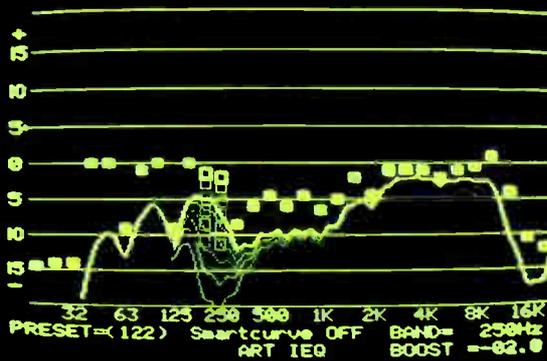
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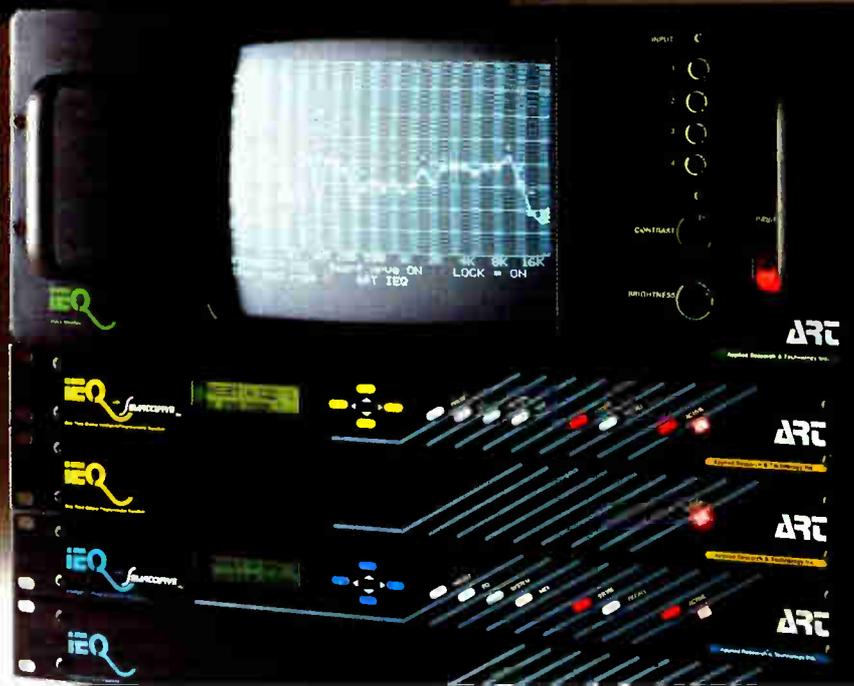
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PLAYBACK

album. I found that putting the kit into a different environment (by electronic means of course) helped to give the drum sounds a new vitality. In 1976, reverberant or ambient drum sounds were unfashionable. I don't feel that giving the drums a new "space" has detracted at all from the original performances. To me they simply sound *better*. Drum reverb was usually from a Roland SRV2000 or a Yamaha REV7. (Horrors—he doesn't possess a Lex!)

The Fall of the House of Usher

Another passage of Orson Welles' haunting narration inspired a new musical interlude at the point where, infuriatingly, the vinyl and cassette versions have to be turned over. I was determined to find a way of bridging the gap between the original "sides" in order to give the CD the same aesthetic continuity which the original had at every other transition on the album.

I think we have used low frequency drones in some form or other on just about every album we have made—except this one, until now. It was the good old D-50 delivering the goods, along with some metallic, machine-like effects for added atmosphere, under the spoken dialog. The drone then fades slowly to make way for the *magnum opus* of the album, "The Fall of the House of Usher."

On 10 October 1975, we assembled one of the largest orchestras ever to

play on a rock album at London's Kingsway Hall. I didn't have much experience engineering such a large crew. I had served my apprenticeship as a second engineer and tape op on some of the greatest classical recordings of the '70s, including ones conducted by Otto Klemperer, Sir Adrian Boult and Sir John Barbirolli, to name but a few. However, I had been given no direct experience with the physical act of balancing a classical microphone setup, so I called in my good friend and Grammy award-winning engineer Gordon Parry to give me guidance for this exciting science so alien to a rock music engineer. Several Neumann tube mics were in evidence, noticeably M49s and M50s, which Gordon carefully placed with the expertise of a true genius in his field. My one contribution to his setup was a suggestion to put up a coincident stereo pair of KM56s. He was all for the idea, and in fact the pair became a principal source with the other mics being used to "pull focus" on the various sections of the orchestra.

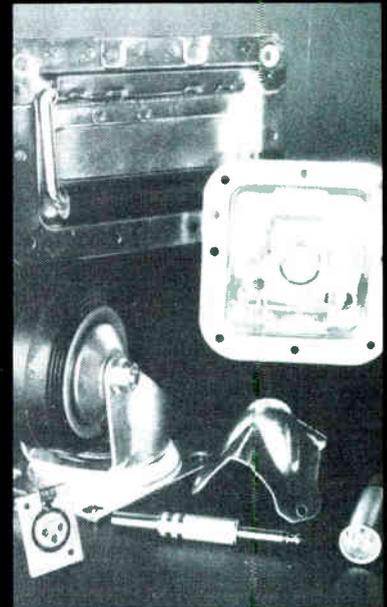
Much credit for the success of the recording also goes to Andrew Powell who scored and conducted the "Prelude" along with all the other orchestral music on the album. His contribution to this record paved the way for a long association with Eric and myself on the future APP albums.

The eight tape tracks were split into four stereo images: 1 & 2, the KM56 pair; 3 & 4 for the strings; 5 & 6 for the remaining instruments including the

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bass guitar, close miked and panned center; 7 & 8 for distant mic ambience.

Poor Les Hurdle, the bass player, had to count hundreds of bars rest before his entry at the end of "Prelude," and even then he only had to play one bar of music repetitively!

The remix of the orchestral music was very satisfying. I only wish that in 1976 we had taken a little more notice of acoustic studio noises, which even state-of-the-art '80s technology cannot erase. Still, it gives it a "live" feel. It is nice to know that the CD, for all intents and purposes, represents a playback of the original edited 8-track Dolby master. There were few fader movements on the final mix to the digital master tracks and no additional EQ. The "Intermezzo" is literally a live recording from only the KM56 pair.

The storm effects for "Arrival" were originally recorded on a prototype West German dummy recording head. We had hoped to get use out of the head for musical passages on the album, but rather like later attempts by many with the controversial Zuccarelli Holophonic head, we got nowhere. However, I have always maintained that there is no better way of creating the impression of being in a particular environment than with a good dummy head. Even on speakers, the rainfall has a certain realism that arguably could not have been captured by any other method. A little anecdote: some of the thunderclaps recorded during the freak storm outside the studio at Abbey Road were rendered useless by one of the crew shouting, "That was a good one," momentarily forgetting the nearby plasticated humanoid on a tripod was actually a recording device!

The repetitive jangly keyboard motifs on "Arrival" were not sequenced. The technology did not exist to create multi-sampled electronic recycling effects. Instead it was a good old-fashioned tape loop using editing pencils as tape guides. Working with The Beatles and Pink Floyd had taught me a trick or two in this area. The new remix was similar to the original but for a new organ track and a beefed-up drum sound.

The "Pavane" was intended to represent Roderick Usher's aversion to any musical sound except for "certain effects of stringed instruments." String bass, harp, harpsichord, and cimbalom

open the piece. The main theme is played on mandolin and an obscure Finnish zither-like instrument called a kantele.

We had called in all the virtuosi for each instrument: Francis Monkman



Alan at the EMINEVE console at Abbey Road in 1976

(Curved Air) for the harpsichord, Darryl Runswick for the bass, David Snell for the harp and John Leach for the kantele and *Cimbalom*. Laurence Juber (later of Wings) and Kevin Peek played acoustic guitars, and Hugo d'Alton played mandolin.

Few changes were made to this section, except for some clearing up of individual sounds. The Mastermix automation on the Amek desk in my studio did wonders for tape noise. This was not really a problem for the original version, where the bulk of the noise was generated on the 1/4-inch non-Dolby master, and covered up a multitude of sins!

The "Fall" section became a different beast on the new version. I added a couple of rising dissonant chords on the D-50 over Andrew's already atmospherically horrific orchestral score, and took particular care on the long pause following the giant buildup. It is great to hear real silence here. There always seemed to be a snap, crackle and pop or a sea of tape hiss at this point on the original release. Digital recording and CD have given a new meaning to the word "silence."

To One in Paradise

I had always felt that Terry Sylvester was a very worthy replacement for Graham Nash in The Hollies. His career as a soloist never really got off the ground, but of course he contributed

to many of The Hollies' classics like "The Air That I Breathe" and "He Ain't Heavy, He's My Brother." Even ten years on, I feel as proud of "To One in Paradise" as anything we have done since, not least because of the brilliant job Terry did on the vocal.

The guitars were originally recorded with a very early "Bad Stone" phaser pedal. On both the old and new mixes, the impression is that there are ten hands on the console twiddling panpots. Actually it's just the natural rising and falling of levels as the phasing sweep cancels certain frequencies, leaving other tracks at different sweep rates and pan positions more exposed.

I love the sound of the backing vocals on this song. This was a combination of a London-based boys choir singing live, and Jane Powell singing the same parts as a multi-layered overdub. How we managed to make do with only 24 tracks baffles me. We may have made a "wild" slave, and flown in the vocals with manual synching. Who remembers putting white marks on tapes and pressing "play" at a cue?

A couple of new guitars from Ian and a more ambient drum sound are

the principal changes on the new mix of the song.

Compilation

All the new mixes were recorded using a pair of tracks on a synchronized digital slave multi-track. There were several inherent advantages in having a mix running directly alongside the source tracks. On "Dream Within a Dream," for example, I left the bass off the mix, so that I could easily match its level in the transition to "The Raven." Also, all the edits could be done without having to hire in any U-Matic equipment. The final album master was compiled on a large 9,500-foot reel of half-inch Ampex 467, in order to accommodate the CD running time of over 42 minutes. I mixed to tracks 15 and 16 of the 3324 "B" machine, where I had just had Apogee filters fitted for evaluation. (I have since installed several more.)

Wherever crossfades were required, we transferred the two mixes in staggered form onto four other tracks, having found the necessary offset to make the fade work between the mix tape and the compilation tape. In this way everything remained in the digital domain except for the brief period when the segue was in progress. Once the point of "level match" had been reached, we just made a digital transfer onto the master mix tracks 15 and 16. For all the mixes, the machine tracks were lined up to 8 dB above zero at the console. This was the level found to result in a realistic, yet safe level on the CD master.

All that remained was a digital domain transfer to 1630 U-Matic via Sony's specially designed interface. This was a formality to get the album in a form suitable for PQ encoding and CD mastering.

A great joy for me is to see the re-release in a lavish package. The original gatefold sleeve and booklet were withdrawn in favor of a cheaper single sleeve with artwork by Mr. McGoo, over which I had no control. The new CD features a 22-page booklet and all the original artwork. We also tried to credit *everyone* this time around, and give a wealth of new information.

The new vinyl and cassette versions have equally sumptuous packaging, but a footnote has been unashamedly added in bold print saying, "FOR BEST RESULTS THIS ALBUM SHOULD BE HEARD ON COMPACT DISC." I wonder who wrote that? ■



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Art vs. Money.



“As a songwriter and artist, it's important to me not to limit myself to a narrow range of musical ideas. This has worked well for me when writing for other performers in their various markets.

However, it's been a detriment when I've tried to release my own records. Record companies really do "pigeon-hole" artists in most cases. Now, I don't mind compromising and there are some record companies that will allow more artistic freedom than others. But there is a growing number of them who don't know enough about music to know when something fresh comes their way.”

Les Dudek
Songwriter, guitarist, recording artist



“I've been to the very top of the charts and I've scraped the barrel, and in both cases I've had to make a lot of musical compromises. But I don't view compromise as a bad thing. There's a point in everyone's life when they must take control of their ego and put things into realistic perspective.

I admit, money speaks louder to me than it used to, but here's how I look at it: one of the most important and enjoyable things to me is playing my instrument. I will play what I need to play to make sure this continues. I have no regrets.”

Bruce Shaw
Recording artist, all-around musician

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by Lou CasaBianca

SHORT TAKES

Video and computers continue to play an increasingly important role in the audio recording studio. Mix's "Video News" is committed to keeping you in touch with product update information, new product testing, studio activities and special industry events. Please direct any pertinent information, event news or inquiries to Mix "Video News."

Frank Zappa and Pacific Video Go Direct To Digital

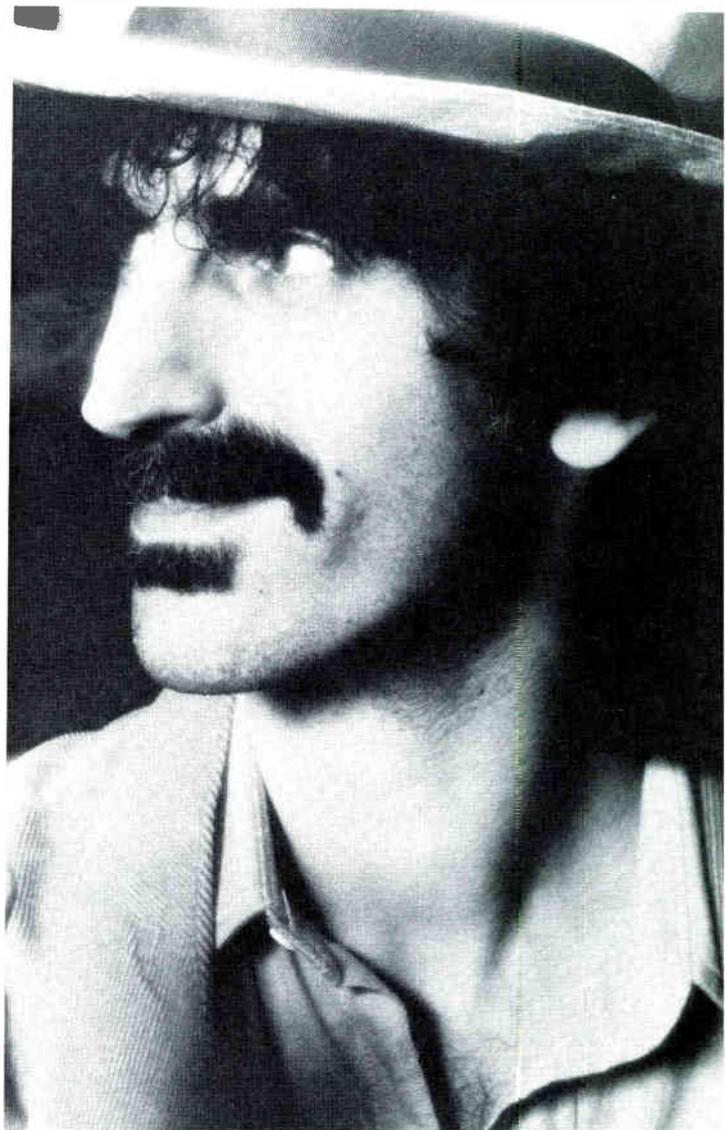
Frank Zappa has been working with film since 1958, with video since 1970, and with digital audio since 1980. Now he has found a way to combine them all as he prepares the first four releases for his newest enterprise, Honker Home Video, using the Sony BVH-2800 one-inch VTR with digital audio. Named after the eminently recognizable Zappa nose (which is pictured in the logo), the label will be distributed in the U.S. by Chicago-based MPI Video. Honker mail orders will be handled through another Zappa entity, Barfko-Swill.

Zappa has been a regular fixture at Pacific Video in Los Angeles since January '87, working mostly through the night (sometimes running different sessions in separate rooms simultaneously) to prepare his enormous film and video library for final assembly on the BVH-2800. He has been assisted by associate producer Jill Silvertone, along with video editors Ray Bush, Boeey Kober, and assistant editor Fred Simon. Telecine transfers were executed by Joe Finley, with raw video color correction done in Pacific Video's Electronic Laboratory by Rick Dalby.

The first four Honker releases will include *Baby Snakes—The Complete*

Version, a three-hour musical film with clay animation by Bruce Bickford; a documentary entitled *The True Story of 200 Motels*, utilizing 16mm behind-the-scenes footage of the original 1970

Frank Zappa



United Artists film *200 Motels*; *Uncle Meat*, shot by Haskell Wexler in 1970, and described by some as the world's first performance art musical, and *Video From Hell*, a one-hour compilation show providing previews of upcoming Honker releases.

Zappa has always insisted on quality audio for his works, and whenever possible he keeps things in the digital domain. The BVH-2800 was chosen because it has digital audio tracks on the same tape as the video itself, giving the final edited masters a level of integrity missing from programs edited on analog machines. "Before the Sony 2800, if you wanted digital audio on your show, you had to use a double system to broadcast or duplicate it," explains Zappa. "In other words, one machine for the pictures, another for the digital audio. Then you crossed your fingers and prayed for synchronization. I had been through it once before on a PMI project called *Does Humor Belong In Music?* That show would have been a snap to do on the 2800, but without it, the post-production time increased, and along with it, the total cost of the show. Anyone doing music videos would be well advised to investigate this machine if they care at all about the sound quality of their finished product."

Technical processes varied from project to project. The goal was to keep noise and distortion out, and to prepare a final duplication master with the best possible specs. Zappa continues, "whenever possible digital audio masters of original album tracks were used, mixed at my studio, The Utility Muffin Research Kitchen, by Bob Stone. Older multi-track masters originally recorded analog were digitally remixed using the Sony PCM-1630. In the case of film dialog, audio was recorded in three channels (stereo ambience plus directional miking). These audio dailies were mixed to the PCM-1630 before being synched to the telecine transfers."

Zappa shot some of the film footage himself in 8mm and 16mm. The oldest 8mm footage dates from 1962 (the Los Angeles County Fair material in "G-Spot Tornado," the opening selection of *Video From Hell*). Working from ECO original of 16mm blow-ups of his home movies, he painstakingly color-corrected and image-enhanced each edit during the on-line assembly utilizing the Sony BVX-30 system.

"This is a truly amazing device," he says. "We used it on the output of the edit bay—the final step for the picture after any effects processing, just before it prints on tape. With the BVX-30, I had the ability to balance color scene to scene, correct 'home movie errors,' give the illusion of sharper resolution, reduce picture noise or grain, or, when it was appropriate, crank up the grain for extra texture, and totally pervert the original color."

So far, about 300 hours of raw mate-

audio, video and computer programming. Database title projections rise from 125 in 1987 to more than 10,000 in 1991. Applications include a variety of uses such as library, financial, educational, scientific, medical, governmental, legal and consumer. In most database applications, CD-ROM drives are sold or leased to subscribers.

Two other types of optical disc drives are going to affect the CD-ROM scene: WORM (Write Once Read Many) and erasable. Erasable drives are slated for late 1988, although demonstration units will be available sooner. The availability of erasable optical drives



Sony CDU-100 CD-ROM drive

rial have been transferred from film to tape. Zappa will use this basic library to create the next generation of Honkers. He is also planning to release the works of other artists in the "optional entertainment field," such as documentaries, animation and compilations of short films.

Microsoft CD-ROM Conference

According to industry analysts, 30,000 CD-ROM drives were sold in 1987, and the number is expected to increase to one million by 1991. The value of CD-ROM is its ability to deliver large custom databases to prospective users. The CD-ROM and CD-Interactive discs are exactly the same size as CD audio discs: 4.72 inches in diameter. (See *Mix* CD-I Supplement, November 1986.) The CD-ROM system gives the user access to about 250,000 pages (or the equivalent of 500 books) on one silver-colored platter. While not yet able to be recorded to or erased, the medium's capacity is staggering: 550 Megabytes, or the equivalent of 1,500 floppy disks. The discs can deliver text,

will allow CD-ROM technology to function like magnetic media. WORM drives will not replace the standard CD-ROM playback type drive, because they serve different purposes. WORM drives will be used by companies looking to create disk-based files that will require an extra measure of security.

Last March, over 1,000 companies attended the Microsoft CD-ROM Conference in Seattle. Microsoft introduced the *Microsoft Bookshelf*, a collection of ten basic reference works accessible on CD-ROM. The company is looking at over 350 products, including databases and the critical retrieval software needed to sort through millions of entries. It is clear that CD-ROM fits into Microsoft chairman Bill Gates' overall long term goal for "a computer in every home."

On other fronts, Lotus Development has assembled a package of eight financial and investment databases on one disc, with weekly updates sent to customers by express mail. *Lotus One Source* comes with a CD-ROM drive and software that allows the user to

crunch more than 300 million data items using the 1-2-3 spreadsheet. Philips, in Eindhoven, Holland and DuPont of Delaware have formed a partnership, becoming the largest producer of compact discs. Apple and IBM have CD-ROM projects under development as well. 3M has developed an erasable optical disc. Optical Media International and Meridian Data have created a CD-ROM pre-mastering workstation, a turnkey package complete with computer front-end control of digital audio, multi-format video, text and mastering code standards. Optical Media has also released an extensive CD-ROM sound library.

Many of these developments, most of the major players, and the next round of new products are scheduled to be released at the Microsoft CD-ROM Conference in Seattle on March 1 through 3. The Microsoft CD-ROM Conference will be covered in depth in a future issue of *Mix*.

CD-ROM Developers Seminar '88

Meridian Data, Inc. and the Philips & DuPont Optical Company have announced a seminar series designed to teach potential CD-ROM developers how to produce CD-ROMs. Those companies will be joined by Microsoft in conducting the one-day seminar in several cities nationwide. Designed for corporate, institutional and government CD-ROM developers, the session will outline a step-by-step approach to creating a CD-ROM product. Business issues such as costs, implementation analysis and management backing will be covered during the seminar.

The seminar will address key technical areas such as data conversion, High Sierra Group formatting, indexing, data preparation, build and retrieval software, pre-mastering, mastering, replication, packaging and delivery systems.

Meridian Data manufactures the CD-ROM industry's leading data preparation and pre-mastering system—CD Publisher. Meridian Data will cover the specifics of data conversion, indexing and retrieval software, and pre-mastering. In addition Meridian will conduct on-site demonstrations of the CD Publisher.

Philips & DuPont Optical is the world's largest supplier of optical media for the audio, video and data

markets. The company supplies CD-ROM discs from its plants in Kings Mountain, North Carolina, and Hanover, West Germany. Philips & DuPont Optical will review in detail the steps involved in mastering, packaging and producing CD-ROM products.

Microsoft Corporation designs, develops and markets a wide range of microcomputer software. The MS-DOS CD-ROM Extensions Support CD-ROM discs in IBM and compatible PCs. Microsoft will discuss the importance of standards, software design and user needs in developing CD-ROM applications.

The seminar (which costs \$95 including lunch) will be held from 9 a.m. to 3 p.m., followed by an open forum for demonstrations and questions from 3 p.m. to 5 p.m.

Here are the seminar locations and hotel phone numbers:

- Hyatt at LAX, Los Angeles, Feb. 10,

(213) 670-9000

- Hyatt Regency, Crystal City, Arlington, VA, April 12, (703) 486 1234
- Grand Hyatt, New York City, June 14, (212) 883-1234
- Hyatt Regency, Chicago, Oct. 5, (312) 565-5700
- Ritz-Carlton, Boston, Nov. 2, (617) 536-5700
- Hyatt Regency, Atlanta, Dec. 1, (404) 577-1234

Digital Music Video

One Pass and Propaganda Films have produced what they claim is "The world's first all-digital music video." The two-and-a-half-minute clip "I Don't Mind At All" was produced for Island Record's Bourgeois Tagg. The song was directed by David Fincher of Propaganda Films. The new Rank Cintel Enhanced MIIIC Digiscan 4:2:2 flying-spot telecine provided the technological link between the original film foot-



At MacMusicFest 1.0 are (standing, left to right): Craig Anderton, editor of *Electronic Music* magazine; Kevin Kent, executive director of Filmsonix; Alan Kay, Apple Fellow and primary Macintosh inventor; Mark Letczner, Apple manager of advanced products; Ed Freeman, music producer and MIDI consultant; Joel Moss, director of Record Plant and Filmsonix co-owner; Chris Stone, president of Record Plant and Filmsonix co-owner; Bill Lawler, Apple VAR account executive; Don Felder, former Eagle and record producer; (kneeling, left to right): Steve Angelo, Apple district sales manager; Bill Larsen, Apple manager of consumer marketing; Peter Szollosi, Filmsonix co-owner; Jeff Burger, panel moderator and president of Creative Technologies.

age and One Pass's component digital editing suite. During post-production it remained in the 4:2:2 digital domain to final D1 edited master, experiencing no generation loss from the original film stock.

The project's special effects coordinator Jim Wheelock explains, "Maintaining a strict, component digital format was essential to keeping the image just like the original throughout the edit and entire post-production process. The look of the video required shooting high-speed 35mm film. We were concerned that its graininess would be exaggerated by multiple generation losses."

The look of the clip is very different, exploiting an ethereal-looking glass quality. The video's special effects include a unique graphic design of transparent, beveled glass panels that appear to distort the images and, at times, actually "contain" the members of the band.

The special effect was conceived by Fincher, and the glass effect was created by One Pass graphic designer Scott Williams using the Quantel Harry digital effects editor and Paintbox. The shots selected for SFX were pin-registered using Steadi-Film and transferred directly to Harry as a cell recorder and then recorded to Sony digital VTR. The 4:2:2 digital standard allows digital information to be moved around the way MIDI moves data between synthesizers. Digital optical effects were executed on the Quantel Encore, programmed by Bart Giovannetti. The original 35mm film footage, shot at 30 fps, was transferred to digital video in the Rank telecine suite by colorist Jim Barrett.

One Pass is one of the first studios in the United States to use the new Rank Cintel Digiscan 4:2:2 telecine. The machine's digital 4:2:2 output improves virtually all of its specifications, including heightened resolution.

Positive Video Installs BOSS Audio Editing System

Positive Video of San Francisco has announced the installation of an Alpha Audio BOSS audio editing system in the company's Positive Audio division. James Lautz, executive vice president of Positive, says, "The BOSS is the second of its kind to be installed in the Bay Area [the other being Lucasfilm] and at this time, it's the only system available in a video post-pro-

duction facility." The new \$50,000 system uses TimeLine Lynx synchronizers to slave up to four ATRs to an Ampex one-inch VTR using VPR-3 protocol. This allows producers to achieve instantaneous lock-up of all source tapes and to mix directly to their edited video masters. The BOSS is distinctive in that it brings the procedures and approaches of the video editor to the audio world. It can generate a CMX-compatible list which can be used on any CMX-compatible system.

Filmsonix and Apple Present MacMusicFest 1.0

Schmoozers and synthesizers, hard rock and hard disks, gigs and gigabytes came together at the Mac Music Fest held last December at the Paramount Pictures Record Plant location in Los Angeles. Representatives of the music and computer industries joined forces to exhibit the latest Macintosh-based computer-music advancements. Exhibits included everything from desktop sheet music publishing to a world-class production facility you can put in your project studio. There also were seminars ranging from "Future Abilities" and "Technological Advances" to "Influence of the Macintosh in the Entertainment Industry."

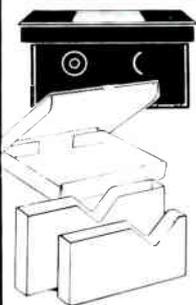
The event was sponsored by Apple Computer and Record Plant affiliate Filmsonix, Inc. According to Filmsonix director Peggy McAfee, "The MacMusicFest was created to provide answers and solutions to a number of persistent questions and problems that have emerged throughout the entertainment industry. Musicians, composers, music publishers, screenwriters and video producers need a comprehensive array of computer products and services designed specifically for them. Outside of magazines where they can learn about the latest developments in computer technologies which will impact their business? They need instruction and system support that will help them use these products with maximum effectiveness."

Filmsonix is an authorized value added reseller for Apple Computer, as well as a dealer or affiliate of other leading music and video-oriented hardware and software manufacturers. In addition, according to Filmsonix CEO Kevin Kent, "We are developing modular, expandable workstations that can be adapted to the specific need of

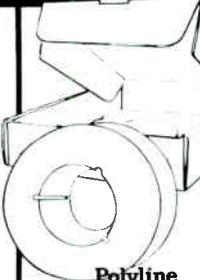
—CONTINUED ON PAGE 178

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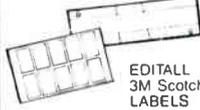


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ROD ABERNETHY
Engineer & Producer
ROD ABERNETHY
521 Greenwood Dr.
Cary, NC 27511
(919) 481-0777

Credits: McDonalds, Hardee's, Honda, De Laurentis Studios, AT&T, IBM, Burroughs Wellcome, Northern Telecom, Profile Records, The Accelerators, The Connells
Services Offered: Music composition and recording for television, film and radio. Also, producer services for bands. 24-track and 16-track mobile recording available on request.

M.D. ACOSTA
Engineer & Producer
SILENCE, INC.
PO Box 710, Maplecrest Stn.
Maplewood, NJ 07040
(201) 763-0453

Credits: Studio production: Nu Shooz, "I Can't Wait!" Hot Tracks remix, live engineering: Chuck Berry, Country Joe McDonald, Shadowfax, Rail, Ferron, B.B. King, Roomful of Blues, Dave Mason, Dan Seegal, Bonnie Raitt, The Band, The Byrds, New Riders of the Purple Sage, John L. Hooker, James Cotton, Al Stewart

Services Offered: New producer originally audio engineer. Unexpected success on first production project (Nu Shooz). New York/New Jersey area. Free to travel anywhere. Macintosh MIDI studio available for pre-production. Broad-based experience with current technology. Please call for details.

RANDY ADAMS
Engineer & Producer
3725 Cibolo
Fl. Worth, TX 76133
(817) 294-2581
(214) 263-0746

Credits: Jeanne Rogers (Maranatha Records), Tom Aury (Star-Song Records), Gingerbrook Faire (Word Films), John Hall, James Robison Television Special, Dave Roeber Ministries, Alexandria Sanctuary Choir and Chorale and many others.
Services Offered: Production, arranging and engineering services. Large orchestral recordings, choirs, audio for video, live recordings.

RICHARD ADLER
Engineer & Producer
PO Box 21272
Nashville, TN 37221
(615) 646-4900

Credits: Johnny Cash (PolyGram), John Hartford (MCA), Dolly Parton (RCA), Ricky Skaggs, Neil Young (Reprise), Natalie Cole (Capitol), "Doc" Watson (Grammy winner), Country Gazette (Flying Fish), Townes Van Zandt (Sugar Hill), The DRMLS (Scam), John Prine (Oh Boy).
Services Offered: Music production and/or engineering. Album (or CD) digital mix specialist, adjustable fees for a wide range of budgets.

DUNCAN A. ALDRICH
Engineer
545 Atchison
Pasadena, CA 91104
(818) 791-1956

Credits: Seven years as staff engineer at Chuck Corea's Mad Hatter Studios with recording credits on a wide variety of projects, as well as several freelance projects.
Services Offered: Engineering, production consultation, studios, astounding sounds, etc.



BRIEN FORREST ALKIRE
Thousand Oaks, CA

BRIEN FORREST ALKIRE
Engineer & Producer
C.A.T. TRACKS—CREATIVE AUDIO TECHNOLOGIES
PO Box 5044-422
Thousand Oaks, CA 91359
(805) 373-3833

Services Offered: Multi-track recording, live sound reinforcement, synthesizer programming, production

CHUCK ALLEN
Engineer
PO Box 38082
Tallahassee, FL 32315
(904) 656-7935

Credits: Steve Morse/Band, The Dreggs, Art-In-America, Yes, Billy Squier, B.T.O., The Heartfixers, D.I.R., Coca Cola Corp., Jackson Browne, Todd Rundgren/Utopia.
Services Offered: Quality audio engineering for studio, location, pre-/post-production video, broadcast and concert sound applications. Systems consultation and design. Installation supervision and management.

GREGORY ALPER
Engineer & Producer
ALTA VISTA MUSIC
77 Warren St.
New York, NY 10007
(212) 349-8095

Credits: Produced, composed, arranged, performed sizzling sax solos on records—Greg Alper Band: Chesno Straiter, Fat Doggie, Adelphi, (Billboard Pic and Rolling Stone award), Johnny Copeland, Rounder, Velour and 00, Virgin, Jingles, films, industrials—RCA/Columbia Pictures logo, Eastern Airlines, Swatch, New England Power Co., New Jersey, WPIX, AT&T several independent film scores.

Services Offered: Composing, producing, arranging, great sax for dance, R&B, jazz, film scoring and commercials. Studio: 16-track Tascam, Soundcraft 24-channel board, Emulator II, Macintosh Plus, digital mixdown, digital reverbs, digital delays, digital drums, cucaracha.

PAUL ANTONELL
Engineer & Producer
Rd. #3
Rhinebeck, NY 12572
(518) 537-6305

Credits: The Gospel at Colonus, Paris, L.A., Philadelphia, Minneapolis, Atlanta, European tour etc. The Warrior Ant at Alice Tully Hall NYC, Bob Telson's Little Village, Soul Stirrers, J.D. Steek Singers, Five Blind Boys, Terrance Boylan, Placido Domingo, Roger Powell

Services Offered: Pre-production, consultation, audio/visual presentations, soundtracks for industrial theater, complete 16-track production studio with MIDI, keyboards, drum machines and sequencers. Call for more information.

FRANK L. ARN
Engineer
BANTAM SOUND SERVICES
4724 Kester
Sherman Oaks, CA 91403
(818) 907-5181

Credits: Slagging and production on tours with: Rare Earth, Bob Seger, Parliament/Funkadelic (Mothership tour), Tommy Bolin, Keith Carradine (I'm Easy tour), George Benson (Breezin' & In Flight tours) and more. RIAA Gold Records *In Flight* with George Benson, platinum *Night Moves* with Bob Seger and more. Prior education includes A.A. in Electrical Engineering, Certificate in recording engineering from University of Sound Arts.

Services Offered: Available for live showcases, consultations, independent recording engineering, live sound engineering for major tours. 1987 has been a great year. Recent projects include recording dates with Neil Henderson, Tuesday Night, Paul Warren, Broken Silence, Bridge-22, Lenny Lee Goldsmith, Silent Rage, Paul Sabu and Only Child, and with Paul Saba projects for EMI, Arista, Bob Crewe, Rusty Gardner and more. Also concert dates and showcases including the Heartland Jam I with Charlie Daniels Band and Restless Heart, Paul Warren and Explorer, Tuesday Night for CBS, Zeta Sound in L.A., Neil Henderson, Richard Marx, Jackson Browne, Graffiti Band, Calvin James, Bill Lorden, Lenny Goldsmith, Paul Sabu and Only Child and more. Watch for more in '88 Thank You Mix magazine.

PATRICK ARNOLD
Engineer
PO Box 12
Charleston, WV 25321
(304) 346-6964
(304) 744-5164

Credits: Ten years live sound reinforcement; assistant engineer "Sountracs Recording," South Charleston, WV. Assistant engineer WV Public Broadcasting's "Mountain Stage," distributed nationally to 100 NPR radio stations. Studio demos and albums. Trained at Recording Workshop, Chillicothe, Ohio and Full Sail, Orlando, Florida.
Services Offered: Live sound mix; studio demos; remote recording; acoustic design; studio construction and installation; special FX; drum sounds; acoustic instruments.

NICHOLAS ASTOR-GROOF
Producer
NICK-KNACK PADDYWACK RECORDS
PO Box 3248, Yale Station
New Haven, CT 06570
(203) 773-3593

Credits: Affiliated with Yale University, we have signed 11 clients to Rough Trade, IRS, 4AD, Holden Caulfield. "The Girl Who Stole My Soul" #1 at 72 colleges across the country. Our roster includes Miraclic Legion, The Pedestrians, The Cult of Dispaid and The Kens. Our last annual compilation was distributed in 19

countries on all five continents.

Services Offered: Looking for new material and talent for record companies and our annual internationally heralded compilation album 24-track studio, (2) Yamaha-DX7IIFDs, Synclavier II, Fairlight Kurzweil, obviously the best technology. Will press ten top bands. If you think you have today's sound, tomorrow's hits, Nick Knack Paddy Wack may well be your vehicle. We accept submissions from all musical categories and stress the importance of lyric. All productions are executed in conjunction with the student body of Yale University. In addition, we seek writing samples from those interested in writing for our *New Music* tri-annual publication. Please send demo (regardless of quality) of 3-5 songs. A response is assured.

CLIFF AYERS

Producer
CLIFF AYERS PRODUCTIONS
830 Glastonbury Rd., Ste. 614
Nashville, TN 37217
(615) 327-4538
(615) 361-7902

Credits: Started producing records for his own label Emerald Records in New York in 1951. Through the years he has had productions released on Decca, Columbia, MGM, Discover, MCA and many other labels. Presently owns American Sound Records and produces some 20 artists.

Services Offered: Recording and video productions under American Sound Records and Emerald Records owned by Ayers. Music Town Distributors & Promotions Co. distributes independent labels and *The Music City Entertainer* newspaper in its 17th year of publication. It promotes artists and has its own records charts called "HotPops." Cliff Ayers Productions also leases masters for its Emerald Record label.

BRITT BACON

Engineer & Producer
SKYLINE RECORDING
1402 Old Topanga Cyn. Rd.
Topanga Park, CA 90290
(213) 455-2044

Credits: Bob Dylan, Chicago, Bangles, David & David, Peter Dinklage, Eddie Money, Ynwie Malsteen, Steve Kujala, Slider Glenn, Karla Bonhoff.

Services Offered: I have over 10,000 hours of engineering experience and have produced projects ranging from country to rock to jazz. I also write, arrange, produce and engineer local and national TV and radio jingles. As chief engineer of one of Los Angeles' top 24-track recording studios I would love to help you make your next dream project become a reality.

DEAN BAILEY

Engineer & Producer
3422 Beech St.
Rowlett, TX 75088
(214) 475-9796

Credits: Ray Owens, Bergman & Roberts, Rich Gilliland/demos, 6½ years of TM Country, *Golden Moments*, an Olympic retrospective, simu-lite training programs, in-flight music services; commercial production for numerous advertisers.

Services Offered: Audio engineering including all facets from studio installation, maintenance, tracking, mixing and producing. Specializing in mellow rock, country, jazz, radio specials, commercial production and audio visual programs.

STEPHEN M. BAILEY

Producer
SYNCARTZ AUDIO PRODUCTIONS
214 9th St.
Fairview, NJ 07022
(201) 941-0976

Services Offered: We create sounds to fit any application. Choose from our library or, if you prefer, we can produce sounds to your specifications. Call for more information on this and other services including production and composition.

ANDREW BARRETT

Producer
LIONELLA PRODUCTIONS
7 W. 14th St., Ste. 8G S.
New York, NY 10011
(212) 620-3122

Credits: Melis'a Morgan, Candi Staton, Carol Douglas, Carboy
Services Offered: Creative, Top 40 oriented production services with an ear for highlighting strengths of artist. Arranging, songwriting and keyboard playing are available. Full pre-production and production staffs on call.

JAMES BARRY

Engineer & Producer
BARYTONE PRODUCTIONS
5465 Santa Monica Blvd., Ste. 202
Hollywood, CA 90029
(213) 463-9557

Credits: *Women of the World* seven-episode television series (King World Distribution), "Artsound" visual art and music environment, Evanston Art Center, Chicago, *Knight Rider* and *Dress*

Gray, promotional music spots for NBC, Los Angeles, *Early Warning—Crises Challenging America* 13-episode television series, Blanchard Films International, assorted recording acts, various music styles.

Services Offered: *Barry Preserve Publishing, BMI Barytone Production, Inc.*, state-of-the-art audio recording and audio-to-video sweetening facility. Multi-track analog/digital mastering. Kurzweil digital keyboard and CD sound effects library. Pre-production planning, project management, musically versatile, open-minded attitude. James Barry is a producer-musician who truly enjoys working with new and established artists, setting a game plan and seeing that plan become a reality.

STEVEN M. BASDEN

Engineer & Producer
761 NE 178th Ave.
Portland, OR 97230
(503) 669-1997

Credits: Rick Dupea, Dan Smythe, Foundation, Holy Danger, Continental Singers, Cornerstone, Prophecy, The Focus and many more.

Services Offered: Engineering and production from pre-production to mastering demos, LPs, remote recordings, commercials, audio to video. Live engineer (house/monitor), maintenance technician, acoustical consultant.

SAM BEAMAN

Producer
VALENTINE PRODUCTIONS
910 16th St., Ste. 900
Denver, CO 80202
(303) 893-0912

Credits: Eleven awards for songs and commercials produced in-house. National and regional radio and television commercials. Art directors' Club of Denver awards show entertainment. Original music for commercial and industrial videos, AV and art shows, scores for cable TV program and hair/fashion show. All in-house.

Services Offered: Complete production from concept to finished mix. Staff composers, songwriters, synthesists, percussionist and guitarist. Extensive MIDI system synched to 8-track tape studio.

GEOF R. BENSON

Producer
GEOF BENSON MUSIC
PO Box 15611
St. Louis, MO 63163
(314) 773-9297

Credits: McDonnell Douglas, Central Hardware, KangaROOS, New Haven Register, Carpet One, Heartland Bank, Armour Dinner Classics, Southwestern Bell Freedom Phone, IGA Stores.

Services Offered: Synclavier®/composer/producer. Original compositions in music and sound effects. Specializing in post-scores for film and commercials. Record production. Synclavier digital audio system, with 32 poly voices, SMPTE, MIDI, 16 Meg RAM, 16 FM voices, Kennedy B.U., CIM 1, Optical, Linn 9000, Yamaha DX7 and TX 816. Prophet 600. Call Geof Benson Music to discuss your upcoming projects, to arrange a demonstration of the Synclavier or to request an audio or video demo.

GLENN E. BERKOVITZ

Engineer
SPINNING REEL SOUND SERVICES
11929 Windward Ave.
Los Angeles, CA 90066
(213) 313-2776

Credits: Television/film credits include: *Less Than Zero*, *To Live & Die in L.A.* (MGM/MTV), *Max Maven* (Universal), and too many commercial and music video projects. Music credits include ongoing independent album projects and numerous jingles and demos.

Services Offered: Specializing in audio—production and post-production—for film and television. I bring to my work a thorough knowledge of all systems in use today. From incorporating digital and time code technologies in my production recording equipment and techniques, to helping create full MIDI/SMPTE recording and scoring studios, I seek to implement and incorporate all of what is currently going on into my work to produce a more cohesive and satisfying result. Large or small, it has to be good, and, hopefully, fun.

ELLIS (PETE) BISHOP

Engineer
CREATIVE SYNERGIA, INC.
7936 Ponce Ave.
Canoga Park, CA 91304
(818) 702-9531

Credits: Funkadelic, Robin Trower, Parliament, Four Tops, Leon Russell, Tavares, Spinners, Dramatics, Peaches & Herb, David Ruffin, Bootsy, Albert King, Isaac Hayes, Tierra, Little Milton, Johnnie Taylor, Millie Jackson, Marilyn McCoo & Billie Davis, Bobby Womack, Jerry Butler, Michael Henderson, Bernie Worrell, Gloria Gaynor, William Bell.

Services Offered: Mixing, tracking, remote recording, post-production audio, electronic design, studio installation, studio maintenance, consultation.

MICHAEL J. BISHOP

Engineer & Producer
BRIANNA RAE PRODUCTIONS
13678 Butternut Rd.
Burton, OH 44021
(216) 834-1350

Credits: (Producing) Wendy Warren, Tom Lettiza Jazz-Fusion group, Nombres. (Engineering) Liza Minnelli (Live at Carnegie Hall), Pere Ubu, Fleetwood Mac (live), Cleveland Orchestra, The Buns Jammers, Atlanta Symphony & Chorus, Jini Fontana, Cincinnati Pops Orchestra, David Thomas, Alex Bevan, Pat Dailey, Baltimore Symphony & Chorus, Seaworld, Cypress Gardens.

Services Offered: Audio recording engineering, producing, mastering, digital editing and duplication services for all formats including CD, LP, cassette, video and film. I also can provide photography and graphic design services! Jack-of-all-trades, master of a few.

MICHAEL BITTERMAN

Engineer & Producer
MIDNIGHT MODULATION
2211 Pine Ln.
Saugerties, NY 12477
(914) 246-4761

Credits: Produced and engineered *Woodstock—Moods & Moments* (Prism Records); *Five After Eight* (OC Records); *Company Wife*, Denise Finley; engineered Jean Redpath (Rounder), Priscilla Herdman (Flying Fish), John Hall, Dan Brubeck, The Band, John Sebastian, Orleans and NRBQ.
Services Offered: I own and operate Midnight Modulation, a fully loaded 16-track studio w/full MIDI setup. Located in Woodstock, NY, I have access to many of the line musicians here. I have produced artists ranging from folk music to pop to cabaret to rock. I can give you a state-of-the-art sound for a fraction of the price. I am extremely eclectic and will serve every project on its own high merits—from production through engineering the final mix.

DAVID BLADE

Engineer & Producer
SOUND SOLUTION RECORDING
1543 Seventh St.
Santa Monica, CA 90401
(213) 393-5332

Credits: Animal Dance, Babylon Warriors, Clark Sisters, Jimmy Cliff, George Clinton, Doll Congress, Doris Day, Bruce Johnston, Barry Manilow, Terry Melcher, MGM-Seven Brides for Seven Brothers, Dudley Moore, Fred Myrow, Otis Day & The Knights, Jim Photoglow, Mary Ann Price, Tacheads.
Services Offered: 24-track studio, complete production, project management, concert sound mixing, albums, demos, TV and film scoring, etc. My commitment is to provide the highest service possible to my clients, making every step as effortless as possible.

BO BLAZE

Engineer & Producer
BLAZE PRODUCTIONS
46 W. Passaic St.
Maywood, NJ 07607
(201) 845-9175

Credits: Various local and national acts! Please call for more information.

Services Offered: An East Coast connection! Top quality masters, demos, jingles done by top industry professionals. Will fit the right producer, engineer, arranger, writer, musician, etc. to your budget. We work with all major studios in NY and NJ. Our engineers and producers have worked with the best of all styles: Bill Cosby, Steve Nicks, James Brown, Grover Washington Jr., Pete Townshend, Alan Vega, Joan Jett, Wendy O'Williams, etc., as well as hundreds of independent and local acts.

MONITE BOBO

Engineer & Producer
PROJECT-B
1940-B Olivera Rd.
Concord, CA 94520
(415) 685-8318
Services Offered: 8-track and full MIDI production/pre

MICHAEL BODDICKER

Producer
MICHAEL BODDICKER, INC.
13630 Ventura Blvd.
Sherman Oaks, CA 91423
(818) 981-1136

Credits: Film music—produced and composed music for: *Buckaroo Banza!*, *Outland*, *Get Crazy*, *White Water Summer*, Grammy award for "Imagination" from *Flashdance*, and the "Magic Egg."

Services Offered: Complete music production services—24-track studio, lock to ¾" video via Lynx, 3-channel monitoring, 4-track 30 ips mix, digital 2-track, Fairlight Series III, over 100 synthesizers and drum machines, voice processing, sampling and synthesized effects processing.

ROBERT BOTH
Engineer & Producer
TWIN PRODUCTIONS
18 Hiawatha Pass
West Milford, NJ 07480
(201) 697-7540

Credits: James Brown, Lyn Collins, The J.B.'s, Hank Ballard, Robert Kraft & The Ivory Coast, Mutha Records, T.R. Records, The Watch, Tom Storms, Tito Rodriguez Jr. and others Three gold records for work with James Brown.
Services Offered: Engineering and/or production services in own 24-track studio or studio of your choice, will travel Album or single projects. Musical directions: rock, pop, R&B and jazz, solo performers or groups. Personal one to one service.

JIM BOYER
Engineer & Producer
JAMES BOYER COMPANY
PO Box 303
South Salem, NY 10590
(914) 763-5086, IMC2368

Credits: Producer Billy Joel, Peter Cetera, Rupert Holmes, CBS/Multi-Artist, Olaturji, Engineer Billy Joel, Steve Winwood, Charlie Sexton, Paul McCartney, Pat Austin, George Benson, Chicago, Kenny Loggins, Paul Simon, Barbra Streisand, Linda Ronstadt, Janis Siegel, Manhattan Transfer, Whitney Houston, Sheena Easton. Feature films: *Arthur, Silkwood, Orphans, Yentl, Easy Money, Beverly Hills Cop II, Ruthless People, The Serpent and The Rainbow, Places in the Heart*

GARY BOYLAN
Engineer & Producer
GARRISON SOUND
256 Woodbury Rd.
Hicksville, NY 11801
(516) 822-5562
Services Offered: 2- to 24-track recording; mixing, 1/2" and 3/4" video production; videotape editing

ERIC T. BRANDT
Engineer & Producer
ALPINE RECORDS, INC.
PO Box 6007
Malibu, CA 90264
(213) 456-0096

Credits: Warren Miller films—featured title songs, *Blue Deville* (NBC Movie), *Truth or Consequences* Lotmar, *Galaxy High* CBS, MTV Basement Tapes winner—1986—*Flying High*
Services Offered: Production and engineering of projects from film or television soundtracks to albums to demos. Extensive MIDI/SMPTTE experience with audio/video lock-up, Macintosh sequencing and voice storage, Emulator and SP-12 sampling. Also experienced with outboard gear including TC2290, AMS, REV7, SPX90, DEP-5. All this with a great attitude and ear for good music

MICHAEL BRAUNSTEIN
Engineer & Producer
6300 Lankershim Blvd., #211
North Hollywood, CA 91606
(818) 766-3731

Credits: LP credits: Zappa (live, including *Zoot Allures, Bongo Fury*), U.K., Grand Funk, Rufus, Southern All-Stars, Stephen Stills, CSN, Barry Manilow, Paul Anka, et al. Video/film: *Down & Out in Beverly Hills* (Little Richard), MTV and Showtime specials (Manilow, Beach Boys, Dave Mason, et al.)
Services Offered: Familiar with over 50 studios worldwide and extensive remote work

JAMIE BRIDGES
Engineer & Producer
1474 Hauck Dr.
San Jose, CA 95118
(408) 723-3125

Credits: I've engineered and produced in the San Francisco Bay Area and L.A. for eight years recording every style and sound imaginable—some famous, some not
Services Offered: I can engineer and produce your project without getting in the way of your music, or work with your producer. I can also help you find a studio or studios that best suit your music and budget.

HARRY BROTMAN
Engineer & Producer
BROTMAN MUSICAL SERVICES
19010 Avers Ave.
Flossmoor, IL 60422
(312) 799-7711

Credits: 1987—recorded/mixed: Iron Cross *Church and State* (Turmoil), Daveon *It's so Good* (Empire), S N A P *Snap!* (Derby-towns); final mixes: Tyrone Davis *Man of Stone* (Future), Frank Adams (R&B), Mitty Collier, The Steelers, jingles: Colbert/Colbert, Comitor Advertising; tracking: Marshall Jefferson (D.J. Int'l.), Stockyard w/Don Griffin, Smoke City, Ohio Players (Track)

INDEPENDENT

ENGINEERS & PRODUCERS

Services Offered: Engineering, co-production, production, analog and digital synthesis. Twelfth year servicing Chicagoland and beyond. Requestable at many fine 24-track facilities, including ARS Studio, Seagrape, P.S. Recording, Startrax, Sonic Art, Jor-Dan and River North. Full-service packages are also available in Houston and Jamaica. European near-field monitors/amplifier system goes everywhere. Also, European condenser and ribbon microphones plus various outboards (16 channels of the good stuff!). Custom pre-/post-production assistance on all projects is included.

BRETT BROWN
Engineer & Producer
RENEW SOUND PRODUCTION
2516 El Camino Real
Redwood City, CA 94061
(415) 366-4212

Credits: Mark Adams (guitarist/songwriter for The Rock featuring John Entwistle and Zak Starkey. Also for The Hurt with Ansley Dunbar), Henry Small (vocalist/songwriter for Prism, The Hurt, and The Rock), Sterling Crew (keyboardist/songwriter for The Tubes, Santana and Heart), Cornelius Bumpus (Doobie Brothers), Keta Bill (Big Bang Beat).
Services Offered: Professional quality production, songwriter or artist demos. Renew Sound studios features: Otari MX-70 30 ips 1" 16-track, MX-5050 2-track, Nakamichi digital 2-track, TAC Scorpion console by Amek, Haller power amps UREI 811-B and Toa 265-ME monitors, Lexicon, Alesis, dbx, Orban signal processors. Complete Macintosh MIDI sequencing system featuring "Total Music" software by Southworth, Kurzweil 250 with "Mac Atach," Emulator II, E-mu SP-12 with Macintosh drum file. Renew Sound also offers complete writing, arranging and production services.

GLENN J. BROWN
Engineer & Producer
AUDIO GRAPH PRODUCTIONS, INC.
2810 Bennett Rd.
Okemos, MI 48864
(517) 332-3272

Credits: Debbie Boone, Bill Laswell, 22 Cave Gods last tracks, over 30 album credits in the last ten years.
Services Offered: Producer/engineer, synth programmer in-house 24-track Studer recording studio. Video sync work and scoring production for many large industrial projects.

JEFF BRUGGER
Engineer & Producer
1157 Briarcliff Rd.
Atlanta, GA 30306
(404) 875-0215

Credits: Commercial music for Southern Bell Yellow Pages, Trust Company Bank, Whitewater, Scripto. Album projects for Cheryl Wilson, Margaret Whiting, Billy Butterfield.
Services Offered: Music engineering, broadcast production, audio-for-video post-production. Clio and Addy award winner.

CHRIS BUBACZ
Engineer
ON TEN PRODUCTIONS
87-86 116th St., Apt. D-5
Richmond Hill, NY 11418
(718) 441-5271
(914) 362-1620

Credits: Engineering, mixing and co-production for artists on labels such as Atlantic, Arista, Passport, Enigma, Megalorce, CBS, MCA, Private Music, RCA and the Westwood One Radio Network.
Services Offered: Engineering, mixing, production.

EDWIN BUKONT
Engineer
EB AUDIO
PO Box 6057
Alexandria, VA 22306
(703) 765-8397 (Washington DC area)

Credits: New Music Festival IV and V—National Public Radio, Proof of Utah, Midwest Summer Show Choir Camps; Voice of America—field operations; studio construction in Barbados, Costa Rica, Houston, TX. Member AES.
Services Offered: Consulting engineer for design, maintenance or operation of audio recording and sound reinforcement systems. Repair and alignment of audio equipment including consoles, processing devices, recorders, distribution systems. Trained in repair of Nagra IV series, MCI JH-110, Studer A810, Otari MX-5050. Available as local technician for touring companies and contract maintenance of audio facilities.

LARRY BUKSBAUM
Engineer & Producer
CRYSTAL SOUND PRODUCTIONS
220 W. 19th St.
New York, NY 10011

Credits: Composed and produced 1987-88 NY Rangers theme song "All the Way Home." Produced music for NY Women Against Rape video *Five out of Five*. Engineered sessions for Bejan Nelson Entertainment, Media Wave, Caribbean, Ford Motor Co., Ballys Casino and Hotel and Subaru cars. Record projects include Annie Golden, Big Stick, Whooping Cranes, False Prophets and Romper Room Records.
Services Offered: Complete production including: composition, arranging, contracting, engineering and 24-track recording at Crystal Sound Recording Studios, NYC.

LELAND BURNS
Engineer & Producer
LELAND BURNS AUDIO SERVICES
2741 Marigold
Ft. Worth, TX 76111
(817) 834-8281
(817) 429-0764
(817) 838-9881

Credits: Sumet-Bernet Sound Studios, Stone Mountain Band, NTSU One O'clock Lab Band, Mary Kay Cosmetics, Healing Faith, MJM Productions "The Unexplained," Jerry Max Lane, Al Hirt, Danmark Recording, Dizzy Gillespie, Larry "T-Byrd" Gordon, Incredible Productions Inc., Chilli's "Baby Back Ribs," Brian and Fouts Music.
Services Offered: Recording/mixing engineer for studio recordings, live concerts, TV broadcast, editing and special event programming; producer for numerous radio features and short dramas and recording sessions; film/video producing and audio for film/video; photography/cinematography skills for sporting events and concerts; writing credits for *Pro Sound News*; current manager of Studio Services Inc./Studio Supply Co. of Texas.

DEAN BURT
Engineer
SUPERIOR SOUND PRODUCTION
7248 Shoshone Ave.
Van Nuys, CA 91406
(818) 705-3342

Credits: Whitney Houston, George Benson, Jeffrey Osborne, Ray Parker Jr., Peabo Bryson, Teddy Pendergrass, Crystal Gayle, Stacy Lattisaw, Judy Collins, Living Color.
Services Offered: Pre-production and production consultation, producing and programming.

DANNY CACCAVO
Engineer
THIS WAY PRODUCTIONS, INC.
66 W. 84th St., Apt. 2C
New York, NY 10024
(212) 724-3308

Credits: Tim Moore "Flash Forward," Kiss "Lick It Up," Surgin "When Midnight Comes," Jailbait "Let Me Be The One," Kate & Anna McGarrigle "Rainbow Ride," Laurie Anderson World Tour 1986, Desmond Child "A Little Romance."
Services Offered: Engineering with creative musical input. Generally bent on rock and roll, with sound designing when appropriate.

DOMINIC P. CAMARDELLA
Producer
SOUND DESIGN
33 W. Haley
Santa Barbara, CA 93101
(805) 965-3404

Credits: Have assisted, performed, consulted or produced on productions for Joe Cocker, K. Loggins, Airta Moreira, International Record Services, Fico Purim, Jim Messina, Innova Digital Archive, Sojourn, Randy Tico, Winchester Fire. Luanne Oakes and others.

Services Offered: Specialize in techniques for modern pop music and audio/video production. Have advanced Fairlight Series III music system and extensive outboard keyboards and effects. Based at a complete 48-track analog/digital facility featuring Sony 3324 and 3202 recorders. Time code lockup for film work or advanced mixing techniques are offered. Versed in classical theory and orchestration but fluent throughout R&B, pop, country, jazz and out.

PETER M. CARLSON
Engineer & Producer
HAVE EARS WILL TRAVEL
PO Box 1454
Aptos, CA 95003
(408) 462-2722

Credits: Bruce Springsteen, Bob Brozman, Lacy J. Dalton, Patrick Simmons, Doobie Bros. in Moscow.
Services Offered: Production techniques, audio engineering for any purpose; audio consultation.

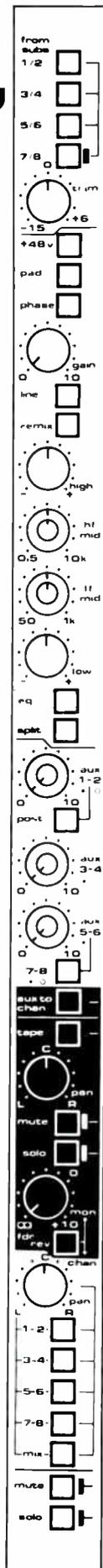


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Beyond Comparison

RON CARLSON
Engineer & Producer
ZOOM TAPES/PRODUCTIONS
256 S. 1st St., RR3, Box 19A
Ogden, IA 50212
(515) 275-2048

Credits: Engineered and produced for Messengers of Love, Kent Holmester, Allen/Carlson. Assisted for Benson, the Soul Searchers, Hank Laake Band, Lion of Judah
Services Offered: Have had six years experience with four years at a local 24-track studio with Neotek/MCI setup. Enjoy working with a broad range of musical styles. Flexibility and an open ear are offered with the understanding that the music is important to your creative self-expression. I can offer you an intelligent third opinion and will work to complete a project to your satisfaction. After all, that's my job!

RODGER EDWARD CARPENTER/RON GRESHAM
Engineer & Producer
INNOVATIVELY STYLED PRODUCTIONS
c/o Chicago Trax, Inc.
3347 N. Halstead
Chicago, IL 60657
(312) 525-6565
(312) 525-8491

Credits: Among our credits for records, labels, live mixing and tours are: "Superbowl Shuffle," "Midnite Star, Bang Orchestra, Union Station, Jesse Saunders, Victor Romeo, Marshall Jefferson, Gavin Christopher, ZZ Top, Kiss, Ted Nugent, Aerosmith, Hall & Oates, No Sovereign, Warner Bros., Geffen, CBS, MCA, PolyGram, Bright Star records. Also numerous independent labels, feature and independent films, commercials and industrials.

Services Offered: The development of new Sonic directions and the art of innovative production. Studio engineering, programming on an extensive variety of synths, drum machines, computers, samplers and many different types of specialized effects, also, sequencers and other MIDI-based systems. We can take your project from concept to completion very cost effectively.

STEVE CARR
Engineer & Producer
HIT AND RUN STUDIOS
18704 Muncaster Rd.
Rockville, MD 20855
(301) 948-6715

Credits: Bruce Springstone "Live at Bedrock," Meet the Flintstones (Billboard Pick Single, Nov '82) Tommy Keene Places That Are Gone, 1984 Village Voice Number One EP of the Year Ohio "Change in the Wind" *Musician* magazine Best Unsigned Band in America—first place winner, Tommy Keene (Griffin Records) "Listen to Me" (single B side).
Services Offered: Breakthroughs and miracles

FRED CHESTER
Engineer & Producer
F. CHESTER PROD.
3424 Old St. Augustine Rd., #60
Tallahassee, FL 32301
(904) 878-7975

Credits: Recorded: Foghat, Babe Blu, Eli, Gambia Rogers, Marcus Roberts, Gov. Bob Graham, Southern Satisfaction, FSU Jazz Ensemble, band scene for Orion Pictures *Something Wild* Mixed "live"; studio "A" broadcasts for WFSU-TV, Ray Charles, Cleo Laine & John Dankworth, Second City Players, Bo Diddley, John Lee Hooker, Jerry Clower
Services Offered: Multi-track recording, mixing, duplications, live audio mixing, music production, writing, session time available thru Flaming Studios and ESP Studios locally on an independent basis.

PAUL CHITEN
Producer
HOT SPOONS PRODUCTIONS
c/o Hot Spoons Productions
1226 Harper Ave., Ste. 4
Los Angeles, CA 90046
(714) 656-6874

Credits: Worked with: Michael Jackson, Tina Turner, Commodores, Five Star, Anita Baker, Natalie Cole, Breakfast Club, Jose Feliciano, Imagination, Alisha, Ondrea. Also music for film, video and television: *Solid Gold, Fame, Mona Lisa, Witness, Gung Ho, River's Edges*
Services Offered: Songwriter—producer—arranger—composer—monster keyboards—vocals—I get excited by music that reaches for something. Whether it be music to dance to, sit and listen to, cry to, whatever—I work mainly in the areas of R&B, dance music, R&B/pop and new rock particularly with English influences. If it has vision and heart, I am interested.

INDEPENDENT ENGINEERS & PRODUCERS

PAUL CHRISTENSEN
Engineer & Producer
OMEGA AUDIO
8036 Aviation Pt.
Dallas, TX 75235
(214) 350-9066

Credits: Johnny Cash, Ben Vereen, Anne Murray, Willie Nelson, Quarterflash, Commodores, Oak Ridge Boys, Ray Charles, Merle Haggard, Helen Reddy, Pat Benatar, Sammy Hagar, Hall & Oates, Art Garfunkel, Al Jarreau, Boomtown Rats and over 200 major artists in past 13 years
Services Offered: Engineering and producing services with emphasis on audio for video and film. Specially is consultation for live video shoots from concept to completion. Extensive experience in digital audio/video interlock, stereo television, video disc and videocassette release both Beta and VHS Hi-Fi.

ALEX CIMA
Engineer & Producer
1501 E. Chapman Ave., Ste. 100
Fullerton, CA 92631
(714) 680-4959

Credits: Releases on Deutsche Grammophon/Polydor International—Germany, GNP-Crescendo and Chromosome labels. Worked for all TV networks, recorded audio-visual projects, radio/TV commercials, film trailers and music videos, as well as special projects for major entertainment companies
Services Offered: Audio recording/production, analog and digital music synthesis, project troubleshooting, consulting. Proprietary computer program for hit analysis and video/film footage to MIDI sequencer synchronization. Detailed resume on request.

KIRK W. CIRILLO
Engineer & Producer
NEW MUSIC STUDIOS
2A Mansion Woods Dr.
Agawam, MA 01001
(413) 789-2264

Credits: Rockville Records, Focus Records, Epic, Warner Brothers, Bill Zucker (BZB Band), The Breakdown, Picture This, Tome Cote' *Star Search*, MTV, The Cartells, Roger Salloom, Jerry Rome Nissan, Northampton Honda radio jingles, Phonix Mutual Life.
Services Offered: State-of-the-art 24-/48-track engineering with honest advice and direction. MIDI/drum machine programming.



CLAYTOVEN, LARRY BATISTE, WILLIAM KENNEDY
Oakland, CA

CLAYTOVEN, LARRY BATISTE, WILLIAM KENNEDY
Producer
PURE DELITE MUSIC
1407 Webster St., Ste. 211
Oakland, CA 94612
(415) 444-1237
Credits: The Dramatics, FDR, LJ Reynolds, Bill Summers and Summers Heat and Street Fare.
Services Offered: Production and publishing

SCOTT COCHRAN
Engineer & Producer
4137 Longfellow
Minneapolis, MN 55407
(612) 729-0831

Credits: Recent engineering achievements include instrumental and vocal production libraries, national and regional advertising campaigns for Macy's, McDonald's, *Houston Chronicle*, JC Penney's, National Association of Broadcasters, custom radio ID packages, television image packages, LPs, EPs, 45s, booking demonstration tapes and promotional kits, industrial videos and sound reinforcement with Showco.
Services Offered: I enjoy servicing each client with the skill of a technician and the touch of an artist. Advertising agencies, local retailers, bands, solo artists and producer facilities each rely on my services. I look forward to working with you. As a marketing test, mention this article and we will negotiate a discount.

MATT COLE/JOSH HEINEMAN
Engineer & Producer
SOUNDTRACK CITY
659 Broadway
New York, NY 10012
(212) 353-0561

Credits: Gene Ewing Fashion, Atlantic Records, Health Walking Video, NY area commercials for TCI, RCR Productions & Advertising Inc., Manhattan cable TV "Premiere"
Services Offered: Soundtrack City's services include complete MIDI production using digital sampling, Macintosh sequencing and SMPTE locked multi-track recording. Original music for videos and MIDI production for records is our specialty. In addition, Soundtrack City offers 1/2" and 3/4" video production. Block rates available on request.

JACOB D. COLLINS
Engineer
SOUNDS GOOD PRODUCTIONS
2675 E. 74th St.
Chicago, IL 60649
(312) 374-1684

Credits: Audio mixing and boom for CBS radio news, NBC TV news, *The Today Show, Entertainment Tonight*, public radio, Montgomery Ward, Continental Can, Nightingale Conant, *Father Clements Story, Crime Story, Butterscotch & Chocolate, Chicago Tribune*, Illinois Lotto, Uncle Bens Rice, *Jack & Mike* (the making of) *Polttergeist III*/promo
Services Offered: Audio mixing and boom for location video, film documentaries, commercials, features, radio, corporate, industrials and entertainment.

MICHAEL COLLINS
Engineer & Producer
THE COMMERCIAL REFINERY, INC.
2105 Maryland Ave.
Baltimore, MD 21218
(301) 685-8500

Credits: *Essential Attitudes Vol. 2* compilation LP, *When Thunder Comes Eyes of the Wolf LP; Eight Essential Attitudes* compilation LP, *Mission's When Thunder Comes LP; Mission's The Last Detail LP; Majestic's Mystical Teaser EP; Squashed Ants* compilation LP; major market radio spots.
Services Offered: Chief engineer at the Commercial Refinery and staff producer for Frantic Records. Freelance engineering and producing, live sound reinforcement and sound consultation. Radio and off-camera TV commercial production, slide/video/film audio production, LP/EP/single production.

GARY J. COPPOLA
Engineer & Producer
GARY J. COPPOLA & ASSOCIATES
PO Box 5395
Santa Monica, CA 90405
(213) 399-8965

Credits: Twelve years experience, worked at Cherokee, Kendun, Record Plant, Village, Pacific Video—many others. Worked with Toto, Stanley Clarke, Jeff Baxter, Jeff Beck, Ken Scott, Motown and Warner Bros.
Services Offered: Production, engineering and arrangement. Experienced in all types of music and formats. Film scoring and video post-production sweetening services. Specialize in selecting proper facilities to fit the clients creative and financial requirements. Song development and album production.

JUAN G. COVAS (PERICLES)
Engineer & Producer
ALFA RECORDING STUDIOS
Calle Cacique, #2058 Ocean Park
Santurce, PR 00911
(809) 727-1732
(809) 790-9872

Credits: TH Records, Lobo Records, Unica Records, Salsoul Records, CBS Records, Codiscos Records, Musica Estival Records, Mamoku Records, Padosa Advertising Agencies, Badillo/SSC, FCB/Mazda Group, FCB/INC, Lopito Ileana & Howe, Park Adv, Bactalao Inc., Corporate Communicators, Young & Rubicam, Omega Adv

Services Offered: Multi-track recording, Q.Lock services, live recording, sound reinforcement engineers, digital mixes

R.T. "TABBY" CRABB

Producer
TCR PRODUCTIONS
Rt. 2, Box 4, PO Box 589
Charlotte Hall, MD 20622
(301) 884-3709

Credits: Produced 11 Top 100 country singles since 1985. Manages Top 40 folk rock artist Sam Neely. Helped six acts break the charts since 1984. Formerly with The Urban Cowboy Band. Produces The Tidewater Report on public radio. Owner db Records

Services Offered: Independent production and consultation. Cost-effective. Records 24-track in Nashville and New York. 8- and 16-track in-house with up-to-date rack. Assistance with single distribution and promotion. Produces with emphasis on "feel and character." Likes to get to know the artist and tailor facilities and personnel around the artist's talent and personality.

WARREN CRAWFORD

Engineer & Producer
CRAWFORD PRODUCTIONS
PO Box 1192
New Smyrna Beach, FL 32070
(904) 427-6626

Credits: Original music scoring for "I Grow Old, I Grow Old," documentary, WFTV, Orlando, "Give Me Shelter", documentary, WFTV, Orlando. Fairlight programming with John Philip on Atlantic Records, and Whiteleaf EP, Space Broadcasting Systems Inc.

Services Offered: Specialize in scoring, performing and recording of original music for television and motion pictures. On staff music arrangers/composers, orchestrators, musicians, lyricist and music producers. Recording studio/services, sound effects, audio design, music videos and jingles for radio and TV, Fairlight computer programming

J.R. CUMMINGS

Producer
SOUNDSTAGE I PRODUCTIONS
13270 6 1/2 Mile Rd.
Battle Creek, MI 49017
(616) 979-1532

Credits: Jingles and/or original music/soundtracks for such clients as: Whirlpool, North American Van Lines, Dolly Madison, Bil-Mar Foods, Upjohn, State of Michigan, Archway, Scores of Regional Music Works, Lansing General Hospital, Felpausch, Madel Hill, Liela, Gilmores, Savannah Light & Power, U.S. Government, many more.

Services Offered: Original music scores for corporate advertising clients. Including audio for video, motivational, training, industrial and commercial music. We pride ourselves on consistently producing superior product, through our experienced staff and up-to-date technology.

JOHN CUNIBERTI

Engineer & Producer
LAUGHING BOY PRODUCTIONS
7627 Levison
El Cerrito, CA 94530
(415) 525-3860

Credits: 1987 LPs and singles for Joe Satriani, Possessed, Dead Kennedys, Sister Double Happiness, Bohemian Luv Jones, Whispering Lion, Blue Movie, Caribbean Allstars, Tragic Molato.

Services Offered: I will co-produce or engineer records or demos. I prefer working with new artists on independent labels with good management. I have an open mind to just about anything and will lend support when asked. I can put together budgets, find studios, equipment and players. I use only the finest mics and mic preamps for all phases of recording.

DAVID DACHINGER

Engineer & Producer
RECORDING AND SOUND SERVICES
127 W. 78th St., Ste. #2
New York, NY 10024
(212) 496-0049

Credits: Michael Bolton, Gavin Christopher, Roberta Flack, Jane Fonda, Isley-Jasper-Isley, Mtume, Princess, Arnold Schwarzenegger, Southside Johnny, The System, Third World. Jingles include Burger King, Miller Beer, Pacific Bell and Pioneer Stereo

Services Offered: Recording engineering, mixing, production and programming.

JON "MR. BIG" D'AMELIO

Engineer & Producer
PO Box 120884
Nashville, TN 37212
(615) 883-8086
(615) 883-9600

Credits: Reptile Records, Bigamy Brothers, The Dusters, Government Cheese, Susan Marshall, Jerry Dale McFadden, Duane Eddy, Warner Hodges, Scott Tutt Music, Royal Master Records, Alex Zanetti, Melody Henry, Alabama, Earl Thomas Conley, Charlie Daniels, Bobby Harden, Merle Kilgore, Marshall Tucker Band, Webb Pierce, Opryland USA, Tom Dowd, Union Station Records

Services Offered: Record engineering/production, live mixing/recording, artist development and management, song plugging, studio design, photography, album packaging, video production. Studio manager of Jack O' Diamonds Studio. Digital/multi-track studios used: Chelsea, Sound Emporium, Masterfonics, NRP, 1030 Studios, Studio 1111, Sound Connection, LSI, Treasure Island, Sound Shop. Post facilities: Post Masters, MPL

ROBIN DANAR

Engineer & Producer
SQUID PRODUCTIONS
1689 1st Ave., #1
New York, NY 10128
(212) 289-5868

Credits: Suzanne Vega, Garland Jeffries, Randy Newman, Linda Ronstadt, Ry Cooder, Buster Poindexter, Kids in the Kitchen, Uptown Horns, Urban Blight, Pedantiks, Joy Askew, Crossfire-choir, Michael 7, Don Roc, Longhouse, Velvetene, Sylvain Sylvain, Joby Balin, Richard Lloyd, Lonesome Val, Grace Pool and Steve McQueen

Services Offered: Squid Productions provides both recording, engineering and production services and live engineering and production services. Studio specialties have been high quality-budget demos and independent records, with several subsequent major label releases. Live specialties have been coordination of shows and live mix in all the major New York venues (Ritz, LimeLight, Palladium, World, CBGB, Bottom Line, etc.) as well as international tours. Live mixes for television shoots have also been coordinated for Showtime and MTV, as well as local cable networks

MAL DAVIS

Engineer & Producer
HEARING EAR
730 S. Harvey
Oak Park, IL 60304
(312) 386-7355
(312) 653-1919

Credits: *The Master & Musician*, Phil Keaggy, *Mourning To Dancing*, James Ward, Jessy Dixon, Ken Medema, Northern Illinois University Jazz Band, *Chicago Jazz*, Roger Pemberton, Hope Publishing, *Brass Impact #2*, Warren Kime, Wheaton College Men's Glee, Resurrection Band, Chris Christensen, Russ Daughtry

Services Offered: Twenty years of professional recording experience. Complete music production and multi-track engineering services. Excellent pool of professional musicians and arrangers available. Homebased at JorDan Studios, Wheaton, IL. Augspurger/Edwards design incorporating 20 ft studio ceiling along with Neve-Studer-AMS control room. Accommodations, complete kitchen facilities, musicians lounge and health club available to help make your project a creative and comfortable process. I believe in the strength of good working relationships and the pursuit of excellence in all areas

JIM DEAN

Engineer & Producer
MUSIDEO PRODUCTION GROUP
PO Box 117008, Burlingame CA 94010
#12-12840 Bathgate Way
Richmond, BC, V6V 1Z4 Canada
(415) 344-4434

Credits: Chris Cain Band (Blue Rockit), Dee Jam, Mark Ford Band, Chico Freeman, Joannie Greggains Productions, Susan Jacks (CBS), Kickaxe, The Leaders, Legs 11, Los Tigres (Profono/CBS), Ronnie Montrose (Passport), Eddie Money (Re-Mix), Northrup, Stonebott (RCA), Secret 7, Tag, Think, The Uptones, Jessica Williams, Blackhawk Records, Enigma Records, Palo Alto Jazz Records.

Services Offered: Musideo combines contemporary production techniques with an innovative and confident style of recording to draw out the artist's best performances and to give the project a unique sound. As well as music production for hire, Musideo Production Group also functions as an independent A&R company and develops recorded product for record label contract solicitations and/or independent release. Tapes submitted for A&R consideration can be sent to Musideo Production Group, PO Box 117008, Burlingame, CA 94010, attn: Jim Dean. Please send a stamped, self-addressed envelope, contact person and telephone number, and allow 4-6 weeks for a response

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Circle #102 on Reader Service Card

PETER DENENBERG
Engineer & Producer
ACME RECORDING STUDIOS
112 W. Boston Post Rd.
Mamaroneck, NY 10543
(914) 381-4141

Credits: Produced and engineered *Eastern Bloc* LP for Paradox/PolyGram, engineered for *Atlantic Starr* recent platinum LP, mixed *Geri Allen* recent LP, co-produced and engineered many recent live-to-digital jazz CDs. Also worked with John Waite, Mitch Ryder, Glenn Alexander w/Mino Cinelu and Randy Brecker.

Services Offered: Through Acme Studios flexible album or demo projects are possible as both producer or engineer

MICHAEL DENTEN
Engineer & Producer
DENTEN PRODUCTIONS/INFINITE STUDIOS
PO Box 1709
Alameda, CA 94501
(415) 521-0321

Credits: Whispers, Club Nouveau, Bobby Brown, Dramatics, Street Fare, FDR, LT Reynolds, Collage I Witness, Dooney, Silent Scream, etc.

Services Offered: Full 24-track recording studio available includes—complete keyboard MIDI setup, various drum machines, wide selection of drum samples.

EUMIR DEODATO
Producer

KENYA MUSIC, INC.
60 East End Ave., 2C
New York, NY 10028
(212) 472-2933
(212) 334-8444

Credits: Ten platinum records (LP) including *2001*, *Kool & The Gang*, among the older projects. Contact the above numbers for more information.

Services Offered: Complete MIDI services including top of the line sequencers, software programs (Macintosh), one of the best studios in NY (Duplex), access to the top songwriters, never missed the charts, many keyboards, etc.

MARC J. DICCIANI
Producer
MJD PRODUCTIONS, INC.
PO Box 153
Sea Isle City, NJ 08243
(609) 263-1777

Credits: Record production: Ben Vereen (Manhattan); Mary Welch (Atlantic); Bobby Rydell (Appause). Video/music production/direction, national TV and home video promotional and educational spots for various industries *Total Body Workout* (exercise video).

Services Offered: Full music/audio/video production; records; jingles, TV, song/artist demos, promotions, commercial and industrial music and video.

OLIVER DICICCO
Engineer & Producer
MOBIUS MUSIC
1583 Sanchez
San Francisco, CA 94131
(415) 285-7888

Credits: Montreux, Henry Kaiser, Fred Frith, Richard Thompson, Bobby McFerrin, Andy Narell, Alex de Grassi, Zasu Pitts, Modern Rocketry, Ron Thompson, Big Bang Beat, PFS, Sylvester, ENO, Warner Bros. Records, Windham Hill Records, Rhino Records, Michael Hedges, 1985 Grammy nomination Best Engineered Album

Services Offered: With a dozen years of experience working out of my own 24-track studio, I offer a relaxed and creative environment in which you can realize your musical visions. Services offered include: production, engineering, location recording, musician contracting and arranging.

HANK DONIG
Engineer & Producer
WIZARD MUSIC GROUP
8033 Sunset Blvd., Ste. 358
West Hollywood, CA 90046
(818) 905-1703

Credits: Kenny Rogers, Lionel Ritchie, Devo, Air Supply, Crusaders, Egyptian Lover, George Winston, Russ Parr, Kingston Trio, Kin Vasey, Linda Carter, P.P.I., *Star Search*, G.L.O.W. (Musical Director for the national TV Show)

Services Offered: Total production package includes 48+ track studio, song writing or publisher "A" drawer songs, arrangements, double-scale musicians and BG vocals; all engineering and total package includes shopping a record deal or pressing records for an independent distribution network. We produce master quality radio-ready tapes.

INDEPENDENT

ENGINEERS & PRODUCERS

CURTIS DRAKE
Engineer & Producer
5926 Chula Vista Way
Hollywood, CA 90068
(213) 467-0937

Credits: Professional audio services since 1979 in Los Angeles, Dallas and Munich. Diversified clientele and a variety of production facilities combine for a well rounded resume.

Services Offered: Audio engineering and production services, instruction and independent equipment sales—please contact for resume package.

CECIL Q. DUKE
Engineer & Producer
CECIL Q. DUKE
5166 W. Slauson Ave.
Los Angeles, CA 90056
(213) 294-5738

Credits: Ray Parker, Jr., Howard Hewitt, Randy Hall, Confunkshun, Zane Giles, Susan Richardson, Carrie McDowell, Willie Hutch, The Williams Bros., Joe Tex, Charlie Singleton

Services Offered: Producing-complete supervision of project from beginning to end; acquainted with the top studio musicians in the Los Angeles area. Engineering-recording/mixing all styles of music; tape machine alignments, synthesizer and drum machine programming; proficient on bass guitar, light keyboard playing; arranging

HUGO DWYER
Engineer & Producer
HUGO DWYER MUSIC
70 Carmine St., #5R
New York, NY 10014
(212) 929-4197

Credits: Tina Turner, Robbie Nevil, Erasure, Fat Boys, Red Hot Chili Peppers, Mel & Kim, Latin FASCALS, Information Society, Nocera, Tina B., Cover Girls, Jazz Passengers, House of Mommsies, Gloria Loring, Nayobe, Wally Jump, Jr., Cutting Crew, Boys Don't Cry, Breathe, John Rocca, Pointer Sisters, Double Destiny

Services Offered: Recording and production for contemporary rock, pop and jazz. Dance re-mixes a specialty.

STEVE DYER
Producer
ROCKY MOUNTAIN HEARTLAND PRODUCTIONS
PO Box 6904
Denver, CO 80206
(303) 841-9405

Services Offered: Rocky Mountain Heartland Productions is a full-service production company and advertising agency. Executive producer and studio producer is Steve Dyer. Studio production: access to some of the finest studios in the Rocky Mountain empire, Midwest, Nashville and L.A. music. Arranged and originally scored for studio orchestra, big band, synthesizer, or other combinations. LP albums and cassettes: master tracks are produced, mastered and pressed. Complete jacket art and photography creatively produced in fresh and stimulating ways. Advertising: scripts, lyrics and compositions for radio, TV and print media. Film and slide presentation: production for business promotion projects and presentations for seminars, sales meetings, etc. Financing: artist sponsorship, promotion and project financing is possible upon approval of qualified artists and groups. Creative positions available. Currently looking for personnel in areas related to above. Submit demos, samples and resumes for file.

EBN
Engineer & Producer
MSP MUSIC, INC.
476 Broadway
New York, NY 10013
(212) 226-1030

Credits: Credits as producer, programmer, engineer or musician include: Air Race, Richard Burgess, Keith Diamond, Ebn Ozni, Bob James, Jimi Hendrix, John Luongo, Ari Mardin, Gary Moore, Gary Myrich, Phil Ramone, Riff Raff, Scritti Politti, Ravi Shankar, Star Point, Harold Wheeler, James Ingram, Michael Bolton, ABC-TV (*All My Children*), MTV, Judy Tenuta, etc.

Services Offered: Fairlight CMI Series III state-of-the-art 16-bit computer musical instrument, 24-track music production and recording, Fairlight programming, film scoring. Complete state-of-the-art production facility is available on premises, including Fairlight CMI Series III, Studer A80 24-track and 2-track tape recorders, 3/4" video lock-up to 24-track Studer 810 center track time code stereo 2-track and a complete line of top quality signal processing equipment, musical instruments and special effects. EBN also has one of the most extensive Fairlight sound libraries available in the world. Complete MIDI studio IBM AT.

DAVE EDWARDES
Engineer & Producer
DAVE EDWARDES PRODUCTIONS
7221 Judson Ave.
Westminster, CA 92683
(714) 892-0877

Credits: Credits or references available upon request. Services Offered: Multi-track recording, producing or co-production with artist or producer. Pre-production planning, arrangement consultation and live sound also available. Experienced in engineering many different musical styles in an efficient, and easy-going atmosphere. Dedicated to capturing and enhancing artists sound. Also experienced in visual fields of the music industry. Artists are encouraged to write or call.

REGINALD ESKRIDGE
Engineer & Producer
GCS PRODUCTIONS
1508 Harlem
Memphis, TN 38114
(901) 274-2726

Credits: Shirley Caesar, Mighty Clouds of Joy, Johnnie Taylor, J Blackfoot, Denise LaSalle, Bennie Latimore, Joe Simon, The Manhattans, Victory, Brown Singers, Plus One, C.C. O'Reilly, Shirley Brown, King Saul, Rufus Thomas, Mirie Jackson, Eddie Mayberry, George Jackson, Xavion, Carla Thomas, Vaneese Thomas, Cheryl Fox and many many more.

Services Offered: Complete record production and radio jingles. High performance mixing. Immense song catalog. Extensive industry contacts—U.S. and abroad. Projects recorded at our in-house studio or at your location. In-house engineers with current Top 10 records, staff musicians who have gold record credits. We take your ideas through to radio and we provide a competitive edge. For professionalism at its very best—contact GCS Productions.

DALE EVERINGHAM
Engineer & Producer
AUDIOVISIONS
8367 Golf Links Rd.
Oakland, CA 94605
(415) 568-1617

Credits: Co/albums—Epic, Intima, Quest, Windham Hill, MCA, Catero, Music West, Blue Heron and more. TV/media—KPIX, KRON, KYUU, DHL, Capwells, Milk Advisory Board, Hidden Valley Ranch, Human Race Club video series. Feature, industrial and documentary films. Chief engineer at Live Oak Studios. 5/84—present.

Services Offered: Complete engineering and production services to make your Audiovisions a reality. I have the experience and direction necessary to bring out the best in your project. Highest quality audio in all analog and digital formats. Expert in Q.Lock Eclipse, lock-to-video and disk mix automation systems. Extensive MIDI and computer production skills. Pre-production including, rehearsals, Macintosh sequencing and contracting of the Bay Area's finest musicians. Call me to discuss your next CD, album, commercial or film project and find your Audiovisions.

FRANK D. FAGNANO
Engineer & Producer
413 Park Ave.
Fairview, NJ 07022
(201) 941-8528

Credits: Experienced with playing, writing, producing and/or engineering the following: electric and acoustic jazz, pop-rock-dance, folk, country, new age-classical-contemporary, Latin, national jingle spots—chief engineer of Marion Recording. Part owner of Perfect Pitch Productions, Inc., engineer at Hillside Sound. Synclavier training at New England Digital (NYC).

Services Offered: Production/engineering in electronic and acoustic music, custom sound development, sequencing and programming on freelance basis. Hourly or package rates available. Synclavier digital audio system, E-mu Emulator II, Yamaha DX/TX systems, Grey Matter response E! board, Oberheim Matrix 12/Xpander, Matrix 6, Akai, Roland, Moog, Prophet, electronic percussion including: E-mu SP-12, Oberheim DX, DMX, Yamaha RX, Simmons, Octapads, triggering from acoustic source material, software applications including Mark of the Unicorn Performer/Composer, DX Pro librarian. Blank SP-12 librarian.

JOHN FALZONE
Engineer & Producer
ON FIRE PRODUCTIONS
 1305 Wake Forest Rd.
 Raleigh, NC 27604
 (919) 828-3410

Credits: *Sidewinder-Fade To Black* (Executive), *Nantucket-Nantucket V* (Executive), *Carlena Williams* (Broadcast), *3PM-Better Late Than Never* (Ostinato), *Z Sharpe-Sweet Sixteen* (Warner Bros.), *Maxx Warrior* (Executive), *Rod Dash-Comboland* (Making Waves)
 Services Offered: Complete audio production services. Private studio available. Specializing in sound processing/treatments

RANDY FARRAR
Engineer & Producer
SOUND CHAMBER PRODUCTIONS
 27 S. El Molino Ave.
 Pasadena, CA 91101
 (818) 449-8133

Credits: Records: jazz-*Plunkett's Safari*, *Plunkett's AM*, Gordon Radford *Moment in Time*; Films and TV: *PBS Spaceflight*, *PBS Nova Spy Machine*, *Howard the Duck* (engineer)
 Services Offered: Production, engineering, orchestration and composition. I have my own 24-track studio w/SSL 4000E 40-input console which is wired for 32-track Mitsubishi X-850. Specialize in jazz, film scoring (acoustical or synthesized) to ¼" video lock-up

BRENDA FERRY
Engineer & Producer
 18 Haviland St. #9
 Boston, MA 02115
 (617) 536-0193

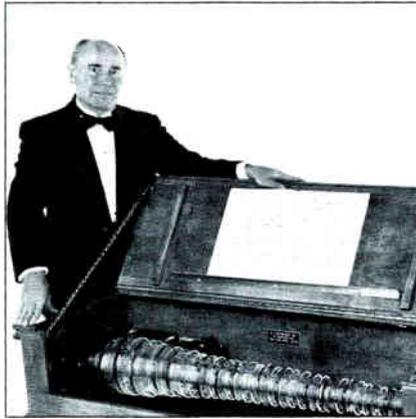
Credits: Videos, prod./eng. *Out of Touch* (Top 10 local V-66), *Starmakers*, *Digital Co. Films Transformer*, NRG (CBS distr.), *Safelynet*, *Father Death* Audio Buddy System, I-Tones, Maurice Starr, Earl Steward (comp.), Christian Jacob, Sidney Smith, Superiors, Herman Johnson, Oo-Ah-Ah, Berklee College, Victor LeComer, Essentials.
 Services Offered: Audio art. Studio production. Multi-track recording with vintage and modern microphones. Location recording. Video production specializing in overall effectiveness of the video-audio package. Ability to recognize talent, organize and be cost-effective, hire composers, arrangers, musicians, video crews, mold effective mixes; get quality product mastered, packaged and distributed. Studio installations and wiring work. Studios employed by Newbury Sound, Normandy Sound, Air Sound, Mission Control, Home Inc. (video prod., editing), Video 1 and Tape Complex (tape duplication). Willing to travel! Special interest: Christian rock and roll

JOHN FIELDEN
Engineer & Producer
PRO SOUND HAWAII
 1664-C Lusitana St.
 Honolulu, HI 96813
 (808) 523-2841
 (808) 947-8802

Credits: NBC Sports, ABC Sports, NFL Films, Manich Broadcasting, Kahanu Records, Audio Digest, U.S. Postal Service, Tape One Hawaii, Sound Catchers, Custom Audio, various local recording co. and producers.
 Services Offered: Remote 8-track to digital 2-track recording. Audio for video production and post-production. Cassette duplication mastering and mixdown. Convention and seminar recordings for transcripts, editing and cassette duplication. Complete production packages for audio and video.

KENN FINK
Engineer & Producer
DEEP SPACE RECORDS
 400 Mill Rd.
 Hewlett Woods, NY 11557
 (516) 791-6755

Credits: ABC TV (*All My Children*), *Ar Race*, Michael Bolton, Richard Burgess, The Committee for Public Safety, Keith Diamond, EBN-OZN, *Fear of Ordinary Life*, Stephan Gerber, James Ingram, I.Q., Ivomec, Konk, Liquid Hips, John Luongo, Ari Martin, MTV, *The Outcast*, Phil Ramone, Scott Grant, Scritti Politti, Starpoint, Judy Tenuta, Thundercats, VKTMS, Harold Wheeler and WLIR Radio to name a few
 Services Offered: Extensive programming of Fairlight Series III and IBM based MIDI system. Other instruments include a variety of Oberheim, Yamaha, Roland, Moog and ARP synthesizers and drum machines. Full production includes 24-track Studer facility. Pre-production offers Roland S-50 sampler and 8-track recording. Uses IBM system with Texture 2.5, MPS and ProLib Composition, arranging, production and performance of songs, jingles and TV/Motion Picture sound tracks. Full SMPTE system with ¼", Beta and VHS video available.



GERHARD FINKENBEINER
 Waltham, MA

GERHARD FINKENBEINER
Engineer & Producer
G. FINKENBEINER INC.
 33 Rumford Ave.
 Waltham, MA 02154
 (617) 899-3138

Services Offered: The company is using tuned quartz crystals (shaped by melting techniques) in the production of two musical instruments. One is the Armonica which was invented by Benjamin Franklin. Its use was wide spread around the year 1785. Mozart and others composed music for it. The eerie tones, when played with wet fingers, are said by some to have a hypnotizing effect. The second instrument is a Carillon. With this instrument, quartz is struck from a keyboard and is amplified electronically.

RAY FISHEL
Engineer & Producer
 16910 Bluestem Ct.
 Austin, TX 78737
 (512) 858-5319
 (512) 471-6223

Credits: Nova Saxophone Quartet, Harvey Pittel Saxophone Quartet, Harvey Pittel (solo album), Aneka Speller (R.O.M.P.), Amy Brantley, Anton Nel (winner of the 1987 Naumburg Foundation International Piano Competition), the University of Texas Jazz Orchestra, Trick Trax, Vision, The Kinsmen, Megan Meisembach
 Services Offered: Fully equipped 24-track studio. Musicians and arrangers on call. Experienced and easy to work with. Specializing in classical and jazz recordings using real instruments with real live musicians.

BRUCE W. FISHER
Producer
FISHER ENTERPRISES
 2324 Park Ave.
 Cincinnati, OH 45206
 (513) 281-0612

Credits: Down Beat Hall of Fame Award, opening ceremonies 1987 World Figure Skating Championships. Industrials for AT&T, Procter and Gamble, Western Auto, Good Housekeeping, Shell Oil Company, American Legion National Convention, Westinghouse Lighting Division, Senco, Disney On Ice, Siegfried and Roy's *Beyond Belief*, all shows and musicals on Norwegian Caribbean Lines, Kings Productions
 Services Offered: Producer, composer, arranger, orchestrator and lyricist for pre-recorded live shows, industrials and touring shows.

BRIAN FORAKER
Engineer
 15458 Cabrito Rd.
 Van Nuys, CA 91406
 (818) 782-0221

Credits: Whitesnake, Rick Springfield, Starship, 38 Special, Heart, Bad Company, Saga, Fahrenheit, Eddie n' The Tide.
 Services Offered: Full recording services, i.e. mixing, remixes, live recording, live broadcasts.

PAUL FOWLIE
Engineer
PAUL FOWLIE AUDIO ENGINEERING
 66 Oakridge Rd.
 West Orange, NJ 07052
 (201) 669-0707

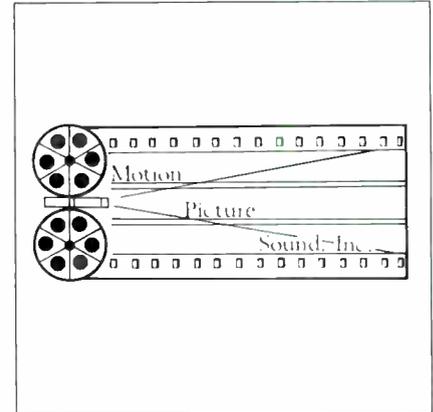
Services Offered: Audio systems design and installation, electronic maintenance and equipment repair, remote recording services, live audio mixing for music or events and production consultation.

JAMES E. FOX
Engineer & Producer
LION & FOX RECORDING, INC.
 1905 Fairview Ave. NE
 Washington, DC 20002
 (202) 832-7883

Credits: Folk, reggae, hard core rock, big band, jazz, country
 Services Offered: Full service 24-track recording studio - Emulator II, DX7, LinnDrum, Hammond B-3, drums

PAUL FOX
Producer
 c/o Summa Music Group
 8507 Sunset Blvd.
 West Hollywood, CA 90069
 (213) 854-6300

Credits: Producer - Boy George - *Hiding Out* soundtrack, producer - Scarlett & Black - Virgin Records, producer - Down Avenue - RCA Records; co-producer - Princess - PolyGram Records, associate producer/writer - Chico DeBarge - "Talk To Me"



JERRELL L. FREDERICK
 Detroit, MI

JERRELL L. FREDERICK
Engineer
MOTION PICTURE SOUND, INC.
 3026 E. Grand Blvd.
 Detroit, MI 48202
 (313) 873-4655

Credits: Thirty years as a re-recording film mixer and recording engineer have won many local, national and international awards for the mixing of thousands of motion picture soundtracks for industrial, documentary, training and theatrical films. Founded own company in 1986.
 Services Offered: Re-recording/mixing soundtracks for motion pictures. This is the largest 35mm facility in the Midwest. We can handle up to 8 tracks of 16mm, 8 tracks of 3-track 35mm and 16 tracks of 35mm single track. 16/35mm transfers, sound effects and music, as well as custom effects and all new digital music. Dialog recording and replacement, foreign language dubbing. Production recording and mixing. 16/35mm screening facilities. Soon to be added: the Midwest's first Foley Stage and 30 frame transfer and mixing.

MICHAEL FREEMAN
Producer
COACHHOUSE MUSIC
 The Coachhouse, PO Box 1308
 Barrington, IL 60010
 (312) 382-5295

Credits: *The Reverbs* (Metro/Enigma U.S. - Victor Japan), Paul Chastain (Pet Sounds/CBS), *Eleventh Dream Day* (Amoeba), *The Service-The Hollowmen* (Pravda), *Candi Staton* (Source), *Ric Menck*, *Paint Set*, *Pop the Balloon*, *Green*, *The Indigos*, *I Spy*, *Heavy Manners*, *Armageddon*, *Loose Lips Rise*, *Mighty Toys*

ROB FREEMAN
Engineer & Producer
TITLEWAVE PRODUCTIONS
 135 Nyac Ave.
 Pelham, NY 10803
 (914) 738-1310

Credits: Production credits include: 60-60's double platinum LP *Beauty and the Beat*, Twisted Sister's debut single "Bad Boys of Rock n' Roll", Tim Moore's No 1 Brazilian single "Yes", Regina, Jailbait, Gowan Engineering and remix credits include: Kiss, Blondie, ABBA, Ramones

—CONTINUED ON NEXT PAGE

Services Offered: Full service record and music production company with strong emphasis on songs and artists' performance, state-of-the-art pre-programming with a "human" touch. Songwriting and arranging a specialty. Rob works closely with his artists to get the best, most expressive performances possible with a very organized, cost-effective, radio-oriented production style. Fifteen years of hit-making experience.

GREGORY FULGINITI

Engineer
1600 N. Wilcox Ave.
Hollywood, CA 90028
(213) 461-2751
134 E. Rio Grande Ave., Wildwood, NJ 08260
(609) 522-4638

Credits: Pat Benatar, Berlin, *Beverly Hills Cop*, Wang Chung, John Coltrane, Dio, Bob Dylan, Duke Ellington, Ella Fitzgerald, Peter Gabriel, Grateful Dead, David Grisman, Heart, Jimi Hendrix, Elton John, Nik Kershaw, John Lennon, Los Lobos, Madonna, Barry Manilow, REO Speedwagon, 38 Special, Rick Springfield, Starship, Whitesnake, Kim Wilde, XTC, Frank Zappa, Art Tatum

GREG FURGASON

Engineer & Producer
198 Bloomfield Ave.
Newark, NJ 07104
(201) 481-0972
(201) 733-0331
Credits: Wall St. Market Report, *Wall St. Journal*, Report late news (USA Cable Network) U-68 stereo music video television logo and themes (WWHT-TV), Uncle Floyd Show (WWHT-TV), NJ Young Filmmakers Festival (WNET-TV), Manhattan Coffee Soda (WPIX-TV).
Services Offered: 2- to 24-track analog and digital recording studios, 3/4" and 1" music video and spot production from story board to finished master. Recording classes, studio design and installation.

WLADEMIR FURQUIM DA SILVA

Engineer
VAVA FURQUIM
Rua Araujo Pinho, No. 63, Ap. 604
Salvador, Bahia-Brazil 40140
(071) 245-0994
Credits: Live mixing for: Aleluia Valença (tours in Europe, the USA and South America '80-'87), Paco DeLucia (Brasil tour '86), John Rivers (Brasil tour '86), Gilberto Gil, Caetano Veloso, Simone, Elba Ramalho, Moraes Moreira, Fagner, Ney Mato Grosso and the Free Jazz Festival '86 with Ray Charles, David Sanborn, Manhattan Transfer, Winton Marsalis, Stanley Jordan, Egberto Gismonti, Larry Carlton etc. I have worked with these systems: Gabisom, Joao Americo, Mac Audic, R-4, Val & Val, Clair Brothers in Rockin Rio.
Services Offered: Freelance engineering. Live mixing with custom rack including: Klark Teknik 60 analyzer and DN360 EQ, BSS FDS340 x-over, Valley People Dyna-Mite, Drawmer DS201 noise gates, Roland Dimension D, dbx 165 comp., PCM70 Lexicon reverb, Roland delay, mics: AKG, Sennheiser, Crown PZM, Shure, E-V. BSS active DI.

ARTURO M.A. GARCIA

Engineer & Producer
MR. CAT PRODUCTIONS
130 Roycroft, #307
Belmont Shore, CA 90803
(213) 434-0469
Credits: Experienced on: SL 4000, Trident 80B, MCI 1536, Tangent 3216, Tascam M5, A&M's studio B mixdown desk. Two years USC/LBCC Recording Arts program. Special services at LBCC. Written and produced music for film: Peaks Island Productions, Little Deer Prod., Lockwood & Assoc. Masters/demos, rock, pop, gospel, metal, country.
Services Offered: Producer/engineer/musician production will provide total services for demos/masters, i.e. musicians, studio formal, 24, 16, 8, 4 Live and/or MIDI recording, sequencing, sampling, etc. From pre-production, to tracking, to mixdown. Direction and sound design for film trailers, soundtracks, commercials, TV, radio and industry. Excellent one on one rapport with soloists/songwriters.

JIM GARDINER

Producer & Engineer
LIVE OAK STUDIO
1300 Arch St.
Berkeley, CA 94708
(415) 540-0177
Credits: Worked with Thomas Dolby, Rosie Gaines, Curtis Ohlson, Andy Narell, Pharoah Sanders, Epic, Capitol, Intima and many, many others.
Services Offered: Complete music production offered by experienced composer/arranger, film scores and record production. Two complete 24-track studios with full selection of outstanding keyboards and outboard gear. Q Lock with disc-based automation. Inspirational environment with cityscape views of the San Francisco Bay Bridge. All of this with the punchiest sound in the Bay Area!

INDEPENDENT ENGINEERS & PRODUCERS

ERIC N. GARRISON

Producer
CHINA MOON PRODUCTIONS
575 Ponus Ridge
New Canaan, CT 06840
(203) 972-3261
Credits: Demo cassette available on request.
Services Offered: China Moon deals mainly with artists who are interested in releasing their own work and must do so on limited budgets. We like to work on a per project basis, thereby avoiding the hassles and pressures produced by hourly rates. We watch the quality of your project, not the clock. We offer a professional quality 8-track facility, in-house musicians capable of playing a variety of instruments and providing vocals, writing and arranging services, the sympathetic ear of an experienced musician/producer with a wide range of musical tastes and a peaceful country setting in which to work.

GORDON R. GARRISON

Engineer & Producer
LORIE PRODUCTIONS
3401 Harper's Ferry Ln.
Austin, TX 78745
(512) 282-2734
Credits: Engineering-assistant. Steve Ray Vaughn-Live Alive, Judas Priest-Live, Michael W. Smith-Big Picture Tour Live. Producing Tom McDermott, Alliance, various jingles and local projects.
Services Offered: Audio production, engineering, arranging, MIDI sequencing, have some outboard gear and monitors available.

TERRY GARTHWAITE

Producer
FOOJOONJOY PUBLISHING CO.
Box 14
San Geronimo, CA 94963
(415) 488-4778
Credits: Jasmine, Hunter Davis, Ferron, Nicholas/Glover and Whay, my own album as singer, writer, guitarist, and more. Recorded many albums as artist (Joy of Cooking, solo, duo).
Services Offered: Record production with energy in pre-production (material selection, instrumentation, vocal integrity, rehearsals, logistics) as well as in-studio care and ease in recording. Especially sensitive to vocalists. My goal is to provide a comfortable, positive, creative environment for the artists to experience, express and enhance their sound.

TOM GARTLAND

Engineer & Producer
202 First Ave., #12
New York, NY 10009
(212) 260-3223
Credits: 11 11, Randy Muller, First Circle, Skyy, Rubout, RJ's latest arrival, Mason, Sa-Fire, Chena, Pieces of a Dream, Bernard Wright, Jamaica Girls, Rainy Davis, Executive Slacks, Noel Pointer, Mr. Mehta.

CECIL GASPAR

Engineer & Producer
BREAKING RECORDS
PO Box 40162
Santa Barbara, CA 93103
(805) 969-4589
Credits: Numerous major artists: available on request.
Services Offered: Complete audio recording from musical conception to completion of master. Directly affiliated with video and publishing companies for comprehensive career direction.

CHRISTOPHER D. GATELY

Engineer & Producer
CHRIS GATELY AUDIO
PO Box 526
Bryn Mawr, PA 19010
(215) JBL-3605
Credits: WMMR, WIOQ, WYSP, WRTI, WPST, WMGK, Bruce Hornsby, Crowded House, Marshall Crenshaw, Neville Brothers, The Band, The Empire Rock Club Fall Broadcasts 1987, Freddie Hubbard, Wynton Marsalis, The Crusaders, the Police, The Hooters, Pat Metheny, Chaka Kahn, 1987 Mellon Jazz Festival, Philadelphia Folk Festival 1983-86 and many many more...
Services Offered: Remote and studio recording, sound reinforcement and studio installation. I have much gear and I am very proficient in its use. My experience and expertise can be an asset to any project. Syn Aud Con graduate. SPARS combined scores: 517. Give me a call to find out how I can be of service to you.

WHIT GEIER

Engineer & Producer
CELLAR DOOR RECORDING PRODUCTIONS
5213 State Rte. 132
Batavia, OH 45103
(513) 732-9520
Credits: Have provided live sound for David Holt who frequently appears on *Hee Haw*, Elmer Byrd (award winning banjo player) and Rich Kirby. Have recorded numerous local and tri-state bands. Provided sound system for festival, concerts.
Services Offered: 24-track recording. Wide selection of guitars and keyboards available—DX7s, Roland keyboards, Moog synthesizers, complete Roland effect systems. Community speakers used throughout. Production and management available. Professional musician on staff at all times. In studio and mobile recording offered.

STEVEN H. GERBER

Producer
R³ PRODUCTIONS
Box 9290
Wichita, KS 67277
(316) 687-6046
Credits: Call John Carsello, (818) 709-8080.
Services Offered: Call John Carsello, (818) 709-8080.

PAUL GERRY

Engineer & Producer
THE CUTTING EDGE CUSTOM DISC MASTERING
Box 217
Ferdale, NY 12734
(914) 292-5965
Credits: Producer and engineer for Revonah Records, Tel-E-Vue Production Records, Quickway and Studio 17 Records. Production engineer and disc mastering on numerous independent artists LPs, EPs and 45s.
Services Offered: Disc mastering, plating, pressing, engineering, jacket design, layout, photography, artist development and management, studio clips, demo records, tapes and videos. Record production for LPs, EPs and 45s.

BOB GIAMMARCO

Engineer
RECORDING SERVICES
62 Delano Ave.
Yonkers, NY 10704
(914) 237-5755
Credits: Call or write for demo reel.

JEROME GILMER

Producer
JEROME GILMER PRODUCTIONS
2812 S. Oakland Circle W.
Aurora, CO 80014
(303) 671-7955
Credits: Emmy Award winning composer/producer of TV image music, commercials and film scores.
Services Offered: Producer/composer/arranger for records, films or commercials. Scoring for all types of orchestras from small to symphonic. MIDI arranging/sequencer programming on Mac Plus with Performer software. SMPTE/video interlock.

LOU GIORDANO

Engineer & Producer
LG PRODUCTIONS
312 Cambridge St.
Cambridge, MA 02141
(617) 497-0647
Credits: Records: Christmas In Excelsior Day (RCA/Big Time), Bleached Black (Important/Relativity), Volcano Suns Lof-us Party (Homestead), Mission of Burma EP + Forget LP (Taang), Live sound, Husker Du (Warner Bros) U.S. and European tours (1983 to present), Died Pretty (What Goes On) U.S. Tour 1986.
Services Offered: Record engineering and production: specializing in alternative/underground rock bands; including extensive pre-production/arrangement and overseeing of mastering. Live sound: full tour support, including technical riders for contracts, PA advancing and crew supervision.

VICTOR GIORDANO

Engineer & Producer
BIG ROOM MUSIC
657 Bridgeman Terrace
Baltimore, MD 21204
(301) 821-5084
Credits: LPs: Crack The Sky: *White Music*, *Photofairing*, John Palumbo: *Blowing Up Detroit*. The Soltones, Mannekin, The Ravyns, Looker, Autograph (live mix for WYY). Commercials: ABC Sports, Baltimore Orioles, AT&T, Trump Casino, RAX. Films: *Two For The Money*, *Tusks*. Best engineer, 1986 and 1987 Maryland Musicians Reader's Poll.

Services Offered: Big Room Music is a full service production and engineering company. Utilizing a wide range of studios, combining state-of-the-art facilities with 15 years experience, our clients can choose from a variety of production options. As Big Room Music, Victor Giordano and David Lewis compose and arrange music for commercials, slide shows and audio for video. We offer production assistance from demo to finished product, drum programming, musicians and singers. Music, film and production engineering including voice-over, post-production, audio for video and location sound.

DAVID GLASSER
Engineer & Producer
AIRSHOW, INC.
5727 N. 25th Rd.
Arlington, VA 22207
(703) 237-8312

Credits: Recent projects: Baltimore Symphony Orchestra; Paul Winter Consort, US Air Force Band—live broadcast, Doc Watson, NPR Music Recording Workshop instructor, technical direction for the New Music America Festival, *Tribute to a Jazz Master—The Honorable Sphere Monk* PBS special featuring Wynton Marsalis, Dizzy Gillespie and others. "The Bob and Ray Show."

Services Offered: Location concert recording for commercial release or radio and TV broadcast. We can supply a high quality portable recording system featuring Calrec by AMS console, KEF/Bryston monitor system, custom API audio distribution system and modified Sony PCM-701ES digital processor. We also provide technical direction services for remote recording and live broadcasts. Our specialty is classical, jazz and other acoustic music. Additionally, Airshow operates a studio designed for radio post-production and editing, and we offer consulting services for systems design and custom wiring and fabrication work. Please give us a call to discuss your next location recording or broadcast project.

STEVEN GOLD
Producer
HIPPOGRIFF PRODUCTIONS, INC.
246 Fifth Ave., Ste. 201
New York, NY 10001
(212) 481-9877

Credits: Recently completed three singles for Bobby Broom (Arista, GRP), pop music scoring for numerous industrial films and corporate videos, produced a Top 40 hit released overseas by Yaron (Z Group). Currently working with two major labels.

Services Offered: Production of quality masters utilizing MIDI sequencing and sampling technology. In-house recording facility with 24-track analog and MIDI-digital formats. Independent production company services such as producing, developing and shopping unsigned bands (we're 1 for 1!), publishing company affiliates: Musical Life Publishing (ASCAP) and S M Gold Music (ASCAP). Hippogriff's creative staff consists of New York's top independent producers and arrangers. Specialty: dance/pop and AOR.

LARRY GONHUE
Engineer & Producer
THE SOUND VENDORS
10707 Magnolia Blvd.
North Hollywood, CA 91601
(818) 985-9774

Credits: Clients include Universal Pictures, Columbia Pictures, Walt Disney Productions, Embassy Home Entertainment, New World Pictures, Cannon Films; Dancer, Fitzgerald & Sample; Albert, Newhoff & Burr, Campbell-Ewald, Cole & Weber and others.

Services Offered: The Sound Vendors is a full service radio and post-production audio facility specializing in advertising for major motion picture studios and agencies.

JOHN E. GOODENOUGH
Engineer & Producer
J.E. SOUND PRODUCTION
11323 Santa Monica Blvd.
Los Angeles, CA 90025
(213) 479-7653

Credits: Owner and head engineer at J.E. Sound Production. Produced bands—X.Y.Z., Models and Margie Torres, Evon Jones, Black Flag Labels—Atlantic, PolyGram, Geffen, Restless Records.

Services Offered: Full production at any location. Album production, recording, arranging, instrumentation, musical director. Collaborating, writing, charting.

BILL GRABOWSKI
Producer
BILL GRABOWSKI
701 7th Ave., Ste. 9W
New York, NY 10036
(212) 764-3872

Credits: Bon Jovi (7800#F, co-writer); Messiah Prophet (Christian Metal, ten months on *Billboard* in 1987); Private Life (rockers from Munich, W. Germany); Cryer (heavy rock from Seattle, WA), established East Coast heavy rock act Hybrid Ice; film music for *Hear!*, two years in-house at Power Station Studios, NYC, expert testimony in Cyndi Lauper litigation. Services Offered: Extensive EII+ SP-12 library, "legit" graduate training in music hasn't stopped me yet, your place or mine.

DOUGLAS GRAMA
Engineer & Producer
SITUATION ROOM PRODUCTIONS
320 W. 37th St.
New York, NY 10018
(212) 736-7774

Credits: Fat Boys, Big and Beautiful, Crushin', Blow Monkeys, She Was Only A Grocers Daughter, Diggin Your Scene, Wet Wet Wet, Poped In Soled Out, Ellert Drieson, RCA, EMI, Phonogram, Warner Brothers, PolyGram. Services Offered: Full production staff offering writing, arranging, programming and remixing. Top NY session players available. 24-track recording and mixing room, 12-track pre-production/MIDI room with vocal booth. Call for further information.

ERIC "GRIFFY" GREIF/BRUCE BUCHHALTER
Engineer & Producer
THE EDGE ENTERTAINMENT COMPANY
Box 71022 Shorewood Station
Milwaukee, WI 53211
(414) 931-6595 (office)
(212) 677-4700 (Electric Lady Studios, NY)

Credits: Producer Eric "Griffy" Greif and engineer Bruce Buchhalter have together, and individually, produced/engineered major and indie label demo and album projects with artists such as The Cult, Iron Maiden, Twistin' Egyptians, Run DMC and Vyper. Label credits include Sire, Capitol, RCA, Def Jam, Roadrunner/CBS Europe and others.

Services Offered: As a production team, Griffy and Bruce offer innovative ideas to clients at every level. Specializing in mainstream pop and hard rock/heavy metal, their approach includes arranging, strong vocal texturing and a unique sound quickly catching the industry's attention. Bruce is a state-of-the-art engineer and co-producer on staff at Electric Lady (NY) and Hit Factory (NY). Griffy writes, arranges, enhances musically; he considers Electric Lady (NY) and Opus (Chicago) to be production homes. Together they are creative, a blend of tech and tradition, youthfully at the cutting edge and always budget conscious.

GET LISTED!

In Mix Directories

Mix Directories are the most complete guides to facilities and services for the audio and video industries. When production professionals need equipment, studios, or other services, they consult *Mix* first. To receive a questionnaire for a listing in any or all of the following Mix Directories, simply fill out and return the coupon or call the Directories Dept. at (415) 653-3307.

* Two-for-one! By listing in *Mix* magazine's monthly directories, you will receive the same listing FREE in the 1989 Annual Directory!

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(Deadline: May 2)

NAME _____

COMPANY _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

() _____

TELEPHONE _____

Mail to: **Mix Directories**
6400 Hollis St. #12
Emeryville, CA 94608

NOTE: Questionnaires for specific issues will be mailed five months prior to issue date.

STEVE GRONBACK
Engineer & Producer
TGS STUDIOS
Rt. 1, Box 113
Chapel Hill, NC 27514
(919) 942-2612

Credits: Don Dixon, Enigma, co-producer, Rain Parade, Island, producer-engineer, Parthenon Huxley, CBS, producer-engineer, Red Clay Ramblers, Flying Fish, engineer, Pressure Boys, A Root Da Doot Doo, co-producer-engineer, Mike Cross, Sugarhill, producer-engineer, Lee Venters (with Kevin Eubanks, Victor Bailey, etc.) Blue Oatmeal, engineer
Services Offered: Record production emphasizing material and arranging for airplay and career advancement—experience with successful development of artists on major and indie level. Have own 24-track studio, or can travel with Linn 9000, Akai S-900 sampler, etc. Experience includes digital recording, automated mixdown and computer sequencing, as well as extensive acoustic, rock and roll, funk and other fun things. Producer's reel available. Contact Josh Grier, (212) 888-6600.

JIM HAILEY
Engineer & Producer
MY STUDIO
1608 Eagle Dr.
Ft. Worth, TX 76111
(817) 834-5656 (hm)
(817) 838-9312 (studio)

Credits: Lee Picken, Bugs Henderson, Edwards Hall, Murray Hill Sound, Ft. Worth Sound, Easter Island, Howard Griffin, Taylor Made, Debonaire Dimension
Services Offered: Multi-track and concert sound engineering, producing specialties are new age music and rock, engineering experience in rock, new age, gospel, metal and rap music. Road management. Sound consulting.

THOMAS J. HALL
Engineer & Producer
TRIAD STUDIOS
4572 150th Ave. NE
Redmond, WA 98052
(206) 881-9322

Credits: UB40, Queensryche, Randy Meisner, Autograph, Rail, Hair Apparent, D.C. LaCroix, Paul Speer, Eric Tingstad, Norman Ratner, Uncle Bonsai, The Cedar Walton Trio, Dan Foster, Mark Lindsay, Jim Stipech, Chalace Records, Danny Dearthoff, Wickline, Pizza Haven, Chris Lobdell, A.M. Productions, Magical Strings, Boeing, China, The Puget Sound, Shakeh, Eddie Preston, Rick Vale, Kathleen Wallace and many others
Services Offered: All facets of demo and record production including pre-production, engineering, producing, watchdog supervision of record mastering and pressing. I am sensitive to the artists' creative needs and strive for the best recorded performance possible in a comfortable, low pressure atmosphere.

STEVEN HALLMARK
Engineer & Producer
HALLMARK PRODUCTIONS
31320 Via Colinas, Ste. 118
Westlake Village, CA 91362
(818) 991-4857

Credits: Many feature films, network TV and records
Services Offered: Complete 24-track studio specializing in computer/synthesizer production. Full video production facility also available. Call for rates and brochure.

TERRY HAMMER
Engineer & Producer
HAMMER PRODUCTIONS
418 Fourth Ave.
Mansfield, OH 44905
(419) 524-6968

Credits: Fabulous Thunderbirds, Squeeze, Go Go's, Toxic Reasons, Dead Kennedys, Earl Zero, Soul Syndicate, Robert Gordon, XTC, Husker Du, Gang of Four, Mutants, Fiammi Grooves, Pere Ubu, Dead Boys, Gong, Jim Carroll Band, Mark Naftalin, Charlie Musselwhite, Romeo Void, Toots & the Maytals, Magazine, Shakin' Street, Slits, SUT, many others
Services Offered: While living in San Francisco from 1979 to 1982 have mixed and produced hundreds of live remote broadcasts for various Bay Area radio stations commercial and college. Specializing in reggae and hard core, but mix most any kind of music. Have done live remotes for all major record companies up and coming new artists. Specializing in raw direct 2-track mixes.

INDEPENDENT

ENGINEERS & PRODUCERS

MALCOLM H. HARPER, JR.
Engineer & Producer
REELSOUND RECORDING CO.
2304 Sheri Oak Ln.
Austin, TX 78748
(512) 472-3325
(512) 282-0713

Credits: Live concert, film, album and TV recording engineering. Tears for Fears, Journey, Genesis, Robert Plant, AC/DC, Judas Priest, Ted Nugent, The Fixx, Billy Squier, Tom Petty, Frankie Beverly and Maze, The Gap Band, Cool and The Gang, Bruce Hornsby and the Range, Amy Grant, Michael W. Smith, Dave Perkins, Rick Cua, Steve Taylor, George Strait, Willie Nelson, Ricky Skaggs, Wendy Lankford, Westwood One, DIR, PBS, Budweiser. Four gold, one platinum record awards.
Services Offered: Forty-two foot Tom Hidley-designed remote audio tractor-trailer 46-track automated with SMPTE lock, overdub room and lounge. Concert recording for radio, film and TV audio support. For album and mixing in your favorite hideaway location. Nineteen years experience. Recent projects: Live Steve Ray Vaughan, Judas Priest Live, Dave Perkins, Michael W. Smith Live Set. A second remote bus located in Nashville, TN. SPARS member, AES, Texas Music Association.

CARY HART/CHERYL SOBAS
Engineer & Producer
C² PRODUCTIONS
655 Carroll St.
Brooklyn, NY 11215
(718) 789-0862
(718) 965-1143

Credits: Technical and artistic assistance to independent and major label projects in the fields of pop, jazz, ethnic, electronic and experimental. Audio and video services in studio and live performance situations.
Services Offered: Technical and artistic assistance to independent and major label productions. The team's proven success with the completion of explosive productions against industry odds warrants the offering of its services to both mainstream and indie artists. C² Productions offers total project execution from start to finish, including concept development, budget preparation, pre-production (including composition, arrangements, equipment configurations), recording and post-production, presentation and packaging. C² Productions is skilled in small to large studio environments—from 2-track analog to SSL-automated technology. If you find yourself with too little money, surrounded by professionals with too few ideas, call C² Productions. Creative problem-solving our specialty.

MARTY HASSELBACK
Engineer & Producer
NO-HASSELTRACKS PRODUCTIONS
Ste. 305-1872, Barclay St.
Vancouver, BC, V6G 1K8 Canada
(604) 685-4009

Credits: Sam Rowland, Ted Katrinsky, Herald Nih, B-Sides, The Villians, David Raven, Einstien, Wildroot Orchestra, Parallel States, Night Train Reveue, Vancouver Ensemble For Jazz Improvisation, Richard Loney, Mark Hasselback, Powder Blues, Susan Jacks, The Lawlors, Lowell Fulson, John Lee Hooker, nationally aired radio spots, national and pay television.
Services Offered: From demos to finished CD releases, all aspects of your recording will be handled professionally and with the creative touch suited to your needs. Access to the finest analog and digital studios in the Pacific Northwest and a multitude of experience in all areas of audio production including recording and mixing for records, jingles, television and film guarantee that your product will be second to none and that you'll truly say "Those were No-Hasseltracks!"

GENE HEIMLICH
Engineer & Producer
GENE HEIMLICH SAVAGE ANGEL/MASADA MUSIC, NEW FRONTIER
888 8th Ave.
New York, NY 10019
(212) 757-1953

Credits: Founder of Daily Planet Studios (Planet Sound), manager, George McCrae, production manager, Deodato, A&R director, Billboard Disco Forum '76, production coordinator, Noel Pointer, Clients: RCA, Tropical Buddha, Whole Life-Times, Xerox, Halston, Moving Center, Jim Scott (Radiance), Arlen Rogh, Mike Mandel, Raphael, Revelation, Bell Sound, Cafe Larama, Ted Bates, Concerto for Astronauts, Gabriell Roth and the Mirrosos Amex Varig, Richard Shulman, Tom Pope, etc.
Services Offered: Full production, engineering—multi-track, digital; location recording w/Nagra IV-S and F-1 processor (d/digital), re-mix. Arranging and contracting, studio brokerage and administration. Production especially suited to clients and artists w/packaging needs—for tape sales. Includes cover design and marketing of tapes, film scoring and BG music, commercials, etc. Analog, digital, record and CD sampler available on request.

JAY HENRY
Engineer & Producer
VISUAL MUSIC
235 E. 13th St., #3-D
New York, NY 10003
(212) 505-9281

Credits: Fifteen years experience in recording and broadcast industries. Has earned gold and platinum records and worked on Grammy-nominated albums. Jay has worked on projects for Prince, Run DMC, LL Cool J, Shannon, Robin Clarke (Simple Minds), Alphonse Mouzon, Larry Coryell, Defunkt, singles on CBS, Atlantic, MCA, Island and many independent labels.
Services Offered: Software-based, audio/video pre- and post-production. Full music production services for albums, singles and master demos including: digital recording and editing, arrangements and lyrics, music video packages, multi-machine lockups, studio and location production services for video and film; MIDI/SMPTE interfacing to video, film and live performance with MIDISCORE™, featuring Fairlight CMI and Macintosh computer. Custom chip blowing; sample editing; sample library, synthesizer and drum programming; custom signal processor software and unusual equipment rentals.

FRED HERSCH
Producer
CLASSIC SOUND PRODUCTIONS
548 Broadway, #5-J
New York, NY 10012
(212) 925-1839

Credits: Eddie Daniels *To Bird With Love* (GRP Records-#1 on Jazz R&R charts), Ron McCroby *The Other Whistler* (Concord Jazz), jazz albums for JMT, Soul Note, Concord, Sunnyside, national spots for Seiko, Arrow Shirts and others.
Services Offered: Pianist/keyboards, instrumental and vocal arrangements, compositions (vocal and instrumental) production assistance/budgeting for all projects. Have own 24-track studio in Manhattan's Soho district with Kurzweil, Macintosh, Performer 2.2, Steinway "B" piano, various keyboards. I'm proficient in many styles of music—jazz, pop, fusion, classical, whatever. Let me help you out on your next project!

BOB HODAS
Engineer & Producer
PO Box 2028
Sausalito, CA 94965
(415) 331-6941

Credits: Doobie Brothers, Village People, Marty Balin, Amanda McBroom, Mickey Hart, Casiopea, Merl Saunders, Good Sound Foundation, Schoenhertz and Scott.
Services Offered: Recording and concert engineering, film, album and demo productions. Consulting.

STEVE HOFFMAN
Engineer & Producer
STEVE HOFFMAN
24051 Hatteras St.
Woodland Hills, CA 91367
(818) 784-5777

Credits: At MCA, digital remixing and compiling of Buddy Holly, Chuck Berry, Billie Holiday, John Coltrane, The Who, Mamas and Papas, Elton John, Bing Crosby compact discs. At Dunhill, Harry Chapin, Ray Charles Greatest Hits CDs.
Services Offered: Sonic restoration of old masters. Complete re-issue package services: liner notes, compiling, remixing, remastering and marketing.

MICHAEL HOGSTRAND
Engineer & Producer
5020 Woodman Ave.
Sherman Oaks, CA 91423
(818) 789-1912

Credits: Thirteen years from 1974 to present working in recording studios, production management and house engineering for concert tours all over the world. Primary recording work performed at Polou Music Studios, Stockholm, Sweden. Recent acts, studio and live include: Scorpions, Europe, Andrae Crouch, Little Steven, Leon Patillo, Petra. References available upon request.

Services Offered: Concert and music production. Live and studio engineering. Studio and acoustic design. Drum programming and audio consultation.

BOB HOLBROOK
Engineer & Producer
HOLBROOK MEDIA PRODUCTIONS
2143 W. Main St.
Jeanerette, LA 70544
(318) 276-6267

Credits: Music and jingles for McDonalds, Pepsi, Wed. Child, Fischer's Auto Parts, City of Lafayette and many more. Albums, singles and demos for regional and local groups. Movie and commercial post-scoring audio. Full scale video production. Audio voice-over prod. and talent pool.
Services Offered: Complete 24-track recording studio, with Studer, Lexicon, Otari, AKG and more. Large selection of MIDI instruments, keyboards and drums. Complete video ¼" field equip (Sony) with ¼" editing (Sony). Also writing, publishing, producing and more.

JAMIE HOOVER
Engineer & Producer
OVO PRODUCTIONS, LTD.
 2942 Kingsbury Rd.
 Clover, SC 29710
 (803) 831-7016

Credits: Albums with Mark Williams for the Spongetones, The Federal Brothers, Ion Britton, Blind Taxi, Sugarcreek, The Killer Whales, Robert McClure, The Happy Eggs, Carl Rosen. Co-produced two cuts on *Romeo at Juilliard* with Don Dixon. Currently working with Robert Crenshaw, The Blind Dales and Helpless Dancer.

Services Offered: Record production, freelance engineering and a session player on guitar, bass and vocals. Also owns and operates the *Washateria* recording studio. Washateria credits include the Spongetones *Where-Ever-Land* LP and demos for Fetchin' Bones and many others.

PETER KIRK HOPPER
Engineer & Producer
Masterview Soundcrafts
 1621 Dryden Rd.
 Freeville (Ithaca), NY 13068
 (607) 347-4223

Credits: Producer: Ted Sundquist's *Courts of the King, Let the Whole Earth Be Filled*, (Word, Benson), Phil Keaggy Band *Emerging*, (Word) *Psalm of Life* volumes 1-4, various contemporary Christian artists and syndicated radio programs.

Services Offered: Independent production for albums, singles, demos, soundtracks, jingles, pre- and post-production, for staged theater and shows. 2-, 4- and 16-track, fully equipped recording studio facility offers sensitive and creative musical environment. Over 20 years experience in the recording arts and live sound reinforcement applications. Private label opportunities.

CHRIS HUFFORD
Engineer
 c/o Tempo Recording
 3105 Pico Blvd.
 Santa Monica, CA 90405
 (818) 881-4374

Credits: Recorded and/or mixed tunes for EMI, Atlantic and Olivia Records. Mixed music for *The Carson Story* for NBC television as well as many NBC promos including *Miami Vice* and *Crime Story*. National jingles including Mitsubishi and Motel. Recorded and mixed movie scores and soundtrack albums.

ROD HUI
Engineer & Producer
RODWAY PRODUCTIONS
 c/o Greene Street Recording
 112 Greene St.
 New York, NY 10012
 (212) 226-4278

Credits: Run DMC, Kurtis Blow, Lovebug Starski, Riot, Carol Lynn Townes, Chaka Khan, James Brown, Trouble Funk, Phil Glass, Bonnie Tyler, Shannon, Joclyn Brown, Confunkshun, Ray Manzarek, John Cale, Joe Piscopo/Eddie Murphy, D St., Brian Eno, Marion Williams, Waitresses, *Breakin'* soundtrack. Services Offered: Engineer-producer with access to musicians, programmers, etc.

D. CHRIS IVEY
Producer
KINGDOM PRODUCTIONS
 PO Box 500
 Conyers, GA 30207
 (404) 483-6794

Credits: Classic City Quartet "We'll Stand Together," various demos, commercials, etc. Services Offered: Full production services, duplication, remote recording, album production, arranging, demo production.

DON JAMES
Engineer & Producer
DON JAMES PRODUCTIONS
 430 E. 73rd St.
 Kansas City, MO 64131
 (816) 361-1594
 (816) 931-4102

Credits: Beta Mu-Phi Mu Alpha Sinfonia, Butler Mfg., Central Methodist College, Roger Ferris, Front Page Music, Hallmark Cards, Jamie Page, Destiny Records, Kraiz, Names Don't Matter, National Cinema Supply, Secret Meeting, HydeBrier, Southwestern Bell, Yield. Services Offered: Audio engineering and production. 2- to 24-track recording for albums or demos. Engineering and editing: broadcast production and audio/video soundtracks. Strong music background, versatile in all styles. 16-track studio and extensive MIDI keyboard system available.

STEPHEN JARVIS
Engineer & Producer
AKASHIC RECORDS GROUP/RHEEM THEATRE
 c/o PO Box 395
 Danville, CA 94526
 (415) 837-7959 (home)
 (415) 376-1490 (Rheem)

Credits: All types of music, over 100 album credits. Direction live performance recordings for acts booked at the theater and "live feel" studio recordings using the sound stage. Pre-production for album projects and tour rehearsals.

Services Offered: High quality in-house 24-track SR Dolby Mobile Modular Recording System located in the 1,000-seat Rheem Performing Arts Theatre, Moraga, California. Tube mics, Massenburg mic preamps, MCI console, transformerless 3M M79 24-track, API monitor section, Yamaha NS-10 speaker, UREI 809 monitor speakers, tube limiters, Drawmer noise gates, PCM70, AMS RMX16 digital reverb, stereo pair Dolby 361 SR noise reduction, 2-track digital Sony PCM-F1 with Meyers correction filter, over 45 various microphones. Equipment available for rental.

DANNY JOHNSON
Engineer & Producer
SERIOUS AUDIO
 4121 W. Vickery Blvd.
 Ft. Worth, TX 76107
 (817) 731-9117
 (817) 237-9673

Credits: Bachelor of Fine Arts degree in radio/TV/film with a specialization in audio/video production. Over seven years experience in engineering live sound and recording demos for local and regional acts. Have worked with a variety of styles including funk, R&B, jazz, rock, hard rock and modern new music.

Services Offered: Multi-track engineering, live PA mixing, video productions, etc. I keep up with the latest equipment and techniques. SMPTE and video editing experience. I like music with a distinct quality and feel and vocals that are raw with emotion. I think music should be real to life but very dramatic. I am currently freelancing but would like a permanent position with a studio. Willing to work my way up. I am young, open-minded, serious and a perfectionist.

STEVE V. JOHNSON
Engineer & Producer
 c/o Balance Sound Studios
 4917 Cordell Avenue
 Bethesda, MD 20814
 (301) 951-3900

Credits: Available on request. Services Offered: Production, engineering, composition. All audio advertising services, including copy writing, voice-overs and audio design and production. MIDI literate. Special emphasis on mixing and dance or pop remixes. Love to travel.

HOWARD JOHNSTON
Engineer & Producer
DIFFERENT FUR RECORDING
 3470 19th St.
 San Francisco, CA 94110
 (415) 864-1967

Credits: George Winston, Bobby McFerrin, Club Foot Orchestra, Spot 1019, Kronos Quartet Film/TV soundtracks *Bedroom Window, Rags to Riches, Walt Disney*. Services Offered: Solid State Logic 4056 recording facility offering both 24-track digital and analog.

DANNY JONES
Engineer & Producer
STAR STAGE, INC./DANNY JONES PRODUCTIONS
 37 E. Carolina Ave., Memphis TN 38103
 3550 Sportsway Ct.
 Memphis, TN 38118
 (901) 526-STAR
 (901) 365-0021

Credits: Beach Boys, Bobby "Blue" Bland, Jim Corcoran, Creed, Jim Dandy, DeGarmo & Key, Farrell & Farrell, Flying Burrito Brothers, Etta James, Jean Knight, Patti LaBelle, Labor of Love, Mylon LeFevre, Ramsey Lewis, Neville Brothers, Billy Joe Royal, Staple Singers, Diane Teli, Allen Toussaint, Irma Thomas, Rufus Thomas, The Wallies. Services Offered: Producing, engineering, music publishing, artist management, record label, video, promotion, consulting.

E. KEVIN JONES
Engineer
SOUND & SOUND ALIKE
 620 W. 149th St., #6C
 New York, NY 10031
 (212) 926-8294

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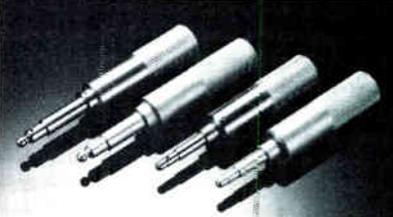
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Credits: Club MTV, Palladium, Ashford & Simpson, Lillo Thomas, Eugene Wilde, Eddie Murphy, S.O.S. Band, Harry Belafonte, Mikell's N.Y.C., D-Train, Atlantic Starr, Kashif, Dave Valentin, Noel Pointer

Services Offered: Live sound engineering production management and full crew and technical contractor. Offering worldwide services and will fulfill all your production needs including personal security, stage design and tour managing.

KAREN KANE

Engineer & Producer

396 Broadway
Somerville, MA 02145
(617) 628-6469

Credits: Many independent labels plus Rounder Records, Flying Fish Records, Folkways, Ladyslipper, Kay Gardner, Deb Fier, Alix Dobkin, Betsy Rose, Fred Small, Burns & Rosen, Ruth Pelham, Chicken Chokers, Willie Sordili, Cathy Winter, Bright Morning Star, Charlie King, Marcia Taylor, Southern Rail, Linda Worster, Matt Glaser, many more

Services Offered: "Have Ears Will Travel" I will travel to any city and stay until completion of project. I also offer unbiased advice about recording in the New England area and no-charge pre-production meetings. I am easy to work with, fast, efficient and patient.

DAVID KASPERIN

Engineer & Producer

DYNAMIC RECORDING

2846 Dewey Ave.
Rochester, NY 14616
(716) 621-6270

Credits: Have secured 33 major publishing contracts for artists in the last four years. Engineer for 22 years, producer for ten years

Services Offered: Produce excellent demo tapes/records. Write for free cassette or record to 2846 Dewey Ave., Rochester, NY 14616 or call (716) 621-6270. Specify type of music production you are interested in.

STEPHEN KAY

Producer

TECHNISOUND PRODUCTIONS, INC.

140 Madison Ave.
Westfield, NJ 07090
(201) 233-2026

Credits: Virgin Records (Julius Hargett), Rock Video International, Pepsi-Cola, David Scance, TKR Cable, OK Cable, Resorts International Casino, Gianettino & Meredith, first runner-up Keyboard Mag Soundpage Contest 1987, House of Music, Intergalactic, Grand Slam, E.A.R.S., M&I, Eras, The Daily Planet, Grand Master Flash; consultant for Sound Genesis Corporation, more

Services Offered: Records, film scores, jingles, demos and session work featuring a fully loaded Fairlight CMI Series III, the state-of-the-art digital synthesizer/sampler/audio production device 8-track studio/MIDI control center, 24 x 8 boards, digital effects, Yamaha DX7/IFD w/1,500+ sounds, Yamaha TX802 rack, Prophet VS rack, 7.4" Yamaha grand, two vintage customized ARP 2600s, Macintosh computer, Sony digital mixdown, more. Complete your project in-house (production, composition, arrangement available) or do pre-production for transfer at a larger facility. Will travel with Fairlight III and module rack to studio of your choice. Fourteen years professional experience—demo tape available

RICHARD KAYE

Engineer & Producer

PMF PRODUCTIONS

417 Teaneck Rd., Apt. 2A
Ridgefield Park, NJ 07660
(201) 440-8618

Credits: Absolute Music, Laurie Anderson, Ashford & Simpson, Roy Ayers, CHAD, Sarah Dash, Janice Derrpsey, Art Farmer, Hook, Line & Singer, Freddie Jackson, Howard King, Lenny Kaye, Chuck Loeb; Steve Lunt; Michael Karp Music; Mr. Spats; New York Jazz, REW Productions; Rendezvous Records, Jules Shear, Rahni Song, Darryl Tookes, Scott White.

Services Offered: Creative, quality engineering and production. Familiarity with many synthesizers, drum machines and samplers. Additionally, I have experience with both IBM and Mac music software including Sequencer Plus, Patchmaster Plus and Performer

HELEN KEANE

Producer

ARTISTS MGT. RECORD PRODUCTION

49 E. 96th St.
New York, NY 10128
(212) 722-2921

Credits: Producer for LPs by Bill Evans, Kenny Burrell, Tony Bennett, Paquito D'Rivera, Clark Terry, Morgana King, Joao Gilberto, Mark Murphy, Steve Kuhn, Adam Makowicz, Joanne Brackeen, Karen Akers, Art Farmer, Benny Go'son, Chris Connor, Alive.

INDEPENDENT

ENGINEERS & PRODUCERS

Services Offered: Full producer/director. Services including choosing musicians, arranger, composers, material to be recorded, studio facilities and engineer, photography, cover art, liner notes, etc. Companies produced for Warner Bros., CBS Records, Fantasy, Muse PolyGram, Landmark, CTI, Blue Note, Polydor, Verve, Rizzoli

MARCUS KEARNS

Producer

PERFECT RECORDING & PRODUCTION CO.

Rt. 8, Box 433-A
Statesville, NC 28677
(704) 872-2360
(704) 328-2489

Credits: Producer, composer, musician and engineer, owner of Perfect Pitch Recording, have produced records for various artists and composed for television, video and film soundtracks (*Alien Outlaw*). Recently released self-produced new age album, *What the Wind Whispers*. Also owner of Melomouque Publishing and independent record label

Services Offered: Complete music production services for albums, video, commercials and film soundtracks. Composing, arranging, Fairlight CMI, Macintosh, drum computer and synthesizer programming. Bachelor's degree in composition with background in classical piano, orchestration, electronic music, jazz and rock music. Automated 24-track studio featuring Studer recorders, top-of-the-line outboard gear, Fairlight CMI and Macintosh computers and a full array of synthesizers, all located on 40 acres of beautiful seclusion

PATRICK S. KEEL

Producer

3515 Dickason
Dallas, TX 75219
(214) 521-2216

Credits: Shallow Reign (Island), The Trees (Island), Optimystics (Electra), Rev. Horton Heat (Island), The Pool (Enigma), The Effect (Enigma), Year Zero, How To Kiss.

Services Offered: Record production, drum machine programming, sound synthesis, sampling, arranging, representation to record labels, modern record production for rock bands, dance music and rap/funk groups at complete 24-track automated studio w/Lakeside design control room.

PETER R. KELSEY

Engineer & Producer

2038 S. Holt Ave., #10
Los Angeles, CA 90034
(213) 837-7939

Credits: Fifteen years experience, including six years at Trident Studios, London, with producers: Ken Scott, Roy Thomas Baker, Rupert Hine, Peter Asher, Robert "Mutt" Lange, and artists: Elton John, Jean-Luc Ponty, Graham Parker, The Fox, Camel, "Weird" Al Yankovic, Linda Ronstadt, Zawinul, Weather Report, Bill Ward of "Black Sabbath," Wall of Voodoo

Services Offered: Engineering and mixing for any project, co-production with artist and/or producer, full production with or without engineering. I will do everything I can do to make your music the best it can be. Resume on request

NORMAN KERNER

Engineer & Producer

BRILLIANT PRODUCTIONS

PO Box 7139
Berkeley, CA 94707
(415) 236-2281

Credits: Surf MCs Sorentinos, Mysteries, Adam Gates and Monkey Rhythm, Bad Mutha Goose, King Jay Records, B-Town Surf Posse, Yanks, Terry Haggerty Band, Freaky Execs, Piero El Malo.

Services Offered: Send cassette and relevant info to PO Box 7139, Berkeley, CA 94707

PITT KINSOLVING

Engineer & Producer

686 Arroyo Pkwy, #206
Pasadena, CA 91105
(213) 376-8373

Credits: Numerous records on: Angel, RCA, Windham Hill, Motown/Latino, Rounder, Green Linnet, Folkways, Flying Fish, Kicking Mule, etc. Silver Screen Award for a slide show. Artists I have worked with include James Galway, Shadowfax, Larry Coryell, John Mehegan, Jimmy Stewart, Christopher & Linda Day George, Seamus Ennis and Chris Proctor.

Services Offered: Sonic excellence is my goal. Years of experience in both multi-track and classical recording, as well as sound reinforcement, give me the versatility to bring out the best in your performance. I can travel anywhere in the world to work with you in the studio of your choice or on-location. Although particularly skilled with acoustic music (folk, jazz, classical) I also do superior work in the electric medium. As the reviewers say, "... a brilliant, clear sound with astounding presence." "The sound quality of the record is excellent." "Sound-wise the stereo is excellent. . . ." "Sound. A" (*Audic* magazine).

GEORGE M. KOZAK

Engineer & Producer

KOZAK PRODUCTIONS, LTD.

PO Box 832
Old Bridge, NJ 08857
(201) 251-0001

Credits: Produced and engineered Binary Recording Artists "Parlez's" first CD release entitled *Blind Date*. Designed stage equipment for Paradox/PolyGram Artists "Eastern Bloc."

Services Offered: Complete audio engineering (studio and sound reinforcement). Complete record production. Custom electronic design and modifications.

SONNY LALLERSTEDT/RANDY BUGG

Engineer & Producer

TWELVE OAKS STUDIOS

3830 S. Cobb Dr.
Atlanta, GA 30080
(404) 435-2220

Credits: Pat Terry Group, Babbie Mason, Frank Boggs, Steve Shwer, Cheryl Rogers, Freddie Langston, Mark Lowry, Mike & Von Rogers, Al Holley, In Touch Ministries, Chapel Hill Harvester, Salvation Army, more than 100 custom Christian albums

Services Offered: We believe that music is a gift given by Jehovah God to allow man an expanded means to worship and praise. It is top priority to record this type of music in a way which He approves. We understand what it means to do all things to the glory of God. Our purpose in this listing is to ask that you would prayerfully consider us to produce your Christian music. Let the whole world know!

JACK LANCASTER

Producer

315 N. Avon St.
Burbank, CA 91505
(818) 845-6678

Credits: Produced various artists in top London studios including: Rod Argent, Stephane Grappelli, Gary Moore, Brian Eno, Clive Bunker, Phil Collins, Ella Jordan, Manfred Mann, Cosy Powell, Zeitgeist, Krisma, The Permutations, several film and TV scores, etc. Have had hit singles in Europe and USA

Services Offered: Production, arrangements, compositions, play all saxes, flutes, clarinet, Lyricons. Can supply engineer for productions. Have produced many styles of music including rock, new wave, pop, fusion, etc

JOSEPH LAUX

Engineer & Producer

JLX PRODUCTIONS INC.

Box 10835
Beverly Hills, CA 90213
(213) 655-3136

Credits: Producer/co-producer/engineer. Credits for top mainstream European and U.S. acts in the last seven years.

Services Offered: Full production, with or without engineering, co-production with artist and/or producer; engineering and mixing for any project, excellent audio and video "demo" productions.

PAUL D. LEHRMAN

Engineer & Producer

LEHRWARE/PEA-EL PRODUCTIONS

31 Maple Ave., Ste. 1
Cambridge, MA 02139
(617) 497-7522

Credits: *The Celtic Macintosh*, world's first all-MIDI album, now available from Themes/KPM Libraries. Digital Equipment Corporation: WGBH, Urna Major; dbx; AKG; Mass Audobon Society, Century III Teleproductions; George Crumb, *Apparitions* (Bridge Records), winner, High Fidelity award, *New Music for Guitar Vol. 3* (Bridge Records); numerous albums, industrials, videos, live electronic and computer-music concerts.

Services Offered: Complete music and sound production and consultation services for all media; composition, arranging, sweetening, effects, synthesizer and sequencer programming. Specializing in folk, new age, avant-garde and the unusual, with much experience in film and video scoring and library production. Fully equipped, private, computerized MIDI production studio with film/video sync for ultra-fast turnaround. As a musician, engineer and software designer, I can find the best and most efficient way of doing any project, from a record album to a multi-media extravaganza. As a leading expert on MIDI, I can also help you design your own facility and work with you to make it successful.

BRIAN LESHON
Engineer & Producer

BRIAN LESHON
13900 Panay Way, SR-207
Marina Del Rey, CA 90292
(213) 823-2191

Credits: Ten years experience in the music industry. Projects include Missing Persons, Devo, Supertramp, Stanley Clarke, Kansas. With producers such as Ken Scott, Ed Thacker and Peter Henderson. In addition I have extensive experience in television audio production including music and sound effects editing.
Services Offered: Recording engineer/producer, available for all forms of recording projects including albums, demos, soundtracks and live productions. Specializing in putting together the proper production package to suit any budget in order to assure the best possible product. Packages can include studio time, musicians, equipment rentals and more.

GEOFF LEVIN
Producer

LEVIN AND MANY COMPOSING
719 S. Main St.
Burbank, CA 91506
(818) 841-6607

Credits: Film score *Heart*, released by New World Pictures; TV and radio commercials for Toyota, Dianetics, Pepsi, Pacific Bell, etc. Industrials: Apple Computer, Saab, Honda, Porsche, Red-kid TV shows. *That's Incredible*, *Kidsworld*, *The Sports Column*, etc.
Services Offered: Original music composition for film score, industrial tracks, television and radio commercials. Full audio/video sweetening capability. Three recording studios, two 24-track, one 16-track ADAP sampling system, Roland D-50, E-mu SP-12, Megamix automated mixing for 24-track room.

LOLLY LEWIS

Engineer
TRANSPARENT RECORDINGS
1201 Ortega St.
San Francisco, CA 94122
(415) 563-6164

Credits: Many years experience recording and editing classical music. Clients include San Francisco Symphony, S.F. Conservatory of Music, Telluride Chamber Players, Solisti New York, composers John Adams and David Cope.
Services Offered: On-location live music recording direct to 2-track master (using Nagra 30 ips recorder and Studer mixing console), high-detail tape editing and post-production services including album production and graphics. Digital recording is also available.

BORGE LINDQUIST

Engineer & Producer
LIPHONE RECORDS
Box 51, S-451 15 Uddevalla
Sweden
INT+4652262081

Credits: Nearly 200 records produced during the past ten years with artists from the Scandinavian countries Sweden, Denmark, Finland and Norway. We produce all kinds of music, mostly pop, rock, C&W, jazz and folk music.
Services Offered: Record production (LPHONE records), 24-track analog and 2-track digital studio (LIREC Studios) and publishing company (LITUNE Music).

BRAD LINTON/PETE DRESSEN/JOE AMICARELLI

Engineer & Producer
DEADLY WEST PRODUCTIONS
451 Boardwalk, #208
Ft. Collins, CO 80525
(303) 223-5083

Credits: Demos for Social Death, Action Figures, other equally fearless acts.
Services Offered: Experimental music production. All partners are songwriters and musicians. Please call for additional details.

STEVE LOEB

Producer
FIRESIGN LTD.
c/o Greene Street Recording, Inc.
112 Greene St.
New York, NY 10012
(212) 226-4278

Credits: Riot, Lovebug Starski, Carol Lynn Townes, Mr. Rhythms.

LONNIE LONDIN

Producer
RAMA DAMA RECORDS
219 State Rd.
Eliot, ME 03903
(207) 439-5541

Credits: Twenty-five years experience as recording artist/producer. Labels: Glendale Records, Home of the Blues, Keno Records, Motown Records. Three years as session player (bass) and background vocalist in Nashville. Currently producing for own company, Rama Dama Records. Masters, demos, custom recording, jingles, radio and television advertising production, narration for industrial and promotional films, studio rental, publishing.

JEFF LORENZEN

Engineer & Producer
J.L. PRODUCTIONS
6614 Coldwater Canyon, #209
North Hollywood, CA 91606
(818) 760-7651

Credits: S.O.S. Band, Troy Johnson, The Manhattans. Assisted on: latest Earth, Wind and Fire album, Jellybean, Jeff Lorber, Jody Watley, Andre Cymone, Don Johnson, Jermain Stewart, Alison Moyet, Robbie Nevil, Supertramp, Ready for the World.
Services Offered: Up and coming engineer/prod. in tune with the latest and have worked with the greatest. Fast, inventive and musically inclined. Solid State Logic wizard. MIDI knowledgeable. All styles of music from classical to hard core. Satisfaction guaranteed. Incredible sounds. Good rates. Tape, bio and references on request.

NIGEL LUBY

Producer
N.L. PRODUCTIONS
49A Kensington Mansions
Trebovir Rd.
London, SW5 9TE England
(01) 373-7897

Credits: LPs: Chris Squire *Fish Out of Water*, Yes *Yesshows* and *Tomato*, Critical Mass *It's What's Inside That Counts*, Mike Oldfield/Simon Phillips *Crises*, *The Alarm Strength*. Singles: Chris Squire/Alan White "Run With The Fox," Mike Oldfield "Moonlight Shadow," The Alarm "Spirit of '76," Big Country "The Longest Day," Vagabond Joy. Mike Oldfield *The Killing Fields* soundtrack, Mike Oldfield *Crises Live* video sound, The Alarm BBC, ITV, UCLA broadcast sound. Experienced studio albums, broadcast, live and digital applications. Also knowledge of digital audio and lock to 24 f.p.s., 25 f.p.s. film free running of camera. Yes live engineer from 1976-1984. Big Country live engineer. London studios: Townhouse, Roundhouse, Marcus, Battery, The Manor, Sarm East, Westside Studios, Utopia, Britannia Row, Fisher Lane Farm (Genesis), BBC Maida Vale, Capital Radio, BBC Manchester, TV South, Tyne Tees, EZZE Studios, The Workhouse, Pavilion; U.S. studios: Record Plant LA, Unique NY, Kajem PH, Bayshore Recorders, Hollywood Sound LA, Yamaha Burbank.

REGGIE LUCAS

Producer
QUANTUM SOUND STUDIOS
512 Paterson Plante Rd.
Jersey City, NJ 07307
(201) 656-7023

Credits: Madonna, Stephanie Mills, Roberta Flack, Randy Crawford, Weathergirls

Services Offered: Record production

WILLIAM "BILL" LUCAS

Producer
DELEV MUSIC/SIGN OF THE RAM MUSIC
7231 Mansfield Ave.
Philadelphia, PA 19138
(215) 276-8861

Credits: Executive producer of rock group Valkir's debut album project recorded at Sigma Sound Studios in Philadelphia, Pennsylvania. Co-producer of vocal group Perfect Timing's debut album. Past projects have included Dave James and Trilogy's "Shadow People" single on Surprize Records and Bill Lucas' "Pledging My Love" single also on Surprize Records.

Services Offered: Consultation on recording projects, producing, publishing/co-publishing. Affiliated with ASCAP (Sign of the RAM Music) and BMI (Delev Music Company). Also vice president of Surprize Records, Inc., 421 W. Ellet St., Philadelphia, Pennsylvania 19119, or for faster response, send correspondence to: PO Box 42707, Philadelphia, Pennsylvania 19104-2707. Bill is also first co-producer of the *Unison Show* produced by the Unison Promotional Television Company, PO Box 1102, Sharon Hill, Pennsylvania, 19079. The *Unison Show* airs via cable television and is a promotional showcase for new and undiscovered musical artists.

GREGORY C. LUCK

Engineer & Producer
SEAHAVEN SOUND PRODUCTIONS, INC.
Sandpiper Cove Rd.
Yarmouth, ME 04096
(207) 846-3782

Services Offered: Composition and production—24-track recording using Otari, Kurzweil, Neumann and more. Mixing with Sound Workshop, Diskmix, IBM and more. Processing with Lexicon, dbx and Ashley. Monitoring with Haller, UREI and Yamaha. Plus more—inspiration with the ocean at our door.

DAVID LUKE

Engineer & Producer
5186 Argyle Rd.
El Sobrante, CA 94803
(415) 223-4823
(415) 486-2038

Credits: Bruce Hornsby, Timex Social Club, Ava Cherry, Jeffrey Osborne, Maze, David Bromberg, Felton Pilate, New Riders of the Purple Sage, Starship, Eddie and the Tide, Y&T and Night Ranger.
Services Offered: Recording, mixing and production.

NIKOS LYRAS

Engineer & Producer
COTTON ROW RECORDING
1503 Madison Ave.
Memphis, TN 38104
(901) 276-8518

Credits: Has worked with Rufus and Carla Thomas, Ella Brooks, Tony Joe White, BarKays, David Porter, Xavion, Farrell and Farrell, In Pursuit, The Skares, Canadian artists Diane Tell and Jim Corcoran. Has produced several Pyramid Award winning jingles; nominated "Engineer of the Year" in 1983 in Canada.
Services Offered: Full in-house record and jingle production (producing, engineering, arranging, programming, guitar work), in-house rhythm section, publishing, demo/production room.

DON MACK

Engineer & Producer
AUDIO PRODUCTION SERVICES
6951 Rancho Ave.
Van Nuys, CA 91405
(818) 988-3271

Credits: Y&T, Brian Eno, David Byrne, Huey Lewis and the News, Windham Hill Records, Jane Fonda, Dino Fekaris, Odin, Allegiance, Syren, Hellion, Aive, Quest, Pat Gleason, Kronos Quartet. Films: *Apocalypse Now*, *Plague Dogs*, Walt Disney Productions.

Services Offered: Production and engineering with an ear towards the leading edge of tomorrow's music. I work with the artist from pre-production rehearsals to the final mastered product, analog or digital. Music should be fun and a fulfilling, rewarding experience. My goal is to stimulate the artists to push themselves to ever greater creative heights and to realize their dreams by making them sonically and visually as exciting as possible. I'm interested in all new music and I am always looking to stretch the boundaries of today's sound. Artists are encouraged to submit material. I will listen to everything. Please call or write.

RICHARD MACK

Producer
OFF THE RECORD
139 Willard Ave.
Bloomfield, NJ 07003
(201) 239-7117

Credits: Have worked with numerous artists including Odette, Olatunji and Kamuka.
Services Offered: In-house arranging specializing in African percussion, Ska and Latin sounds. Also possess expertise in adapting music to visual media, including business video scoring and audio sweetening for video.

JOSEPH MAGEE

Engineer & Producer
JOSEPH MAGEE AUDIO ENGINEERING
4900 Overland Ave., Ste. 102
Culver City, CA 90230
(213) 558-4208

Credits: Audio produced/engineered following ensembles/artists: Orchestras: L.A. Philharmonic, Amsterdam Concertgebouw, L.A. Chamber, "Y" Chamber, Fort Worth, Opera Co., Royal Opera of Covent Garden, L.A. Music Center Opera; Festivals: New Music America, Olympic Arts, Seattle Chamber, Artists: Andre Previn, Pierre Boulez, Michael Tilson Thomas, Lincoln Mayorga, Marni Nixon.

Services Offered: World class audio recording/production for broadcast and record. Specializing in classical, new music and jazz recording. Acoustical or acoustical/electronic ensembles. Expertise in both minimal miking techniques or close miking for any size ensemble. Location or studio recording. Consulting services also available.

DOMINICK MAITA

Engineer
29 E. 51st St.
Bayonne, NJ 07002
(201) 437-8443
(212) 869-9022

Credits: Bryan Ferry, Bronski Beat, 'til Tuesday, Nona Hendryx, Herbie Hancock, David Byrne, Laurie Anderson, Carmel, Comunards; Film Credits: *Band of the Hand*, *Manhunter*.
Services Offered: Recording/mixing for studio, live concerts, film, video.

MARK MANDELBAUM*Engineer & Producer*

530 2 St., F-8

Brooklyn, NY 11215

(718) 768-1845

Credits: LL Cool J, Spinners, Run DMC, Jerry Marotta, MC Heavy D, Robbie DuFree, Kitty Navidad, Dan Daley, Michael Mainieri, Def Jam, Profile, Atlantic, Chung King H. of M., Tony Levin

Services Offered: From earliest pre-production, song selection and writing, through the entire recording and mixing process, very artist-oriented services.**JOHN J. MANFREDI***Engineer & Producer*

MEGA SOUND PRODUCTIONS

PO Box 3101

Elmira, NY 14905

(607) 732-0913

Credits: Written over 300 compositions (all musical styles); 40 commercial jingles being aired (on radio and TV) in upstate NY and Phil metro area; for political campaigns, retail businesses, car dealerships, restaurants and national charitable organizations. Produced and engineered: rock group projects, jazz, R&B, gospel, blue grass, contemporary C&W groups, 15th century opera and instrumental music. I am comfortable working with musical projects large and small and musicians who play loud or soft. Music instructor at local private college. **Services Offered:** Owner, engineer, producer, musician, composer, Mega Sound Productions/1-inch 16-track facility. Studio/engineering/production packages available/cassette duplication. Professional musician for over 20 years on lead guitar/keyboards/synthesizers and bass. Fully equipped facility with guitars, amps and over 20 of the latest keyboards and drum computers.**ERNIE MANSFIELD***Producer*

MANSFIELD MUSIC GRAPHICS WINDSAILOR MUSIC (BMI)

PO Box 737

Berkeley, CA 94701

(415) 652-3647

Credits: Produced *Windsailor*, *ColorDrops*, on Catero Records, Aspen/Blackhawk Records and National Radio of Spain. Also produced albums on CBS-France, Cathedral Records and Center for Growth in Wholeness. Arranger/transcriber/copyist for many artists including Narada Michael Walden, Herbie Hancock, Terry Riley, John Adams, Dan Kobialka, Landmark Records, San Francisco Symphony.**Services Offered:** My specialty area is acoustic music: jazz, folk, classical, new age, etc. My skills include arranging-composing, performing on a number of instruments (woodwinds and keyboards), and start-to-finish production including rehearsing, recording, album art supervision and copyright administration. I'm also a specialist at songbook production. Music-Graphics is a full-service music typesetter/songbook designer, working on many book productions including *The Kate Wolf Songbook*. Through my recordings and performances I have received grants from the National Endowment for the Arts and the California Arts Council.**JOE MANZELLA***Engineer & Producer*

IN SYNC PRODUCTIONS

211 W. 79th St.

New York, NY 10024

(212) 496-2636

(718) 998-4648

Credits: Engineering and production: Airforce 1-Streetweh Records, Alan Simon Trio-Cadence Records, Paquito D'Rivera, William Robinson-Coast to Coast Records, Thor, Sula-Chauncy Records, Ednah Holt, The Shades, Israel-Bacan Records, Palma-D'ExitRecords, Jimmy Faith, Jingles, radio and TV commercials. Good o Cola, Girl Scouts of America, Quality Dental Care, La Gioconda Clothing.

Services Offered: In Sync Productions is a multi-dimensional production company specializing in all facets of audio and visual presentations. We create original music for films, plays and commercial jingles as well as individual recordings and production for groups and solo artists. We offer our own 16-track recording facility and full production staff for the recording of master tapes and demos as well as the services of session musicians, arrangers and copyists. We also provide complete video productions for industrials, TV commercials, rock videos.**MICHAEL J. MANZO***Engineer*

MICHAEL J. MANZO

4 Granite Ave.

Paterson, NJ 07502

(201) 790-6112

Credits: Production of syndicated radio programming aired in U.S. and Canada, audio museum tours, production of audio books. Commercial production including: Revlon, Proctor & Gamble, Union Carbide (Eveready), Colgate/Palmolive, Toys "R" Us, Johnson & Johnson, Bristol-Myers (Excedrin), McNeilab (Tylenol), *American Health* magazine, Rite Aid Drugs, music production and pre-production.**Services Offered:** Music production, pre-production and commercial production engineering, editing and commercial post-production engineering.

INDEPENDENT

ENGINEERS & PRODUCERS

PETER MARTINSEN*Engineer & Producer*

PETER MARTINSEN PRODUCTIONS

11160 Anderson Lakes Pkwy.

Minneapolis, MN 55344

(612) 944-2491

Credits: Jesse Johnson, Sue Ann Carwell, Brave Combo, Cenniferold, Janet Jackson, Andre Cymone, Evelyn King, Les Rita Mitsouko, Tamara & The Seen, Vanity.

AUBREY MAYHEW*Producer*

KCAM-TV TELEVISION PRODUCTIONS

"THE ENTERTAINMENT CHANNEL"

827 Meridian St.

Nashville, TN 37207

(615) 226-9589

Credits: ESPN Motorsports, See *America* RV outdoor TV series, Zoo World TV documentary series. Pro World Entertainment Monster Truck Championship TV series, BVP sports. **Services Offered:** Producer of video broadcast productions. Audio for video and related services.**STEVEN MCCLINTOCK***Producer*

HEADWAY PRODUCTIONS

7560 Garden Grove Blvd.

Westminster, CA 92683

(714) 891-0868

Credits: Currently producing Dexter, and Brian Willis: co-produced *Exude* and *Private I*, Linda Weir and Gina Hudson Hartan. Produced and arranged for many commercial jingles; looking for recording pop acts with label deal. Produced and scored films by Action Films, David Winter's Group and Sony Int. **Services Offered:** Own 24-track studio with Trident console and Otari tape machine plus 16-track room with Tascam console SMPTE lock-up, publishing company, photography studio, vocal instruction and two small independent labels, very active—good talented staff.**RANDY B. MCCOY***Engineer & Producer*

LONGHORN SOUND PRODUCTIONS

PO Box 630

Clyde, TX 79510

(915) 893-2616

Credits: Engineered and produced all varieties of music and jingles for over seven years: classical, contemporary Christian, rock, country, etc. Recently worked on *58 Hours for Jessica Eager* to apply experience gained to your project.**Services Offered:** Production emphasis on contemporary Christian projects. BMI affiliated writer. Will travel to work on outside-of-area projects. Sincere, hard-working and straightforward in methods and builds client relationships on a one-to-one basis. Call for production/engineering rates, please.**JAMES MCGOVERN/RUPERT COLEY/SHAWN WOODEN***Engineer & Producer*

CHILTOWN PRODUCTIONS

PO Box 4164

Hartford, CT 06147

Credits: Producers: James "Boy McGruff" McGovern, Rupert "Drastic" Coley, Shawn "Matrix" Wooden.

Services Offered: Producing, arranging, composing, engineering. Specializing in pop, disco and rap music. We are a dedicated group of talented people whose attention to perfection is of the utmost importance with nothing overlooked. Travel is not a problem. We are here to service musicians and songwriters with an innovative approach in bringing their ideas to reality.**WILLIAM MCINTIRE***Engineer*

WILLIAM A. MCINTIRE ENTERPRISES

PO Box 4244

Portland, OR 97208

(503) 286-4193

Credits: Manufacture lighting, sound, film and video equipment, special effects equipment and custom products. Offer services: William McIntire is a sound engineer/recordingist for film and television. Recently left Station KPTV (Fox network) in Portland, Oregon, to allow more time for own business interests. High Tech special effects.

Services Offered: Inventor and developer of "Magic Boxes™" high tech gadgets. Advertising appears in *American Cinematographer*, others. Special effects supervisor on several TV productions. See *Sing* childrens video, *Vance Can't Dance* music video, Jantzen National ads, others. "Magic Boxes" have been used on such productions as: HBO *Last Innocent Man*, in use by studios for ten years "Magic Boxes" are a best kept secret by many!**PAUL MCKENNA***Engineer*

11616 Ventura Blvd.

Studio City, CA 91604

(818) 505-0755

Credits: Sting, Shanice Wilson, Barry White, Herb Alpert, Janet Jackson, Philip Bailey, Irene Cara, Vesta Williams, Brothers Johnson, Sly Stone, Cramps, Wall of Voodoo, Morris Day, Tamara & The Seen, Club Nouveau, The QuicK, Thin White Rope, Joe Cocker. Soundtracks: *Soul Man*, *Born In East L.A.* **Services Offered:** Have samples, will travel!**JAMES MCLEAN***Engineer & Producer*

MCLEAN CREATIVE SERVICES

230 W. 55th St., #31A

New York, NY 10019

(212) 517-1645

Credits: Engineered classical music and jazz concert recordings for NPR's Performance Today and American Jazz Radio Festival. Extensive professional experience in the celebrated Troy Music Hall, including broadcast concerts of the Stuttgart and Cologne Chamber Orchestras. Produced Richard Linnhart's *These Last Days*, a premier electronic music release for the new Periodic CD label. AES member.**Services Offered:** On location concert and session recordings of all types of classical, jazz, folk music, etc., using the finest condenser mics and associated equipment. Professional audition and grant tapes of superior quality at reasonable flat rates.**STEVEN MCVICKER***Engineer & Producer*

MIC-VIC PRODUCTIONS

77 N. Third St., 3rd Fl., Dept. M2

Meriden, CT 06450

(203) 238-7263

Credits: Robert Crossland, Scott Chaloupka, Rob Darrel and Transit, Anna King and Dirty Works, The Majik, Ed Markiewicz, Steven McVicker, Mr. Mehta, Jim Murtaugh, Press, Rich Rankin, Ron Rockett and the Tuners, Robert Sullivan Winters Run.

Services Offered: Live and studio engineer/producer. We specialize in the production of new artists and songwriters who are preparing to be shipped to labels. We offer an 8-track, in-house recording studio featuring a Roland S-50 digital sampling keyboard system, a graphic arts department and total demo/promotional packages. Artists and songwriters are encouraged to write and inquire about their specific needs so that we can respond on a personal level. BMI publisher, member of the Connecticut Songwriters Association.**COLOSSUS**
DIGITAL STEREO**COLOSSUS**
DIGITAL STEREOBRAD S. MILLER
Incline Village, NV**BRAD S. MILLER***Engineer & Producer*

MOBILE FIDELITY PRODUCTIONS OF NEVADA

PO Box 8359

Incline Village, NV 89450

(702) 831-4458

(702) 831-4459

Credits: Founder, Mobile Fidelity Sound Lab, Mobile Fidelity Records and Productions; creator of The Mystic Moods Orchestra and producer/engineer of numerous special effects recordings. Principle in development of Colossus digital audio system with Louis Dorren.

Services Offered: Location/studio recording where accurate archival of live performance or final mix is required. Production services include the Colossus (4-channel) PCM digital audio system with 1630 compact disc format compatibility; and/or 4-channel surround microphone (MS-4). Recommend that interested parties inquire as to latest compact disc samples in release by clients utilizing Colossus or MS-4 or both. Conversion of existing sound effects and music libraries into Colossus format and then to optical hard disk also available. Written information package available upon request.

BRUCE MILLER
Engineer & Producer
BRUCE MILLER
c/o Action Entertainment Group
723 7th Ave. (6th Floor)
New York, NY 10019

(212) 840-7870
Credits: Eng. Yes, Duran Duran, Luther Vandross, Natalie Cole, Boy George, David Sanborn, Roberta Flack, Midnight Star, Billy Idol, Secession, Colonel Abrams, Sky, Claudia Barry, Princess, Roy Orbison, Communards, etc., prod. Uptown Atomic, Felix & The Havannas, Rock Nito, Low Boys, etc.
Services Offered: Remixes for 12" and albums, as well as recording and overdubs. Programming drum machines, synths, sync boxes, etc.

TONY MILOSZ, AKA TECHNICAL TONY

Engineer & Producer
PEAKDESIGN
6114 La Salle Ave., Ste. 314
Oakland, CA 94611
(415) 531-5331
(415) 531-5332 (FAX)

Credits: American Express, Visa, Mastercard
Services Offered: Yo! If being an engineer/producer means knowing how to plug in a mic, a reverb or boot up a Mac, then we're (almost) all engineers and producers. So why aren't things getting better? At Peakdesign (see 24-track Northwest listing) we design and produce sounds, systems, sonatas, soundtracks. Got ideas? Let's talk (they say it's cheap).

JOE MIRAGLILO
Engineer & Producer
FISHBOWL PRODUCTIONS
89 Clinton St., Ste. #3
Everett, MA 02149
(617) 389-5816

Credits: Music production in any style for advertising and song demonstration. Clients include: American Vision Center, Lafayette Place Garage, The Tall Boys, Blue Moon. Staff engineers: Mike Dobkowski, Bryan Croad.
Services Offered: Pre-/post-production for any project on 512/10mb Macintosh with most recent software for sequencing, voice librarian, sampling and printing. In-house production facility includes: Tascam 38 w/dbx, 28 inputs on console, outboard equip. available to suit your processing needs, many synths are also at our disposal. MIDI composition with tape sync for video is no problem. We offer a high-tech product in a comfortable and warm setting.

MR. MITCH
Engineer & Producer
KAJEM/VICTORY RECORDING STUDIOS
1400 Mill Creek Rd.
Gladwyne, PA 19035
(215) 642-2346

Credits: Teddy Pendergrass (EA); Warlock (Phonogram); Miles Jaye (Island); Joey Balin, Judy Mowatt, Clarence Clemons; Lou Rawls (Pir); Dexter Wansel (Virgin); Pretty Poison (Virgin); Nice & Wild; Michael Pedkin Jr., Monnette Sudler; Nat Augustin (A&M); Whiteheads (Pir); China (Phonogram); Alan St. Jon (Billy Squier Band); The Stand. Dollar (Arista); House of Assembly; Helena Springs (Arista); Bernie Shanahan (Atlantic); Michelle Goulet (Island); Janice McClain (MCA); Shirley Jones (Pir); Tenita Jordan (CBS); Renee Aldrich, DeeDee Sharp, Junior (Polygram); Chubby Checker, Rich Reinhardt; Kae Williams, Steven Breeze.

MICHAEL "ACE" MOLLISON

Engineer & Producer
ACE AUDIO, LTD.
PO Box 49-7481
Chicago, IL 60649
(312) 221-7222

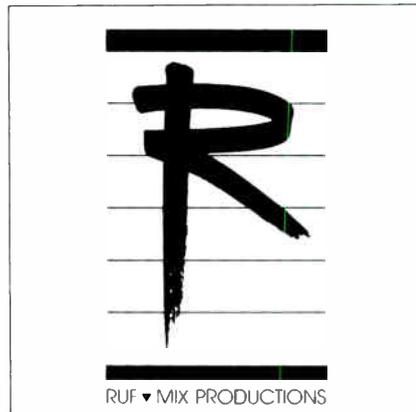
Credits: Tom-Tom 99, Johnny Littlejohn, Secrets, Sargent's Redd Band, Gene Chandler, Ramsey Lewis, M.C.B., Will Edd Moore, Eric and Smoke, Poplar Demand, Carle Wooley and the Groove Masters, The E-Z Band and others.
Services Offered: Production and/or co-production and engineering services. Associated with the finest studio arrangers, musicians, etc. . . . Access to any and all state-of-the-art equipment available today. Competently oversees entire projects from start to release. . . . and beyond. We are Ace Audio. The "Ace" of all your audio needs.

PETER MOORE
Engineer & Producer
MDI PRODUCTIONS
116 Beaconsfield
Toronto, Ontario, Canada
(416) 588-5054

Credits: Cowboy Junkies, Suffer Machine, Sheep Look Up, Garbage.
Services Offered: Live-to-2-track digital original recordings employing Calrec Soundfield MK IV; supervision and engineering of all phases of LP production, remote recordings of classical, jazz, plus alternative music a specialty.

ERIC MORGESON
Engineer & Producer
EMP PRODUCTIONS LTD.
5619 N. Beech Daly
Dearborn Hts., MI 48127
(313) 561-7489

Credits: Sharon Bryant, George Clinton, Dennis Coffey, The Dramatics, Michael Henderson, Earl Klugh, Ready for the World, Mitch Ryder, Gerry Woo and Alexander Zonjic.
Services Offered: We offer the finest in music production and engineering featuring the Synclavier digital music system interfaced with the state-of-the-art recording facility in Detroit, Studio A Recording. We also provide custom songwriting, arranging, mixing and sound design.



RUF ▼ MIX PRODUCTIONS

TAAVI MOTE
Sherman Oaks, CA

TAAVI MOTE
RUF-MIX PRODUCTIONS
12966 La Maida St.
Sherman Oaks, CA 91423
(818) 760-0269

—CONTINUED ON NEXT PAGE

THE IBM MUSIC FEATURE

The revolutionary "all in one" MIDI studio from IBM

WE'VE GOT IT! \$495



Description: Full-length music option card with 8-voice multi-timbral polyphony and MIDI converter box providing MIDI In/Out/Thru.

Features: Yamaha FB-01 sounds and functions, 240 preset voices, 96 user-programmable voices, RCA stereo outs, independent microprocessor, MIDI interpreter for data stream, digital-to-analog converter for output, miniature headphone jack and audio preamp to drive headphones.

NOTE: Using two Music Feature cards doubles the above capacities.

Hardware: IBM PC, XT, AT, PS/2 Models 25 & 30

MIX BOOKSHELF*

6400 Hollis St. #12
Emeryville, CA 94608
(415) 653-3307, TOLL FREE (800) 233-9604,
in CA (800) 641-3349

*MIX BOOKSHELF is an Imagine Computers & Software authorized limited sales agent for IBM music-related products.

—CONTINUED FROM PAGE 169

Credits: Production. Jeff Lorber, various projects in the works
Mixing/engineering. Jody Watley, Andre Cymone, Madonna, Anita Baker, Natalie Cole, *Beverly Hills Cop I and II* soundtracks, Gladys Knight, James Ingram, Patti LaBelle, Morris Day
Services Offered: The best in pre- and post-production, recording, overdubs, mixing, re-mixing (12", LP and single versions)
Song publishing. Using the best recording studios in Los Angeles, you get the most dynamic sound in analog or digital
Extensive variety of outboard equipment available. Call for further information

TOBY MOUNTAIN
Engineer & Producer
NORTHEASTERN DIGITAL RECORDING, INC.
12 Sadler Ave.
Shrewsbury, MA 01545
(617) 753-1192
Credits: Frank Zappa, Arlo Guthrie, Ritchie Havens, Rykodisc, Polygram, RCA, A&M, Rounder, Titanic, Omnibus, Newport Classic, Biograph. Musical Heritage Society. Extensive music background (M.A., PhD) and training in digital signal processing (Stanford/CCRMA, MIT).
Services Offered: Digital recording in studio or remote. Digital editing, mastering for CD with Sony PCM-1610/30 system. Complete compact disc services

WILLIAM P. MUELLER
Engineer & Producer
13816 Sunny Brook Rd.
Phoenix, MD 21131
(301) 628-7260
(301) 666-0196
Credits: 1985 Grammy nomination-Best Engineered Album, Michael Hedges, *Aerial Boundaries*. 1986 Grammy nominated album, Douglas Miller, *Unspeakable Joy*. Six top ten gospel albums. Remote recordings. Journey, Mr. Mister, Barry Manilow, Ella Fitzgerald, Oscar Peterson, National Symphony, Charlie Pride, Chuck Brown, DIR Broadcasting. Audio for video: Michael Hedges, Will Ackerman, Shadowfax, Exile, MPT Production for Don Mark (Capitol Records), engineering for Kix (Atlantic Records). Second album for Vidual on Chrysalis
Services Offered: 48-track digital, 48-track analog studio: SSL 4000/Sony or Sluder Remote. Trident/Sony or Olari, Sony 3202 DASH, BTX Shadow, AMS 1580s, RMX 16, EMT Plate, Lexicon 224XL, LEX 200, (3) SPX90, BBE 202, Sontec EQ, assorted gates, DDLs, compressors, etc

RICHARD A. MUSK
Producer
MUSK MUSIC INC.
455 Hope St.
Stamford, CT 06906
(203) 323-7022
Credits: HBO, Cinemax, IBM, Armstrong Tire, Hueblin, GTE, Sleuben Glass, *Time* magazine, Capitol Records, Universal Studios, Wyeth Laboratories
Services Offered: Original composition and arrangement for film, video, industrial, documentary, jingles, logos, songs. Fairlight CMI rental and programming.

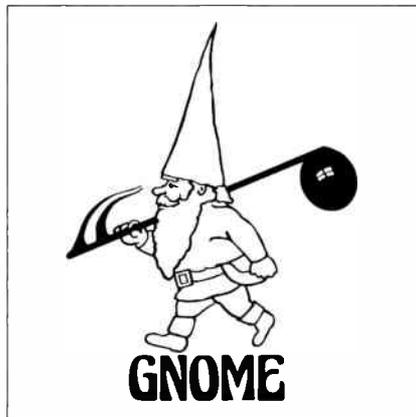


NATIONAL VIDEO CENTER/RECORDING STUDIOS, INC.
New York, NY

NATIONAL VIDEO CENTER/RECORDING STUDIOS, INC.
460 W. 42nd St.
New York, NY 10036
(212) 279-2000
Credits: Broadway's *Sweet Charity*, The Count Basie Orchestra, the Phillip Morris "Superband," Elton John/Jennifer Rush's "Flames of Paradise," Mr. Mister's "Something Real," Peter Gabriel's "Red Rain," Kurtis Blow's "America." Also The Pretenders, Mick Jagger, Carly Simon, Duran Duran, Christopher

INDEPENDENT ENGINEERS & PRODUCERS

Cross, Cyndi Lauper, Billy Idol, commercials, industrials and network programming
Services Offered: National's new music studio, "The Edison," (60 x 60 x 24) with SSL 6000 56-channel console, 48-track recording, video/audio interlock, all outboard equipment, microphones, etc. The Edison's enormous recording space and Tom Hidley-designed control room make this studio ideal for acoustic recording of major acts, orchestras, commercial jingles, etc. Also two interlock video sweetening rooms, three voice studios, time compression, celebrity casting and talent negotiation, transfers, music and FX libraries, scoring and soundtrack design. Video: three shooting stages (60 x 80, 40 x 50 and 20 x 30), seven on-line computer editing suites, two off-line/inter-format suites, negative color correction, remote production, videodisc mastering, computer graphics, animation stands, duplication—all formats



BRUCE C. NAZARIAN
New York, NY

BRUCE C. NAZARIAN
Engineer & Producer
GNOME PRODUCTIONS
251 W. 30th St.
New York, NY 10001
(212) 594-7554
Credits: LP and 12" projects for Atlantic, Island, Epic, MCA, ATCO, 4th & Broadway and Orphan Records. Nearly a dozen *Billboard* chart records in the past few years as producer/engineer/programmer. Experienced session musician on guitar, bass, keyboards and as drum programmer. MIDI sequencer programming is a specialty, especially the Synclavier!
Services Offered: I offer a unique, musical approach to contemporary recording. As an experienced musician, engineer, programmer and producer, my overview of the recording process is both technically competent and musically sensitive. I specialize in relaxed recording environments designed to elicit the artist's best performance. In addition, my familiarity with modern digital goodies allows you to harness the maximum power of today's recording techniques while still obtaining a great feeling product. My studio includes the best of today's recording gear, including a full-blown Synclavier with direct-to-disk. If you haven't recorded with this system, you haven't experienced the real state-of-the-art! You'll be amazed at how easy it is to make a great record

JOHN NEFF
Engineer & Producer
MAUI RECORDERS
380 Dairy Rd.
Kahului, HI 96732
(808) 877-0677
Credits: Over 22 years experience in record, commercial, institutional and film/video audio production, in four large North American markets
Services Offered: Resort recording packages in Paradise, without leaving the U.S.A. With one phone call, I can put together your Maui recording project, including airfare, rooms, catering, video documentation, extra musicians/singers, recreational activities and more. I own a MIDI/8-/16-track studio and record company on Maui, and can produce projects from demos to 24-track analog or PCM3324 digital/SSL 4048E, on Maui, on time, on budget. Leave your analyst's couch behind, bring your slippers, record where the air is sweet and the water warm Aloha!

LARY [LARZ] NEFZGER
Engineer & Producer
TRIAD STUDIOS
4572 150th Ave. NE
Redmond, WA 98052
(206) 881-9322

Credits: Over 12 years of engineering and production experience including many award winning albums and productions. Many top national and regional Northwest recording artists including: Denice Williams, Danny O'Keefe, Cedar Walton Trio, Danny Dearthoff, Randy Meisner, Steve Miller, Uncle Bonsai, Eric Tingstad, Spencer Brewer and Michael Tomlinson
Services Offered: With my collection of custom microphone preamps and signal processing equipment, I can make you and your project sound cleaner, more transparent and ear catching in any recording environment. Whether your project incorporates the latest in MIDI technology, computer sequencing, sampling, video interlock or just great recording techniques—you can rest assured that you have an engineer that can excel and has vast experience in all recording situations. My philosophy is based on total communication in an atmosphere of support and technical excellence and yields a superior end-product in all facets of recording and video post-production

GREGORY L. NEU
Producer
CHELONIAN MUSIC
51 W. 81st St.
New York, NY 10024
(212) 362-3386
Credits: The Waybacks, The Rousers, The Praise Jockeys, The Mockingbirds, The Chant'n' Warlords, The Backbones
Services Offered: Production of musical recordings

BOB NICHOLSON
Engineer & Producer
BOB NICHOLSON PRODUCTIONS
20 Hyde Rd.
Stockholm, NJ 07460
(201) 697-4580
Credits: Mutha Records, Tygen, Tom Spirtgler, The Skulls, Michael Bruce, Mark Johnson, Secret Syde, Y Fly to London and others
Services Offered: Producer/engineer with good attitude and ears available for your next record with over 20 years experience. All types of music. Specialty: rock and roll

RICK NOWELS
Producer
RICK NOWELS PRODUCTIONS
7469 Melrose Ave., Ste. 33
Los Angeles, CA 90046
(213) 655-7990
Credits: Songwriter/producer of Belinda Carlisle LP *Heaven On Earth* and Stevie Nicks LP *Rock-a-Little*

BOB OLHSSON
Engineer
1408 Donna St.
Novato, CA 94947
(415) 897-9216
Credits: Quicksilver Messenger Service, Enchantment, Stevie Wonder, Jacksons, Diana Ross, Chuck Jackson, Smokey Robinson, Terry Johnston, Four Tops, Fantastic Four, Marvin Gaye.
Services Offered: Recording, editing, mixing and production. Home studio projects sweetened, mastered, edited or mixed. Transfers to 24-track. The use of Quicksilver's master (24-track plus MIDI) reproduction of a late '50s studio is also available.

RICHARD OLIVER
Engineer & Productions
854 7th Ave., Apt. 9
New York, NY 10019
(212) 459-9643
Credits: Record engineering major projects (Rolling Stones/Oreans/Yes) to minor demos (Jacoby/McFall). Also videos and film including screen credits. Also commercial credits. Also extensive digital work. Also published songwriter.
Services Offered: Extensive working knowledge and long-term experience recording and computer mixing on consoles such as SSL, Neve, Trident and MCI/Sony. Many 48-track projects. Full working knowledge of synchronization, frame rates, pilot tones 60Hz, 50 and 59.9, lock to picture, outboard equipment, digital projects Mitsubishi and Sony machines. Mixing to all formats 1/4" stereo, 1/2" stereo, mono L pilot right, 1630, X80, F1, DAT, 4-track, 6-track for Mag. Also editing. Also unparalleled technical knowledge. And on and on and on. Ard... an acceptable productive responsible nice guy people like to work with.

BRUCE OLSEN
Engineer & Producer
FLOOD ZONE
PO Box 7105
Richmond, VA 23221

(804) 644-0935
Credits: Ten Ten, The Good Guys, Pattison/Rode, Steve Bassett, The Orthotronics, IMU, Miches/Guthrie Band, Bop Cats, Snuff, Dirty Secrets, The Offenders, VCU Jazz Orchestra, White Cross, Beex
Services Offered: Engineering/producing. I help artists realize their dream

LARRY OPPENHEIMER
Engineer & Producer
TOYS IN THE ATTIC
PO Box 590145
San Francisco, CA 94159
(415) 553-8769

Credits: Stein & Walder (Windham Hill), Michael Shrieve, Seldom Scene, Abdullah Ibrahim (Dollar Brand)
Services Offered: Live and studio engineering, consulting (specializing in audio and music technology).

BUCK ORMSBY
Producer
ETIQUETTE PRODUCTIONS
2442 NW Market St., #273
Seattle, WA 98107
(206) 789-3658

Credits: Sonics, Wailers, Jr. Cadillac, Kent Morrill, Jerry Roslie
Services Offered: Production, various music business services

DAVID C. PALMER
Engineer & Producer
33371 N. Burr Oak Dr.
Solon, OH 44139

(216) 248-4750
Credits: Call
Services Offered: Studio recording, live sound, equipment consultation

DOUG PARRY
Engineer & Producer
ANDORA STUDIO & SMOKETREE PRODUCTIONS
3249 Cuhenga Blvd. W.
Hollywood, CA 90069
(818) 998-2097

L. LEON PENDARUIS
Engineer & Producer
PINWHEEL PRODUCTIONS
211 W. 56th St.
New York, NY 10019

(212) 586-3525
Credits: Michael Jackson *Bad* video score, *Pretty in Pink* film score, *Oliver* soundtrack, *Saturday Night Live* band leader, *Fame* title song and movie soundtrack. Arranger: Eric Clapton, Aretha Franklin, Sheena Easton, Carly Simon etc

JOHN PERGAMO
Engineer & Producer
J.P. PRODUCTIONS/ACE RECORDINGS
414 Vanderbilt Ave.
Brooklyn, NY 11238
(718) 622-7524

Credits: Album *Ground Zero* by Nuclear Energy. Singles "Face the Music" by Superdude, "Long Live Rock" by Derek Reese, "Seaside Baby" by Nuclear Energy.
Services Offered: Freelance engineering and producing 8-track studio with computerized MIDI sequencing. Two 24-channel boards linked together and over twenty synths, drum machines and Simmons for a state-of-the-art commercial sound. Rates cannot be beat. Musicians and composers available.

RICHARD K. PHOENIX
Engineer & Producer
EMMETT RECORDING ENT.
960 S. Springfield Ave.
Springfield, NJ 07081
(201) 467-5530

Credits: Writer, producer, engineer. Voice-over talent of top commercials and PSAs for radio: documentaries, motivational, instructional, multi-image, talent demos.
Services Offered: Up to eight channels w/full mixdown capabilities to 2- or 4-channel stereo on 1/4"; commercial/PSA prod./A/V presentations; instructional/motivational presentations, talent demos; music/sound effects library, reel and cassette dupl., v/o talent bank; script writing and editing; quick turnaround commercial prod. on call.

ED PLUESS
Producer
ED PLUESS PRODUCTIONS
PO Box 6
Tumacacori, AZ 85640
(602) 398-2387
(602) 281-1746

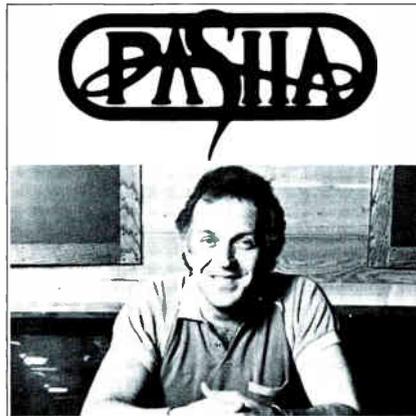
Credits: Produced and wrote original music for television documentary, wrote music, words and produced radio ad for GM dealership, four years television production experience; music composition degree from the University of Arizona, Tucson
Services Offered: Write and/or produce music for commercial radio, television or film, arrange and/or produce songs utilizing a 24-track recorder, Kurzweil synthesizer/sampler, Roland and Yamaha synthesizers, MIDI and/or acoustic instruments; provide Spanish/English consultation and production, write copy/lyrics. I emphasize originality, clarity and excellent musical product

DOUG POMEROY
Engineer & Producer
POMEROY AUDIO
193 Baltic St.
Brooklyn, NY 11201
(718) 852-8505

Credits: American Jazz Orchestra, Buck Clayton Big Band, Marty Grosz, Alden-Barrett Quintet, Peter Eklund, Ken Peplowski and Frank Vignota, Swing Street Video, also recording and reinforcement in Town Hall, NYC
Services Offered: Digital and analog 2- and 4-track location recording, editing and mixing, record production, audio restoration

CHUCK PRESTON JR.
Engineer
POSSIBLE PRODUCTIONS
1821 Eustis St.
Lauderdale, MN 55113

(612) 644-7497
Services Offered: Post-production for video



SPENCER D. PROFFER
Los Angeles, CA

SPENCER D. PROFFER
Producer
PASHA MUSIC ORGANIZATION, INC.
5615 Melrose Ave.
Los Angeles, CA 90038
(213) 466-3507

Credits: Albums by Quiet Riot, W.A.S.P., Little River Band, Jon Butcher, Eddie Money, Tracks by Heart, Cheap Trick, Ian Hunter, Beach Boys. Film work for most major studios (*Stayin' Alive*, *Mickie & Maude*, *All the Right Moves*, many more).

Services Offered: In addition to production and arrangement services, Proffer is the owner of The Pasha Music House recording studios in Hollywood where numerous non-Pasha artists also recorded, ranging from Pointer Sisters, Willie Nelson, Motley Crue and more. Pasha Music Organization offers a full range of promotion and marketing services to help work the projects after their release on disc.

WILL RASCATI
Engineer & Producer
FOR THE RECORD MUSIC PRODS.
PO Box 1685
Lombard, IL 60148
(312) 932-1120

Credits: Styx, Dennis DeYoung, Survivor, Wild Blue, Peter Brown
Services Offered: Engineering, pre-production and arrangement producing, publishing, solicitation to record labels



MICKEY RAT
Silver Springs, MD

MICKEY RAT
Engineer & Producer
MICKEY RAT
Cheezbox 1332
Silver Springs, MD 20902

Credits: Send for text.
Services Offered: Non-fast food oriented music recording. Owner of 72-track automated audio/video production facility (Power Plant Studio, Kensington, MD-near Washington D.C.). Send me any tapes and photos of you' best and worst work to the address above. I promise (an honest rat!) to check everything out but please try not to phone, I receive tons of tape daily (wanna buy some tape?). Thank... The Rat

JIM REEVES
Engineer
REEVES AUDIO RECORDING
Yonkers, NY
(914) 793-6496

Credits: Albums: ZZ Top, Lou Reed, Gregg Allman, Mott The Hoople, Johnny Winter, Edgar Winter, Bobby Vinton, Chambers Bros., Al Kooper, Don McLean, Count Basie, Leslie Gore, Johnny Ray, Jonn Davidson, Martin Mull, Tom Rush, Frankie Valli, King Crimson, Queen. Concert tours: Dave Mason, Manhattan Transfer, Patty Smythe & Scandal, Angela Bofill, Booker T & the M.G.'s. Jingles: Wang, *Match Game-Hollywood Squares*, *Consumer Reports*, *WPIX 11's Alive*, *USFL ABC Football*, *Coleco-Vision*, *Technics*, *Bayer Aspirin*, *Alpo*
Services Offered: Studio engineering, mobile recording, live PA mixing, audio consulting, studio design, maintenance, vocals, piano, synthesizers, bass, drums. Own and operate a 16-track fully-equipped recording studio and jingle production house.

GARY REMAL/MICHAEL BOYD
Producer
MUSIC DESIGN
1850 Union, #366
San Francisco, CA 94123
539 S. Niagra Blvd.
Burbank, CA 91505
(415) 885-4651 (San Francisco)
(213) 826-3181 (Burbank)

Credits: Film and TV scores: "We the People" PBS, *Unsolved Mysteries* NBC, "Breakin'" (Cannon), "Maras Lovers" (Cannon), *Five American Guns* HBO Commercials: Avia, Atari, Chevron, Gallo, Bank of America, Safeway, Sofoflex, PG&E
Services Offered: A full service music production company that produces music for feature films, television, commercials and album projects. Since 1983, Music Design has been an industry leader for a vastly diverse musical territory for a broad clientele base. Offices in San Francisco and Los Angeles. Production work arranged in SF, L.A. and New York.

STEVEN REMOTE
Engineer & Producer
REMOTE MEN VISUAL MUSIC ENT.
PO Box 791
Flushing, NY 11352
(718) 886-6500
Telex: 271382 ASL UR

Credits: Recorded and/or engineered a variety of artists: Squeeze, The Neville Bros., Nona Hendrix, Clarence Clemons, Allen Toussaint, Black Uhuru, The Blasters, Dr John, Frank Zappa, The Police, James Brown, Simple Minds, Howard Jones, The Ramones, XTC, Stevie Wonder, David Sanborn. Plus clients such as: A&M, Arista, BBC-TV, CBS, Fantasy, FM Tokyo, Geffen, King, Landmark, MTV, PBS, Profile, Turner Broadcasting, Virgin, WLJR-FM, WNEW-FM, WPIX-FM to name a few
Services Offered: I am available as an engineer and/or producer for pre- and post-production, audio mixing (studio or live), digital and analog recording. I also own a state-of-the-art dual 24-track mobile unit.



ROB ROBERTS
Carmichael, CA

ROB ROBERTS
Producer
OCEANHILLS MUSIC GROUP
6120 Coyle Ave.
Carmichael, CA 95608
(818) 763-2028
(315) 492-9489

Credits: Produced and recorded separately and collectively David Cochrane, Paulinho Da Costa, Nauyu Chancler, Paul Harris, Chuck Kirkpatrick among other recording artists. In recognizing and evaluating the uniqueness and potential of the artist and material within the current market place.
Services Offered: Producing, contemporary rock/pop-AOR crossover/contemporary Christian rock/jazz rock.

MICHAEL "SPIDERMAN" ROBINSON
Producer
STONE LOVE PRODUCTIONS
Oakland, CA
(415) 532-3714

Credits: Album credits Ronnie Laws, Debra Laws, Kenneth Nash, Jean Carne, Bloodstone and numerous independent record and demo projects
Services Offered: Multi-keyboardist, songwriter, arranger, performer who can bring the best out of seasoned professionals or beginners Equipment: IBM MIDI software recording Sequence Plus, Personal Composer, Texture and Mu-Art 4-channel MIDI recording Keyboards DX7II, Roland S-50 sampler, Matrix 6R, Mirage sampler, Akai S900 sampler. All major drum machines including Linn, Roland, Emulator, Yamaha, MC500, complete effects package. 8-, 16- and 24-track recording, over 20 years experience

SUSAN ROGERS
Engineer
SUSAN ROGERS
4418 W. Lake Harriet Pkwy., #204
Minneapolis, MN 55410
(612) 920-8994

Credits: Prince, The Family, Madhouse, Jill Jones, Sheila E., Mazarati, Jesse Johnson
Services Offered: Former maintenance technician, experienced studio and location recording engineer, co/post-production music supervisor and recording engineer on Prince concert film *Sign O' the Times* Albums include Prince *O' the Times*, *Parade*, *Around the World in a Day*, *Madhouse Eight*, *The Family The Family*, *Jill Jones Jill Jones*. Currently relocating to Los Angeles.

RICK ROONEY
Engineer & Producer
RICK
Planet Dallas Studios
3515 Dickason
Dallas, TX 75219
(214) 521-2216

Credits: *Shallow Reign* (Island), *The Tribe* (My Highway), *Pictures* (S W Experience Records), *The Bodeans*, *The Rainmakers*, *The Smithereens*, *George Gimmarc's Rock and Roll Alternative* Syndicated Radio Program, *Lost Highway*
Services Offered: Complete turnkey album packages, 24-track MCI automated studio, synths, drum machines, guitars, Yamaha drums, living quarters for out-of-town projects, studio design by Lakeside Assoc., L.A.

MIKE ROSENMAN
Producer
SAUNA STUDIOS
3334 89th St
Jackson Heights, NY 11372
(718) 779-2312

INDEPENDENT ENGINEERS & PRODUCERS

Credits: NBC Radio, American Comedy Network, Radio Advertising Bureau, Apple Computer, Shearson/Lehman Bros., Consumer's Reports, Records The Upstartz, Ronnie Dyson, Blue Magic

Services Offered: Production, scoring, arranging for radio and TV music, jingles, industrial videos, station IDs, custom music beds, song parodies, records Large on-call listing of singers, voice-over people, impersonators Pre-production and MIDI synthesizer programming, sampling, MIDI-to-SMPTE sync. Musicianship combined with technology, tailored to your project.

RICHARD ROSING
Engineer & Producer
GENETIC MUSIC
6017 Bellingham Ave.
North Hollywood, CA 91606
(818) 763-3742

Credits: Great Western Bank, Toshiba, First Interstate Bank, Capitol Records, Lorimar/CBS, Crusaders Productions, City of Hope, *Los Angeles Times*, Dreamgirl USA, Mike Chapman Publishing, Queen Mary Long Beach, Julie Brown, Gardner Cole, Allan Rich, Gloria Sklerov, Stephen Geyer, Terra Nova, Arlen Advertising, Orphan Records, Dan Howard Productions, El Estudio Productions
Services Offered: In-house state-of-the-art 8-track production facility, composing, arranging, programming, sound effects design, music editing, film scoring

J. THOMAS ROWAN
Engineer & Producer
SOUND LAB, INC.
2319 Fernwood Dr.
Greensboro, NC 27408
(919) 288-0185

Credits: Total engineering and cooperative production on: *Lynx* EP by Lynx, *Thru the Rubble* LP by Broken Ice, *Heart Like a Rock* LP by 50/50, "Where Did our Love Go" single by Crossroad
Services Offered: Full engineering and production or production assistance on 16-track Tascam and Soundcraft 1600 Familiarity and expertise on outboard gear including Lexicon, Eventide, Drawmer, Symetrix and much more Call for studio info or write for complete gear listing Demos available upon request

BARRY RUDOLPH
BARRY RUDOLPH
5627 Irvine Ave.
North Hollywood, CA 91601
(818) 985-1855

Credits: Engineered for: Hall and Oates, Lynyrd Skynyrd, Rod Stewart, Waylon Jennings, Al Wilson, Johnny Mathis, Shalamar, Lakeside, O'Bryan, Don Cornelius, James Last, John Prine, Roy Buchanan, Stanley Clarke, Natalie Cole, Levon Helm, Steve Cropper, Duck Dunn, Robin Smith, The Rockmelons, Dazz Band, Parthenon Huxley, David Kahn, Maurice White, Juice Newton and Cher

JAMES SABELLA
Engineer & Producer
JAMES SABELLA
49 Oakdale Rd.
Roslyn Heights, NY 11577
(516) 484-0862

Credits: Have worked with CBS/MCA, recording artist, also many independent labels, with rap, R&B, pop and heavy metal
Services Offered: 24-track recording studio with Neve 8068 MkII console. All production services from demos to masters.

GARY SALZMAN
Producer
QUANTUM SOUND/MAYHEM PRODUCTIONS
512 Paterson Plank Rd.
Jersey City, NJ 07307
(201) 656-7023

Credits: Cookie Watkins, VETO, Tramaine Hawkins, Man Eating Plants, Maria Adles, Michael Lynch, Nicki Buzz, Lumnella, Desire
Services Offered: Arrangements, record production and mixes

RICK SANDIDGE
Engineer & Producer
MARK FIVE SANDCASTLE
PO Box 7620
Greenville, SC 29610
(803) 269-1111

Credits: Rick Sandidge has produced the following: The Killer Whales, The Rob Cassels Band, The Pilots, Sonny Turner, Panic, Grace Capps, Country Gold, J.D. Wilson, Harry Willis, Barry De Fleron Band, The Drifters, The Grapes
Services Offered: Producing, engineering, video production

SILVER JOSE SARGENT
Engineer & Producer
SILSAR MUSIC
PO Box 897
Hartford, CT 06101
(203) 548-0212
(203) 522-2705

Credits: Has worked with: Maurice Starr, New Edition, Mike Jonzun, Tommyboy, Mikeal Dunlap, Commodores, Jackie McLean, Doug Wimbush, Skip McDonald, Benard Jackson, Surface, Rahm Harris, Hush Productions, Marshall Chess, MCA, CBS and Macola Records
Services Offered: Specializing in producing 12" singles or LPs...singing, songwriting, vocal and keyboard comprehension, instructor, computer "MIDI" engineering, pre-production and/or master recording, 16-track studio owner Labels: Sounds of Connecticut (S.O.C.) Records, Little Bit MIDI City, Polite Music, LUV Sound, Artist Collective, Tri-Sarge Music

ALWIN SAUERS JR.
Engineer
BLUE VELVET ROSE PRODUCTIONS
2075 E. 3rd St., #G
Long Beach, CA 90813
(213) 434-8626

Credits: Radio *Billboard's* Radio Show of the Year, *Doors 3 Hours of Magic*, *Rockline's* Holiday Show world broadcast. Demos and LPs: *Babalade "Come With Me,"* Sweet Singing Cavaleers, Great Vision Records, Wilton Felder Jr. Live, Sam & Dave, Bo Diddley, Big Mama Thornton, Herb Jeffries, Susan Lynch, Vixen, Tsunami, Patty Weaver, Curt Wilson
Services Offered: Studio engineering, 2- to 24-track formats, radio pre-production engineering/editing, studio design, studio builder, studio management, live front mixer, live monitor mixer, tour and stage management. Currently freelancing in Los Angeles, CA. Also working in management, electronics vocational education, Institute of Developmental Technology. I bring a professional attitude to all projects and strive to bring out the best in my music

SKIP SAYLOR
Engineer & Producer
SKIP SAYLOR RECORDING
506 N. Larchmont
Los Angeles, CA 90004
(213) 467-3515

Credits: *The Whispers*, Chico De Barge, Dan Segel, Con Funk Shun, Gary Taylor, Carl Anderson, Maria Conchita Alonso, Osborne & Giles, Joyce Kennedy, Phyllis Nelson: E.T., Van Dyke Parks, King Erison, Kelle Rhodes, Thu Thuy, Linda Le, Steve Narahara, Shattered Faith, Gene Clark, Spittin' Image, many television commercials, soundtracks and film scores
Services Offered: Producing and engineering In-house 24-track and 48-track facility available See listing under 24-track recording studios for details

MARK SCHULTZ
Engineer & Producer
MARK SCHULTZ MUSIC PRODUCTION
263 Washington Terr.
Audubon, NJ 08106
(609) 547-8928

Credits: Ben Vaughn Combo *Beautiful Thing*, Kenn Kweder *Kitchen Folk*, *Man Overboard*, *Das Yahoos Sturm und Drag*, Scott Anderson *What I'm Living For*, Trained Attack Dogs *Flamehead*, *Baba Lou Baba Lou at Bob's*, Ed King & Frank Hayden, Larry Norman, Five Story Fall, Baby Flame Head, Jane Roman, In-Tech Toys
Services Offered: Music production and engineering. Emphasis on independent, underfed, seedy-looking pop, rock, roots rock, country Excellent original music for video. Used to working on short notice with tight budgets Seven years behind the board; familiar with major Philly studios. Access: to great S. Jersey 24-track with lots of keyboards, sequencing, etc. Willing to travel Audio Op for video Consultation for any aspect of recording and post-production. Instrumental and vocal arrangements Complete song charts Always creative and clear-headed

BACK ISSUES

- 1985 January, Northwest Studios.** Superbowl Sound. Springsteen on Stage. Ray Parker Jr. Leon Russell.
- 1985 February, Independent Engineers & Producers.** Brian Eno. The Art of Touring. Roger Powell on MIDI. Les Paul.
- 1985 March, Southeast Studios.** Loudspeaker Technology. Martin Rushent. *Cotton Club* Sound. John Fogerty.
- 1985 April, Video Production Supplement with Facilities Listings.** Compact Power Amps. Radio Recorders. Harry Bryant. Eurythmics.
- 1985 May, Northeast Studios.** Digital Reverb. Flo & Eddie. Holophonics. Emmylou Harris. Humberto Gatica.
- 1985 June, Sound Reinforcement & Remote Recording Listings.** Location Recording Tutorial. Grateful Dead Sound. Weird Al Yankovic. Synthesizer Oriented Studios. David Sanborn.
- 1985 July, Recording School Listings and Southwest Studios.** Mixing Consoles Dr. Demento. Kashif's Studio. Roger Nichols and John Denver.
- 1985 August, Studio Design Issue: Listings of Designers & Suppliers.** Control Room Acoustics. Thomas Dolby. Orchestral Recording. On the Road with Prince. Neil Young.
- 1985 September, Southern California Studios.** Film & TV Sound. Frank Zappa. Digital '86 Supplement. *Mishima* Sound. David Foster.
- 1985 October, New Products for AES.** Maintenance & Testing. Abbey Road Studios. Ambisonics. Ben Burt on Imax. Nile Rogers.
- 1985 November, North Central & Canadian Studios.** George Massenburg. Video Supplement. Alligator Records. Women in Media Production.
- 1985 December, Tape-to-Disc Listings.** Mastering, Pressing & Duplication. TEC. Award Winners. Sound for the *Twilight Zone*. Tom Waits.
- 1986 January, Northwest Studios.** Equipping Home Studios. Paul Winter. SMPTE MIDI Connection. Yoko Ono.
- 1986 February, Independent Engineers & Producers.** Microphone Special Report. Laurie Spiegel. Budgeting for Sessions. Joni Mitchell.
- 1986 March — SOLD OUT**
- 1986 April, Video Production & Post Production Facilities.** Video Supplement. Al Kooper. Wireless Mics. Alan Parsons.
- 1986 May, Northeast Studios.** Digital Supplement. Sampling Primer. CD Facilities. Future of Console Design. Steve Lillywhite.
- 1986 June, Remote Recording & Sound Reinforcement Listings.** Roadability. Russ Titelman. CD ROM & CD I. By Cooder.
- 1986 July — SOLD OUT**
- 1986 August — SOLD OUT**
- 1986 September, Southern California Studios.** Film Sound. Telecommunications. Production Music Libraries. David Byrne's *True Stories*.
- 1986 October — SOLD OUT**
- 1986 November, New Products Directory.** CD I Supplement. Kenny Loggins. Tour Sound. Daryl Hall. Grounding Primer. Rupert Neve.
- 1986 December, Tape-to-Disc Issue: Mastering, Pressing & Duplication Facilities.** CD Manufacturing. Mastering Engineers. Forum. Lee Ritenour's Studio. Casey Kasem.
- 1987 January — SOLD OUT**
- 1987 February, Independent Engineers & Producers.** International Recording Supplement. APRS Studio Directory. Bruce Lundvall. DMM for CD. Kitaro.
- 1987 March, Southeast Studios.** Digital Recording Supplement. Tom Jung. CD Mastering Forum. Richard Thompson.
- 1987 April, Video Production & Post-Production Facilities.** Location Mic Techniques. Adrian Belew. Synchronizer Survey. Pee wee's Playhouse.
- 1987 May, Northeast Studios.** Stevie Wonder & Nile Rodgers Record by Satellite. Programmable Signal Processors. GRP Records. Digital Video Interactive. George Martin.
- 1987 June, Remote Recording & Sound Reinforcement Listings.** Touring Consoles. Video's Stephen Johnson. Women in Sound Reinforcement. Paul Simon Live in Zimbabwe.
- 1987 July — SOLD OUT**
- 1987 August SOLD OUT**
- 1987 September, Southern California Studios.** Recording in Hawaii. The Doors. Analog 2 tracks. Phil Spector.
- 1987 October, New Products Directory.** Producers' Forum. John Hiatt. Tape Recorder Maintenance. Laurie Anderson.
- 1987 November, North Central and Canadian Studios.** George Harrison. Pioneers and Trends in Film Sound. Localization. Maurice Jarre.
- 1987 December, Mastering, Pressing, Tape Duplication and CD Facilities.** Chet Atkins. Alf Clausen's Scoring for TV. Steve Lukather.
- 1988 January, Northwest Studios.** Computers in the Studio. Mick Jagger. On the Road with Pink Floyd. Tommy Tedesco.

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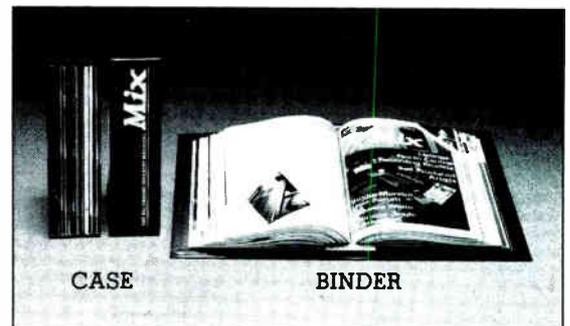
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GARY P. SCLAFANI
Engineer & Producer
GALILEE RECORDING
PO Box 226
Johnson City, NY 13790
(607) 693-3400

Credits: Gary & Linda Sclafani, John Wessells, The Eash Family Singers, Randy Terry, The Beddoe Family, Rossano Bellasai, Gary and Karen Rose
Services Offered: Recording, engineering, production, pre-production, programming/sequencing, arranging, writing, performing. We work with the artist to achieve the ultimate creative expression that best suits their style at affordable rates

ALAN SELK
Engineer
1469 Pine St. NW
Atlanta, GA 30309
(404) 876-8894

Credits: Movies: *Dracula's Widow*, *Windmills of The Gods*, *School Daze*, *Annihilators*. Commercials: Liberty Bank, Delta Airlines, Chrysler, Goodyear, Mobil Oil. Industrials: Dow Chemical, Siemens
Services Offered: Production sound mixer for movies, television shows, commercials and documentaries. Complete equipment package including time code Nagra and playback system.

STEPHEN J. SELTZER
Engineer & Producer
PO Box 234
Somerville, MA 02143
(617) 623-1066

Credits: Call or write for demo tape and rates.
Services Offered: Engineering and production—meditation music to dance mixes. Hardcore a specialty.

PAUL SETSER
Producer
PAUL SETSER CREATIVE SERVICES
2930 N. Newhall St.
Milwaukee, WI 53211
(414) 962-9174

Credits: Blending quality original music scores into multi-image and video presentations for major corporations and institutions nationwide. Continued recognition in the industry. Illustrated through top awards from groups like AMI and ITVA. Also producing demos for local rock groups.
Services Offered: A unique story-telling approach to soundtrack design carried into all audio-visual/performance media. Featuring across-the-board creative direction, from initial concept through original music composition, multi-track assembly, mix-down and post-production sweetening. The "setsurround" touch is dedicated to the promotion of technical excellence and the exploration of an impressive vitality in the audio experience.

SHADE/MANZO COMMUNICATION
Engineer & Producer
AIRBORNE ENTERTAINMENT
530 Ellsworth Ave., Ste. D-1
New York, NY 10465
(212) 792-7576
(201) 790-6112

Credits: Production of syndicated radio programming aired in U.S. and Canada, production of audio books, publications and industrial narration, audio museum and auto tours. Commercial production including: Revlon, Proctor & Gamble, Union Carbide (Eveready), Colgate/Palmolive, Toys "R" Us, Johnson & Johnson, Bristol-Myers (Excedrin), McNeilab (Tylenol), *American Health* magazine, Rite Aid Drugs
Services Offered: A full service production company including writing and production of radio commercials, audio book production, casting services, production of syndicated radio programs, voice-over production.

BRADLEY SHELDON
Engineer & Producer
ENDLESS SUMMER PRODUCTIONS
1504 Kelly Terr.
Arlington, TX 76010
(817) 277-5425

Credits: TBS Sports, NBC Sports, CBS Sports, CBS News, PBS's *Firing Line*, Raycom Sports, ESPN, Jerry Lewis Telethon, Endless Summer Productions' *Mindless Summer Tour*.
Services Offered: Although the majority of my work is in live television, I have built up a sampling/MIDI studio in Arlington, Texas. This studio is time-code based and is ready for applications in both film and television. With offices in both Dallas and Houston, flexibility is the name of the game.

INDEPENDENT

ENGINEERS & PRODUCERS

THOMAS H. SHOEMAKE
Engineer & Producer
FRIENDLY GROVE STUDIO
930 Murphy Rd.
Bowling Green, KY 42101
(502) 782-3892

Services Offered: Friendly Grove Studio is an 8-track facility which provides a relaxed environment for a variety of recording applications, including demo recordings, both for artists and for songwriters, jingles and station promos, instructional tapes and remote recording. I look forward to providing service you can rely on and products with which you will be pleased, at reasonable rates. I welcome your inquiries.

JERRY SKORA
Engineer
PRODUCERS VIDEO SERVICES
PO Box 1865
Palatine, IL 60078
(312) 934-0999

Credits: Technical producer for single and multi-camera commercials, industrials (teleconferencing) and concerts (Rolling Stones 1981 Tour and Farm Aid 1986).
Services Offered: Engineering support and equipment: Ikegami HL 79EALS, HL-95, EC-35 (all primes and acc.) Ikegami 323 P. All tape formats. Ultramate 5 specialist. Engineering consultant and maintenance services: Sony, Ikegami, JVC

GENE SMITH
Engineer & Producer
ORACLE RECORDING STUDIO
PO Box 204
Avondale Estates, GA 30002
(404) 921-7941
Credits: Multiple recording projects.
Services Offered: I can help you with your EP, LP, demo, soundtracks, voiceover, etc.

JEREMY SMITH
Engineer & Producer
c/o Summa Music Group
8507 Sunset Blvd.
West Hollywood, CA 90069
(213) 854-6300
Credits: Co-producer: Starship "Sara" and "We Built This City", co-producer for The Commodores "Goin' To The Bank". Engineer: Phil Collins "Against All Odds," Chaka Khan "I Feel For You".

JAY SNYDER
Engineer & Producer
JAY MARK
309 W. 82nd St. #4B
New York, NY 10024
(212) 362-6002

Credits: BoDeans, Jerry Harrison, Talking Heads, Rolling Stones, Madonna, Eurythmics, Huey Lewis, Fishbone, Aretha Franklin, Chuck Berry, Arcadia, David Bowie, Elton John, General Public, Style Council, Lou Reed, O'Jays, Trampmps, Queen, Romeo Void, Stacey Lattisaw, Steve Miller, Stevie Wonder, Teddy Pendergrass, Thompson Twins, Todd Rundgren, Village People, Bananarama, Bonnie Raitt, Beatles.
Services Offered: Recording, overdubbing, mixing (specializing in dance mixes). Special rates available for entire projects.

ANDREW B. SOMMER
Engineer & Producer
451 Mercury Ave. SE, #101
Palm Bay, FL 32909
(305) 723-0899
(305) 984-9464

Credits: Yellowjackets, David Clayton Thomas, Original Drifters, Radio and Television News Directors Association 1987 Awards, Rory Pastorius, Michael Leasure, Stuart Coleman, Mint Condition, Spliff Brothers, Screaming Iguanas of Love, Puzzlers, Harris Corp.
Services Offered: Concert mix engineer house and/or monitor, live and studio recording engineer. Multi-media production for television, video, corporate communication. Audio/video pre-post editing and sweetening. Theatrical sound and lighting. 8-track analog, 60-track MIDI recording.

PAUL SPECIAL
Engineer
SPECIAL AUDIO SERVICES
197 E. 4th St., 5th Fl.
New York, NY 10009
(212) 505-8363
(212) 581-6505

Credits: Island Records: Trouble Funk, Nick Tremulds, Buckwheat Zydeco, Melissa Etheridge, Peter Himmelman, Gary Windo. CBS Records: Aerosmith, Joan Jett, Price-Sultan Band. Enigma: The Smithereens. Capitol Records: 4 x 4. T.Ted Records: Big Tony. NBC: *NBC Nightly News*; POP Radio: Woolworth's Chrysler Corporation; Jubilation; Bill Cosby Productions; Chubby Checker Productions.
Services Offered: All engineering aspects of your project can be covered by Special Audio Services, from pre-production to basic tracks and overdubs to mixing, editing and mastering to live performance. A complete 16-track pre-production studio w/Emulator II is available. Special Audio Services can also provide complete recording studio installations and maintenance.

CARY STEINBERG
Engineer & Producer
HEARTBREAK HOTEL STUDIO
3885 S. Logan St.
Englewood, CO 80110
(303) 761-8060

Credits: Recording various single acts, duos and bands from the Denver area for ten years. Groups like Johnny 3, Kenny Vaughn, Cactus Jack, currently recording demo tapes by Dente and cassette albums by Minus Bill.
Services Offered: 8-track recording for bands, jingles, audio-visual projects and soundtracks. We have the Mirage sampling keyboard, Korg SQ-1 digital sequencer, Yamaha TX module, Yamaha digital reverb, AKG and Sennheiser microphones plus Nakamichi cassette, etc. Call for rates which are the lowest in the area, catering especially to young upcoming groups with lots of talent and little money.

BOB STONE
Engineer & Producer
BOBCO MUSIC
PO Box 27728
Los Angeles, CA 90027
(213) 281-7367

Credits: Frank Zappa *Jazz From Hell*, *Shut Up 'n Play Yer Guitar*, *The Old Masters*, *LSO II*. CD re-issues include *Hot Rats* remix, *Honker Home Video* soundtracks, etc.; *Havin' A Bad Day* (Dweezil Zappa), *Last Dance* (Donna Summer), Shalimar's *Second Time Around*, *Thank God It's Friday*, *Mickey Mouse Disco*, plus numerous other platinum and gold album "12" remix projects.
Services Offered: Specializing in production and re-mix with extensive digital experience, including soundtrack, video, multi-track and digital re-mastering for CD. US/World tour support, both engineering and technical. Quality project production for maximum chart potential or label consideration.

"HANK" STRASSER
Producer
REALITY RECORDS/PRODUCTIONS
19 Roxborough Pl.
Willingboro, NJ 08046
(609) 877-7653

Credits: Produced for Reality Records, "Antigua" by Rio Clemente, jazz pianist and former side-man to Joe Venuti and Bobby Hackett. I have produced, promoted, or managed: Rick Laird, Vic Juris, Vinnie Cutro, "Reality," "Cahorts," Michael Steinel and "Jaws," Del Reeves and John Malazzo, Gay Brewer and Jump Street and "The Sleepers."
Services Offered: Independent audio production of demos or masters for either a flat fee and/or a percentage of gross revenue. Planning, budgeting, manufacture, promotion, distribution and management services are also negotiable. I have experience in all types of commercial music. My current interests are: jazz, electronic music and new age. I have access to a low-cost 8-track demo studio in South Jersey. My Reality Records label indulges my personal music passions and economic insanity. It is available for quality, outside-financed projects. Send demos and promises of large budget checks to 19 Roxborough Pl., Willingboro, NJ 08046.



RON STREICHER
Monrovia, CA

RON STREICHER
Engineer & Producer
PACIFIC AUDIO-VISUAL ENTERPRISES
545 Cloverleaf Way
Monrovia, CA 91016
(818) 359-8012

Credits: Sound reinforcement for Mann Music Center productions of the Philadelphia Orchestra, the Metropolitan Opera, New York City Opera and others; location recording of the Bolshoi Orchestra for the U.S. tour of the Moscow Ballet; radio broadcasts of the Los Angeles Philharmonic Orchestra; audio consultant to the Los Angeles County Museum of Art; audio production for numerous projects on National Public Radio, American Public Radio and PBS; and record companies including: Angel, RCA, CMS Desto, CRI, SAZ, etc.
Services Offered: Ron Streicher has an international reputation for "live-to-stereo" audio projects on location as well as in the studio. As owner of Pacific Audio-Visual Enterprises, he provides cost-effective, quality-oriented services by specializing in basic, time-proven production techniques—without unnecessary fuss or gimmickry. The result: a successful job... on time and within budget. With a lifelong background in music presentation, Ron is well qualified to serve as a music consultant as well as engineer on any project: location or studio recording or broadcast, live concert sound reinforcement; music and performance coordination, audio systems design and consultation; lectures and seminars on recording techniques.

MICHAEL S. SULLIVAN
Engineer
FORMULA ONE SOUND
4716 Dewey Ave.
Riverside, CA 92506
(714) 686-5809

Credits: Live sound, recording, fully qualified engineer. In industry since 1972. Some production experience. Work with many bands. Punk to jazz!
Services Offered: Recording engineer—all aspects, tracking through mastering. Live sound—have complete sound system.

HILL B. SWIMMER
Engineer & Producer
UPHILL MUSIC
1626 N. Wilcox, Ste. 703
Los Angeles, CA 90028
(213) 666-8388

Credits: Current projects include: Patti LaBelle, Gladys Knight, Klymaxx, Pointer Sisters, Stephanie Mills, Colonel Abrams, Stacy Lattisaw, Teena Marie, Howard Huntsberry, Imagination, Body, SOS Band, Jose Feliciano, Jose Jose, Julio Iglesias, Rosemary Clooney, Bobby Vinton; movies for Lorimar and HBO
Services Offered: Analog and digital recording and mixdown for records, video and film. Specialize in sampling and fixing existing tracks. New artist tapes received and reviewed.

BILL THOMPSON
Engineer & Producer
BILL THOMPSON RECORD ENGINEERING & PRODUCTION
1978 Ardith Dr.
Pleasant Hill, CA 94523
(415) 689-1197

Credits: Debora Iyall, Ronnie Montrose, Sheila E., Club Nouveau, Kajamin, Sylvester, Freaky Executives, Boi, Walter Hawkins Family, The Mysteries, The Looters, The Sorrentinos, Force of Habit, Robbie Shakespear, Razormaid Records, Megatone Records, Macola Records.
Services Offered: Full service record engineering and production from pre-production to mastering. Located in the San Francisco Bay Area but will travel. Call for rates and demo reel.

HORUS JACK TOLSON
Producer
228 Haight St.
San Francisco, CA 94102
(415) 626-4373

Credits: Record production: Die Hard Lover, Loverde, Give Me Back, Norma Lewis, Linda Imperial, Heart Stop, Tyne Mouton, remix credit: Keep on Holding On, Margaret Reynolds, Technique (ERC/Polygram), Life is the Reason, Norma Lewis. Commercials: Zing Ring, Wells Fargo/United Way ARC Productions Cal & Class, Chevy Camaro.

Services Offered: Full production in soul/disco and pop records and demos and full production of commercials, jingles. 8-track/MIDI studio with Macintosh Plus computer. Synthesizer and keyboard work. Arrangements and orchestrations. Extensive custom electronics and microphones available (direct-coupled all FET designs by Pat Duran). Call for rates.

JAN C. TOPOLESKI
Engineer & Producer
62 Van Ness Dr.
Brick Town, NJ 08723
(201) 477-1860

Credits: Recorded Steve Forbert's newest album. Recorded and mixed Marshall Crenshaw's performance of "Crying, Waiting, Hoping" for the movie *La Bamba*. Engineered "J.A.M. '86" which included performances by Bruce Springsteen, Frankie Valli, Tai Farrow and Southside Johnny. I have also engineered sessions with Clarence Clemons, Nils Lofgren, Max Weinberg and Garry Tallent.
Services Offered: Engineering; production; drum, sequencer and MIDI programming and custom sampling.

JOE TORTORICI
Engineer & Producer
808 W. Newport
Chicago, IL 60657
(312) 929-5542

Credits: Gavin Christopher, Shawn Christopher, Colourtones, Ken Chaney, Fenton Robinson, Stations, Paper Tiger, Bang Orchestra, Daryl Thompson (Black Uhuru), Frank Barbalace (Wild Blue), McDonalds, Coke, Sears, Kellogg's, D.J. International Records, Wax Trax Records.

Services Offered: Independent service available at all Chicago area studios with a contemporary approach to production and engineering that accommodates a broad range of clientele and idioms.

BURKE TRIESCHMANN
Engineer & Producer
OPEN DOOR PRODUCTIONS
PO Box 8556
Berkeley, CA 94707
(415) 527-9311

Credits: Original music composition and production for the Eliot Gould documentary film *Working Late*. Other clients include Safeway, the State of California's Supported Employment Group, Peterson Tractor, RAM Oil and Investment, Pacificon and Children's Television, Lekotek. Also independent album projects, books on tape, TV and radio spots and songwriter demos.

Services Offered: Music composition, production and engineering services for film, video and commercial formats. Complete music production and engineering packages for songwriters, recording artists, bands and independent producers. MIDI composition and production services, pre-production arrangement and consultation, creative drum machine programming and top session musicians. Available for independent engineering and production work.

SCOTT TUTT
Producer
SCOTT TUTT MUSIC
PO Box 121213
Nashville, TN 37212
(615) 331-7400

Credits: Has never produced a record that didn't chart nationally. Also president of Reptile Records. Has published several Number 1 records. Instrumental in the careers of: Alabama, Earl Thomas Conley, Susan Marshall, Government Cheese, The Dusters, Pat Garrett, Brice Henderson, Jerry Vale, McFadden and the Bigamy Brothers.

Services Offered: Scott Tutt Music is an independent publishing house, record production company, offers video production and more. Depending on particular artist and project, we can assist in many facets, from label shopping to pressing to promotion and video. Whether you want to sell LPs off the stage or record for a major label, you've got to have great music and quality product. That's what you'll get with Scott Tutt Music. Recording is not limited to Nashville, although there are many excellent studios in Music City.

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Weaverville, NC 28787
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BRIAN A. VESSA
Engineer & Producer
BV PRODUCTIONS
PO Box 3272
Santa Monica, CA 90403
(213) 453-3636

Credits: Underscores: NBC miniseries *Hands of a Stranger*, Michael Mann films *Band of the Hand* and *Manhunter*, Don Johnson *Heartbeat* video feature, four gold albums for Ariola and Melody Records, including Jose Jose and Juan Gabriel; Brett Perkins "New Accelerated World", numerous commercials and industrials for Porsche, Disney, Del Monte, etc.
Services Offered: Production and engineering for records, film and video, Synclavier and computer/synth programming. Studio electronics design. With over 20 years experience as a musician, 12 years in the professional audio field and a degree in electronics, I can provide the necessary link between concept and realization of a musical project whether it be acoustic or electronic music, live recording, or the world of synchronizers and SMPTE. My interest is being a catalyst in the creative process.

WAYNE WADHAMS
Engineer & Producer
BOSTON SKYLINE MUSIC/FILM ASSOCIATES
73 Hemenway St., #508
Boston, MA 02115
(617) 536-5464

Credits: Rock, R&B, jazz and classical albums and singles for CBS, Portrait, U.A., MMG... including *Billboard* Pick-Hits, *Stereo Review* "Best of the Month." Scores for major theatrical productions and soundtracks for feature films, including one *Time* mag. "10 Best." Designed Berklee College 3X TEC award-winning studios and program.
Services Offered: Complete production, from concept through final mixes and specialty remixes. With 20 years experience producing everything from hard rock to classical, synth pop to new age, I specialize in bringing the best out in recording artists who want a distinctive sound, one that will set them apart from the crowd in their respective field of music. Specialists on hand for arranging and orchestrating, budgeting and AFM/AFTRA matters, programming of every brand of synth, MIDI and computer-based system, record and mix to six, complete music-video production, CD pre-mastering etc. Scoring for stage and screen. Will travel!

MICHAEL WAGENER
Engineer & Producer
DOUBLE TROUBLE PRODUCTIONS, INC.
8033 Sunset Blvd., #84
Hollywood, CA 90046
(818) 508-8714

Credits: Alice Cooper, Dokken, White Lion, Keel, Metallica, Accept, Stryper, X, Poison, Kane Roberts, Great White Bonfire, W.A.S.P.
Services Offered: Record production, mixing

JOHN T. WAGNER
Engineer & Producer
JOHN WAGNER RECORDING STUDIOS, INC.
12000 Candelaria NE, Ste. 1
Albuquerque, NM 87112
(505) 296-2766

Credits: Oldsmobile jingle campaign "It's In." Dimensia for RCA, Chevron Ortho/Gro (animated), Charter Medical (animated), National Oldsmobile Marketing Association, Grammy Nominations 1982 and 1983 1986 Miss U.S.A. Pageant, Arnold Baking for "Branola" product. Recorded for RCA, MCA, Capitol, Motown 1985 and 1986 1st place NM ADDY Awards
Services Offered: 24-track recording w/digital automated mixing. Audio post for video using Adams-Smith 5-machine compact controller and synchronizers. Original jingle campaigns and music and EFX composition for video. Dialog replacement.

DUSTY WAKEMAN
Engineer
MAD DOG STUDIO
1717 Lincoln Blvd.
Venice, CA 90291
(213) 306-0950

Credits: Dwight Yoakum *Guitars, Cadillac, Etc. Etc.* LP, Dwight Yoakum *Yoakum Hillbilly Deluxe* LP, George Hcthi!! *Waitin' Up* LP, Rosie Flores *Rosie Flores* LP, Roy Orbison and K.D. Lang "Crying" for Virgin Records, Stryper-Enigma Records.
Services Offered: Music recording for albums, film, television, advertising. Owner of Mad Dog Studio, full service 24-track with Neve 8108 w/Necam, Studer A800 great mics and tons of outboard gear.

INDEPENDENT

ENGINEERS & PRODUCERS

DENNIS WALL
Engineer
10 Howland Cir.
West Caldwell, NJ 07006
(201) 228-4099

Credits: LPs: The Jets, Elisa Fiorillo, Brenda K. Starr, Ronnie Spector, Boys Club, Chad, Scott White and Chuck Loeb. Film and video audio: Urban Entertainment's "The Chair." *NBC News, Evening Magazine, March of Dimes, Wall Street, Hersheys Chocolate* and the New York Transit Authority.
Services Offered: Audio engineering and mixing. MIDI systems design and setup, sequencer programming and pre-production, SMPTE/audio/video/MIDI synchronization.

MATTHEW WALLACE
Engineer & Producer
DANGEROUS RHYTHM PRODUCTIONS
2321 Russell St., Ste. 1-H
Berkeley, CA 94705
(415) 843-3923

Credits: New Mo'kees, Faith No More, Legal Reins, The Naked Into, The McGuirees, Yo, The Sneetches, All Fell Down, Tom Fogerty, Tom Mallon, David Crosby, Capture the Flag, Necropolis of Love, Dave Bryson, The Furies, The Endmen, Bill Thompson, Glorious Din and Kevin Army.
Services Offered: Song choices, song arrangement, pre-production, engineering, producing, mixing, post-production. I basically do whatever is needed to turn a musical idea into a finished product.

STEPHEN C. WASHINGTON/KEITH HILL
Engineer & Producer
SLAVESONG PRODUCTIONS
4004 Happy Canyon Dr.
Dallas, TX 75241
(214) 225-1457

Credits: Hits produced for: Slave "Stone Jam" (gold), "Hardness of the World," "Slave" (gold), "The Concept," "Just a Touch of Love," *Aurra: Send Your Love w/it* "Are You Single," *A Little Love w/it* "Make Up Your Mind," "Such A Feeling," George Clinton "Fries/Shake." "Good Lookin'" and more!
Services Offered: Songwriters, LP and 12" hit producers, movie soundtracks. You name it—we're your slave. Engineering and mixing services available also.

ANDY WATERMAN
Engineer & Producer
ANDY WATERMAN
5051 Klump
North Hollywood, CA 91601
(818) 760-6563

Credits: Records: Stan Ridgway-IRS, Wazmo Naris-Big Time, Max Bennett & Freeway-TBA, Les Hooper & Hoopla-Pausa, Judy Roberts TV: Fashion Channel, *Kids Inc., The Master Movies*, *Movies: Something Wild, Modern Girls, Hard Bodies II, Pretty Smart* Commercials: 1987 Toyota, Honda, Budweiser plus 1,000 more.
Services Offered: In residence at Entourage Studio, No Hollywood with a comprehensive personal equipment package including: complete Macintosh-based MIDI system, FM, analog, wave table and sampling synthesizers, Linn 9000 drum machine with unlimited library, complete studio drum set, sound effects library, SMPTE video lock-up and custom designed effects and outboard gear package. Specializing in record production, jingle production, TV and film score recording. Fast, efficient and musical.

FRED WEINBERG
Engineer & Producer
FRED WEINBERG PRODUCTIONS, INC.
16 Dundee Rd.
Stamford, CT 06903
(203) 322-5778
(212) 349-6644

Credits: Dreams (CBS)/Ruben Blades (FWP), Tito Puente, Eddie Palmieri, Mongo Santamaria, NBC-TV, ABC-TV, Laura Branigan, Commercials: IBM, Mobil, Nynex, GTE, themes for PBS, Telemundo TV Network, King Features, Columbia Pictures, The Lovin' Spoonful. Features: *Hyper Sapiens/The Sun and The Moon, Rosemary's Baby* (trailer).
Services Offered: Digital studio facilities for in-house production, sound and music consultation, multi-lingual (Spanish, English staff), Private labels: Worldwide Audio Video/Rejo Records/sound reinforcement consultation, engineering, location recording, MIDI programming, Kurzweil programming, composition, arranging, world class production. Trendsetters in the recording/music field.

STEVEN WELLNER
Engineer & Producer
340 E. 90th St. (4-E)
New York, NY 10128
(212) 410-1129

Services Offered: Production and engineering services, artist development, live production assistance.

LEW WERNICK
Engineer & Producer
HARDLY RECORDS, INC.
5120 Walnut St.
Philadelphia, PA 19139
(215) 747-1201

Credits: Engineered: Grover Washington, Jr., Dexter Wansel, The Dead Milkmen, The Johnsons, Monnette Sudler, The Nik Everett Group, Wilma Theater (productions of 1984, *Macbett*, and *Shooting Magda*). Produced and engineered: Deconrol. Services Offered: Complete production service and record label.

SAM WHITESIDE
Engineer & Producer
SAM WHITESIDE
5195 Misty Lake Tarn
Acworth, GA 30101
(404) 928-4150

Credits: Engineer at Sound Exchange Studios/Eventide Clockworks '72-'73; chief engineer/producer at Capricorn Sound Studios, Macon, GA '73-'79, independent engineer in studio and live for artists such as: Allman Bros. Band, Sea Level, Elvin Bishop, Marshall Tucker Band, Chuck Berry, Willie Nelson, Chuck Mangione, Sonny Stitt, Archie Shepp, Mark O'Connor. Making you sound good in the studio or on the stage.

JOHN O. WICKS, III
Engineer & Producer
THIRD STORY RECORDS, INC.
5120 Walnut St.
Philadelphia, PA 19139
(215) 747-1201

Credits: Produced: The Dead Milkmen, Monnette Sudler, The Nik Everett Group, The Johnsons. Engineering clients include: Grover Washington, Jr., Pattie LaBelle, Dexter Wansel, Eric Bazilian and Rob Hyman of The Hooters.
Services Offered: Complete production service and record label.

SANDRA WILBUR
Producer
SANDY WILBUR MUSIC, INC.
48 E. 43rd St., 7th Floor
New York, NY 10017
(212) 949-1190

Credits: Commercials: Proctor and Gamble, Coors, Wendy's, Bubblicious, Matchbox, Coleco, Hardees, Meineke, Nyquil, Schlitz Malt Liquor among others. Records: live chart singles including "The Woman In Me" (gold) and "Hit 'n Run Lover", over 30 songs recorded (music and lyrics) Awards: Cho, ASCAP, NY International Film Festival, American Song Festival.
Services Offered: Produce, write, arrange, score music and lyrics for TV and radio commercials, film, records, audio and video cassettes. In-house studio used for sound design, special effects, music and audio tracks, and scoring direct-to-picture includes full MIDI'd setup (Kurzweil 250, Mac Plus, DX7, Voyetra 8) plus Otari 8-track, Ramsa board and lots of outboard equipment.

PETER B. WILDER/PAUL R. APPELEGET
Engineers & Producers
ADVANCE MUSIC CENTER, INC.
44 Church St.
Burlington, VT 05401
(802) 863-8652

Credits: Engineering: audio-for-video, Vermont Educational Television; remote audio broadcast, Vermont Public Radio, live audio mix for B.B. King, Randy Newman, Richard Thompson, others. Several albums and over 100 jingles. Production credits: arranging, composition and production of several regional albums, cassettes and jingles.
Services Offered: Total audio services, from inception forward. Engineering, studio, live or broadcast. Production including composition, arranging and instrumentals. Jingle production and composition. Synthesizer programming; studio design; studio equipment sales and installation, complete packages with and without MIDI compatibility. Our convenient location and friendly staff will be able to assist on any audio endeavor, be it record production, concert sound, audio for video, jingles, studio consulting or equipment supply. We're the one stop for Northern New England. "Have Ears Will Travel." Rates and prices on request.

JEFF WILDERMUTH
Engineer & Producer
LIMETREE RECORDING STUDIOS
552 Putnam Rd.
Schenectady, NY 12306
(518) 382-5734

W. BYRON WILKINS
Producer
SYNTAX PRODUCTIONS
528 N. Lake St.
Aurora, IL 60506
(312) 393-4100

Credits: Caterpillar Co., Catholic Health Care Commission, State of Illinois-Vocational Council, AT&T/Bell Labs, Allied Tubular Rivet, WKKD-FM. Member ITVA and AFI
Services Offered: 4- and 8-track equipment, 16 x 32 studio, slide production, 35mm-120mm 4 x 5 photography, multi-media and video production, voice talent, computerized scripting, graphic/title slides, original music production, product photography

JOSEPH T. WILSON
Engineer & Producer
SOUND TRAX+
1000 W. 17th St.
Bloomington, IN 47401
(812) 332-7475

Credits: Publisher (ASCAP), lyrics, music writer (ASCAP) recorded international trombone festivities in Nashville, Tenn. '86-'87 also international trumpet festivities in Kalamazoo, Mich. 1987 along with several gospel, gospel rock groups (Bloomington Cury Productions, Larry Mitchell), etc. Rock groups, fights, (It Band, Band X, AD8), heavy metal (Trauma, Pegasus) etc.
Services Offered: 8-room 16-track full sound system w/lights on-location or in-studio w/video, 2-track location also, mobile recordings welcome around the world. Available as engineer and/or producer for your next project. Also have contact with several excellent area bands for warm up situations with originals. Sound Trax+ is a full service recording studio. Helping musicians get the sound they want to hear live or on tape

GREGG WINTER
Producer
EXTRATERRESTRIAL SOUND
174 Pacific St., 1G, Cobble Hill
Brooklyn, NY 11201
(718) 834-1441

Credits: Debut album for The Nails entitled *Mood Swing* on RCA Records Worldwide. *The Pleasure Principle* by Treat (a Scandinavian hard rock band) on Polygram International, 12" mix of *After the Fire's Der Kommissar* on Epic Records, *Army of One* on WEA Records International, as well as numerous independent label productions. Also co-wrote the September 1987 Hot 100 chart song "Rev It Up" by the New City Rockers on Critique/Atlantic Records.

Services Offered: Being a songwriter and musician (I wrote and sang background vocals on "Eyes on Fire" for Blue Oyster Cult's *The Revolution by Night* album) is extremely helpful to my work as a producer. Helping bands get the most out of their songs and then tweaking the arrangements is priority one. From that crucial starting point the right performance and the right sounds can naturally flow.

HOWARD WOLEN
Engineer & Producer
11016 Kitting St.
North Hollywood, CA 91606
(818) 508-1259

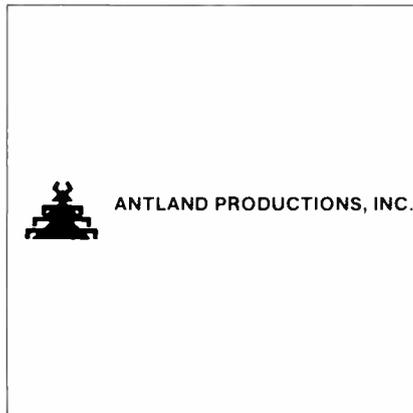
Credits: Smokey Robinson, Herb Alpert, Roberta Flack/Peabo Bryson, Thelma Houston, The Temptations, Natalie Cole, Dionne Warwick, Robert John, Kim Carnes, Barry White, Alphonse Mouzon/Herbie Hancock, Jack Miller Reggae, Teddy Pendergrass, Jennifer Holiday, Hollywood Beat, Solid Gold Show sound mixer/recordingist, Walt Disney, Mazda, Ford, various others.
Services Offered: Engineering, producing, songwriting and collaboration, mixing, fixing, editing, seminars in recording and production techniques

GEOFFREY WORKMAN
Engineer & Producer
ORIGINAL PROJECTS UNLIMITED
2244 Lowell Blvd.
Denver, CO 80211
(303) 455-8208

Credits: Credits include Journey, Queen, The Cars, Motley Crue, Tommy Tutone, Foreigner, Dokken, Twisted Sister, Toto, Sammy Hagar, Ron Wood, Gary Mynick, Roxanne and more.
Services Offered: Original Projects Unlimited's primary interest is in working with original bands that are looking to put together a quality independent package, including recording production, engineering, art direction and marketing strategies. Personal band management and direction for musicians is also the companies intent. Original bands may send demos and bios. Recording studios may submit brochures

CLEVELAND WRIGHT III
Producer
MOTIVATOR MUSIC PRODUCTIONS
1591 Bruckner Blvd., Ste. #8-C
Bronx, NY 10472
(212) 328-8323

Credits: Temper, Anthony Malloy, Black Ivory, Russell Patterson, Impact, Instant Funk, Wayne & Charlie, Omar Chandler, Kids at Work, Master's of Ceremonies, True Love, Micheal Palace, Gene Singleton
Services Offered: Producing, arranging, songwriting and studio pre-production



ROY B. YOKELSON
Bloomfield, NJ

ROY B. YOKELSON
Engineer & Producer
ANTLAND PRODUCTIONS, INC.
686 E. Passaic Ave.
Bloomfield, NJ 07003
(201) 338-7338
(212) 355-1600 Ext. 255

Services Offered: Antland is a full service audio production company providing video sweetening, multi-track recording, original and stock music, scoring and sound effects to the film/video and radio community. Studios located in New Jersey and New York City. For equipment and rates inquiries contact Maria Miccio, production manager



PHIL YORK
Irving, TX

PHIL YORK
Engineer & Producer
1400 W. Irving Blvd., Office #301
Irving, TX 75060
(214) 254-8161

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Engineer
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New York, NY 10029
(212) 860-9143

Credits: Deprogrammers, Duffault Brothers, Big Stick, Rachel Faro, The Fugitives, The Home Boys, Cold War Babies, The Clan, Ann Miles, Force MD's, Gary Vogt, Nuvo Blind, Grace Jones, Nadine Trevour, Cryptovision Records, Manhattan Records, Tommy Boy Records, Working Girls (soundtrack), BBDO, Grey Advertising, Lockhart & Pettus, Italian Broadcasting Corporation and many others.
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in the March issue
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—FROM PAGE 12, SESSIONS

mixing demo tracks for Island Records. **Kerry Crafton** produced and engineered. . . **Downtown Sound** in Dallas has been active recently with a variety of contemporary Christian music projects: **Danny Davis** was in working on his own projects, as well as engineering for producer/arranger **Randy Wills**; and **Charlie Brown** has been producing a project with **Zola Levitt**. . . Texas-based **John Crowe Productions** had their mobile trucks supplying equipment and crews for the telecasts of the **Liberty Bowl**, **Bluebonnet Bowl**, the **All-American Bowl** and more. . . **Cook Sound & Picture Works** of Houston has used its Synclavier on a number of scoring and post projects recently, including TV commercials for **Exxon** and **Ralston Purina** and scores for a trio of films by the **Compaq Computer Corp.** . . . Some of Dallas' top local bands, including **Shallow Reign**, **Reverend Horton Heat** and **The Affirmative**, all worked on demos for major labels at **Planet Dallas**, with **Patrick Keel** producing and **Rick Rooney** engineering. . .

STUDIO NEWS

Power Play Studios in Long Island City, NY, has added a 56-input SSL 4000-E Series console. . . **Presence Studios** in New Haven, CT, who also recently got a 4000-E, have now upgraded to the G Series, which features a special equalization setup. . . **Star Trax** in Chicago has taken delivery of a NEOTEK Elite 48-input mainframe and some new UREI 813 monitors. . . The **Toy Specialists** in NYC have purchased the Neve Prism Series, which is derived from the Neve V Series console and is comprised of a 4U 19-inch rack with capacity for ten modules that can be powered from an existing console. . . **Mastermix Studios** in Nashville purchased a Calrec UA8000 console equipped with AMS TASC Automation. . . **PCI Recording** in Rochester has opted for the Telcom C4 Noise Reduction System, manufactured by ANT Telecommunications. . . **Chung King House of Metal** has taken delivery of a Neve V60 console with Necam 96. . . **Frankford/Wayne Mastering Labs** just got their fourth Sony PCM-1630/DMR-4000 with DTA-2000 mastering system for CD prep. . . **Chalet Sound** in Manasquan, NJ has been finished. Featured equipment includes an Amek Angela console, an Otari MTR-90II 24-track and the Dolby XP24SR Spectral Recording System. . . **Crawford Post Production** in Atlanta has a new Synclavier. . .

—FROM PAGE 38, VOCAL LINE

The vocal coaching given while recording will be practically identical to the direction given to the artist during pre-production. For this reason, your approach to recording the singer should be clearly understood by the time you've finished preparing a comprehensive worksheet.

Recording a vocalist *without* doing any pre-production work can be tricky, but is a lot safer if you make a vocal worksheet on the spot. Just have the artist bring a copy of the lyrics to the session, which you can use as a basis for your notation. Use their first takes as a starting point, making corrections

as you go.

One final note. Your goal as a vocal producer is to help the singer record a great vocal performance that *doesn't* sound produced, and even though we've gone to great lengths explaining how to orchestrate quality vocalizing, the final recording should still sound spontaneous and have the energy and emotion of a first take. ■

Thomas Appell, Michael McCone, and Ate Rojas are vocal instructor/producers at Vocal Dynamics vocal instruction and production studios located in Santa Ana, Rancho Cucamonga and West Covina, California.

VIDEO · NEWS

—FROM PAGE 153

composers, publishers and video producers." Chris Stone comments, "By creating flexible, fully-integrated, turn-key systems, we hope to standardize these important tools within the industry, increase your creative range and productivity, and make historically complex studio operations easy to perform anywhere—even in the comfort of your home or office."

Filmsonix has also set up a Macintosh users group to gather and disseminate the latest news—announcing upcoming special events, and introducing and testing new products. The Macintosh Entertainment Guild of America (MEGA) has an international membership consisting of professionals in music, film, video and graphic arts production. It provides a communication platform for members, enabling them to network via monthly meetings, newsletters and an electronic bulletin board. MEGA even provides a 24-hour emergency help line to assist members in solving their hardware and software problems. For more information about Filmsonix and/or MEGA, contact Peggy McAfee at (213) 468-5427.

Realtime Video Goes CMX-6300

Interactive video specialists Realtime Video Productions has become the first facility in Northern California to upgrade its on-line edit suite to the CMX-3600, CMX's most powerful edit system. The system can control four channels of audio. The host computer is two to three times faster than the CMX's former high-end editor, the

CMX-3600A. Realtime has also added two new ADO (Ampex Digital Optics SFX) devices, Digi-Trail and Target Frame Store; the latest 3-D software for the Chyron SCRIBE; and Tascam 2-track ¼-inch center track time code ATR and 8-track half-inch ATR, both directly controlled by the CMX-3600.

Video Expo San Francisco

Video Expo comes to San Francisco February 23, 24 and 25 at the Civic Auditorium. Exhibits and seminars will be presented covering latest releases from manufacturers of recorders, monitors, editors, synchronizers, etc. This year's show will have several additional seminars dealing with audio for video. The next Video Expo will be in Los Angeles in May. ■

Want More Information?

The advertisers in *Mix* are happy to supply readers with additional information about the products and services advertised in this issue.

To receive more information, just circle the appropriate numbers on the Reader Service card on page 178.

JUXTAPOSITIONS

—FROM PAGE 24

flexibility with enhanced system control; *Mix* readers might recall the icon-based displays and control surfaces utilized in the sadly now-defunct Droid Works SoundDroid system. To select a particular task on the SoundDroid, the operator used a trackball to point and click on a suitable icon designating that task. (A later version used a touch-sensitive screen to achieve the same function.) When the time came to move or relocate various sound cues or effects tracks, a visual representation of the audio modulation and accompanying visuals enabled the user to clearly and unambiguously locate the section to be moved, and where in the audio track the section should be placed. A bank of assignable, servo-controlled faders was provided below the monitor to effect real-time level changes, along with EQ and pan. Although SoundDroid's 1024 by 800-pixel display was provided by a large-size graphics CRT, subsequent generations of SoundDroid could have been reconfigured to use electro-luminescent or LCD technologies.

I would also look for a fundamental reappraisal of the centralized role that an all-digital recording and editing system can play in the studio of the '90s. Given that practically every element of a production will be digital, it makes more and more sense for designers to incorporate additional capabilities. For example, the distinction between editing elements of a multimedia production and assembling the various production, ADR, Foley effects and musical elements might usefully be accomplished on a single system that can be reconfigured to better handle the task at hand. (Interestingly, the SoundDroid's stablemate, EditDroid, was designed to export edit decision lists and other time code-based data directly to the sound editing console, so that these complementary tasks could be undertaken on the same information.)

There is much talk these days of "hypermedia," a new term derived from the computer industry that succinctly represents the essence of the new renaissance in computerized control. Why, we can argue, should a system be designed to perform just one task, when it really ought to be able to access information, data and even con-

trol signals provided by subsystems that are performing auxiliary functions, but which can benefit from being networked with the main computational engine.

Consider, for example, the selection of sound elements from a major effects library. Normally, such data would be accessed via a subprogram that allows various search categories to be entered, and then the results viewed on the screen. In a more thought-out system, however, the library utility could be called up from within the main editing program, and the results of the search—including the actual location of the track and/or any signal processing we have selected during the auditioning process—transferred as appropriate data to the calling program.

Within a hypermedia environment, however, each of these tasks would access the same database and provide a way of annotating the data in light of the need of the visiting program, and the fate of the data that it plans to export for its own production task.

If you think all this seems beyond the needs of the average recording and production engineer, you are

probably correct. To remain one jump ahead of obsolescence though means that we do need to come to terms with emergent technologies and, just as importantly, the control schemes being developed to better integrate the complementary functions capable of being achieved with an all-digital microprocessor-based system.

So important is this development that the April issue of *Mix* will include a supplement dedicated to the coming revolution of hypermedia, and the impact such a capability will have on audio and video professionals. My column in that issue will comprise a dialog with representatives from the various companies currently developing digital recording and random-access systems, and their thoughts on integrated control. ■

Mel Lambert has been intimately involved in the pro audio industry—on both sides of the Atlantic—for the past decade. Formerly editor of Recording Engineer/Producer magazine, he currently is a partner in the Marcus Lambert PR firm, and the president of Media & Marketing, a consultancy service for the pro audio industry.*

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*Source: Publishers' BPA statement of circulation, June, 1987.

FEEDBACK

Dissent on "Dissent"

I would like to clarify certain points made in the November 1987 *Mix* article entitled "Dissent in Vancouver" [sidebar to "It's Hot Up There!"].

The Cultural Industries Task Force of British Columbia came together jointly to further the common interests of the film, book publishing and sound recording industries. Our objective is to demonstrate the economic viability of our sector in dealing with government and to address such common problems as promotion, distribution and financing. It is these overall elements of commonality which brought us together rather than any perceived deficiencies of existing organizations such as FACTOR.

Regarding CIRPA, I actually was comparing it to the Pacific Music Industry Association, of which I am a founding director, and its intent to address concerns specific to the BC music industry. Pre-existing organizations (such as CIRPA or CARAS) did not have the same objectives or vested interests nor, was my intimation, could they be expected to have, given their respective specialized mandates and national incorporation.

In the matter of governmental touring and recording assistance, it is not my suggestion that commercial music be helped in the same way as classical artists and dance companies, but that commercial music be recognized as economically significant and be stimulated accordingly, not subsidized, for the resultant multiplier effects.

I hope my position is clarified, and welcome further discussion on the recording industry in British Columbia. Geoffrey Halton
Mushroom Studios
Vancouver, BC

Stealin'

On Thursday, June 25, 1987 at 0100 hours, three white males entered Mix

Masters recording studio, located at 4877 Mercury Street in San Diego. The males identified themselves as members of the band known as "The Choice." The business had been contacted by members of the alleged band prior to Thursday and had made an appointment to record. Once inside, the three males explained to the lone employee what they needed for the recording session. While the employee prepared the equipment, three other male suspects entered the business.

The suspects produced what has been described as a .38 cal 4" blue steel revolver, a 6" blue steel .44 magnum revolver and a .12 gauge riot-type shotgun. The employee was handcuffed and shackled and placed in the bathroom for approximately 2½ hours. The suspects then removed close to \$300,000 in recording equipment, including NEOTEK Series III-C console, Hafler amplifiers, Crown amplifiers, Otari 2-, 4-, 8- and 24-track machines.

Any info regarding large amounts of recording equipment being stolen, sold or transported, please contact Detective Ron Thill, San Diego Police Department, Robbery Detail, (619) 531-2299.

Ron Thill, Detective
San Diego Police Dept.

Oops!

Somehow between us moving into a new 15,000-square-foot headquarters and a glitch in your computer coupled with our postal strike, we fell out of your listings for Canadian educational facilities. That's like falling off the planet! Columbia Academy has over 20 years' experience in providing certificate programs for radio, television and the recording arts. Our facilities are situated in Vancouver (H.Q.), Calgary, Edmonton and the Okanagan Valley. Our students enjoy the practical benefits of a program of instruction that is primarily hands-on and personal. We have award-win-

ning instructors and our equipment is state-of-the-art including Neve consoles, Ampex analog machines and Western Canada's only 48-track, Chips Davis-designed Sony digital studio!
Alison Medd
Columbia Academy
Vancouver, BC

JVC and CD Mastering

The purpose of this letter is to point out a serious mistake in the article "The Independent's Guide to CD Production" by John Barilla in your December issue.

On page 35 the article states: No matter what format your original production master, for the purposes of CD mastering it will have to be transferred to the Sony PCM 1610/1630 format which has been adopted as the industry standard. The essential thing about this... processor is that it clocks information in and out at ...44.1... and stores that information on Sony ¾-inch U-Matic cassettes ... while audio track one is reserved for... PQ subcode.

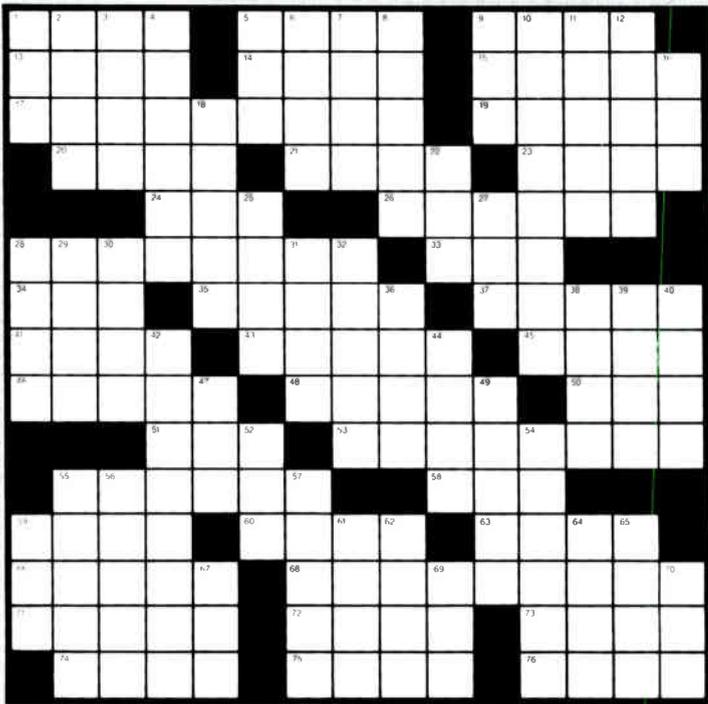
I find quite a few flaws with the above passage.

1. Material does *not* have to be transferred to the Sony 1610/30 format. Several plants are now (and have been) mastering directly from JVC format tapes.
2. The above observation throws some water on your statement that Sony is the "industry standard."
3. The JVC processor "clocks information in and out at 44.1 and stores that information on ¾-inch cassettes." Here I might add that with the JVC system a half-inch VHS machine might also be used.
4. Addressing the PQ code software question, JVC has available a software package (DS-CS901) that allows the use of an ordinary PC as the source for PQ data. Plants are using this system on an everyday basis.

By the way, several companies are

MIX WORDS

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working on systems which will allow mastering from *any* format. The only real requirements for *direct* CD mastering are a 44.1 format and the ability to insert PQ codes. It does not take a mental giant to figure out that with AES/EBU becoming a fact of life other options for mastering exist.

Larry Boden
National Sales Manager
JVC Pro Audio

P.S. The correct telephone number for our CD pressing plant is (205) 556-7111, *not* area code 206 as listed in the December issue.

We Stand Corrected

Thanks to you and author Tim Boyle for the mention in the article on Sundance Institute (November, 1987). However, Pro Co Sound is not located in Salt Lake City, Utah. Although Salt Lake is a beautiful city, Pro Co has always been in Kalamazoo, Michigan. Jerry Smelker
Pro Division Manager
Pro Co Sound

"Metal" Matters

I would like to clear up some misleading information that appeared in your July '87 "Sessions" column.

Greene Street Recording inferred in a press release run in that section that LL Cool J finished recording his album *Bigger and Deffer* at their studio. As anyone can see on the record sleeve, the album was recorded at Chung King House of Metal, with one additional mix at Greene Street, engineered by Rod Hui.

With the success of his first album *Radio*, recorded entirely at Chung King House of Metal, how could the producers, Mr. Cool J and the LA Posse, have wanted anything less than our consistent quality?

Thanks for a great magazine, and for letting us set the record straight, no pun intended.

Eloise Bryan
Studio Manager
Chung King House of Metal
New York

Mix welcomes reader comments on our articles or issues relating to audio and video. Write to us at Mix/Feedback, 6400 Hollis St. #12, Emeryville, CA 94608.

SOUND SOUNDING

ACROSS

1. Big _____
5. Old M.E. god
9. Rug or code
13. Venezuelan copper center
14. Parisian girl
15. Tape storage devices
17. A kind of modulation
19. Precious measurement
20. Bearish word
21. Auto type
23. Roman single
24. Chit
26. _____ ground, reduces noise and interference
28. With 53A and 10D, audio test device
33. Peak appurtenance
34. Offer
35. Hindu deities
37. Fossil resin
41. Once again
43. Musical transition
45. Comfort
46. French legislature
48. Lavinia's daughter
50. Econ. Co-op. Admin.
51. Contend
53. See 28A
55. Tests
58. Depot
59. Cook
60. Organic audio test gear
63. Arab prince
66. Esne in Sparta
68. With 42D, simulator for testing systems
71. Tidal bore
72. Down there, to Pierre
73. Non fixed-wing prefix
74. Control
75. 40 winks
76. End of a prayer

DOWN

1. Sheepish statement
2. Automation system
3. Not yep
4. French
5. Use an OTB facility
6. Astringent
7. Hawkeye
8. Shallots

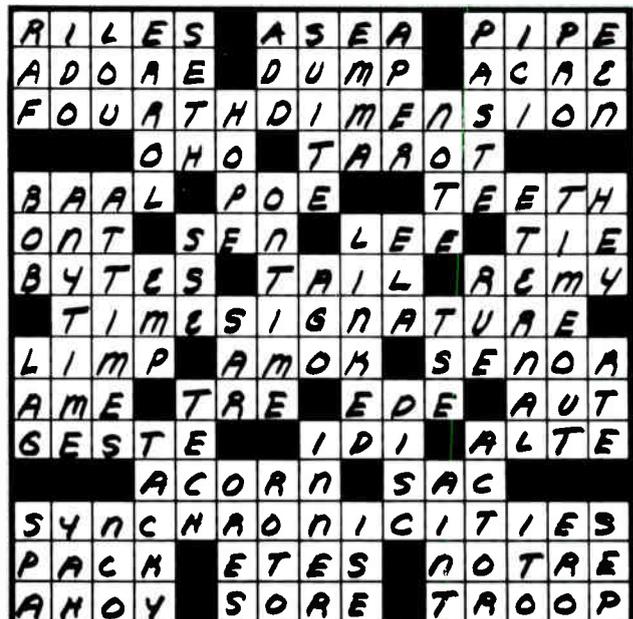
9. Jump a gap

10. See 28A
11. Calm or tale
12. Stir up
16. French holy woman
18. Small bodies of land (archaic)
22. Survey
25. Writer Leon _____
27. Healing place
28. Certain U.S. coins
29. Long
30. Actor Anthony _____
31. Iris layer
32. Organic mineral paste
36. _____ pan; Chinese abacus
38. Famed folkie
39. Begin to be, suffix

40. "_____ Window"

42. See 63A
44. Greek letters
47. Twitch
49. "I do" locale
52. _____ out
54. Prominent musical mfr.
55. Swindle
56. Norse girl
57. Science popularizer
59. Famed revolutionary
61. Singer McIntire
62. Shot or bean
64. News story
65. Hawkeye, to Alda
67. Golf device
69. Curve
70. Movie dog's first name

Solution to December Mix Words



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ADVERTISERS INDEX

PAGE	ADVERTISER	PAGE	ADVERTISER
72	A & R Record and Tape Manufacturing	100	Fostex Corporation
71	Adams-Smith	109	Full Compass Systems
113, 145	Akai/IMC	23	GoldLine/Loft
141	Alesis	143	Granny's House
187	Allen & Heath Brenell	130	Institute of Audio Research
21	Alpha Audio	188	JBL Professional
105	Amek Consoles	96	KCC Audio/Video
99	American Audio Systems	111	Kia Electronics
60	AMP Services	108	Klark Teknik
96	Anchor Audio, Inc.	82	Kurzweil Music Systems
142	Apex Machine Company	144	Lake Systems
56	Aphex Systems	106, 107	Lexicon, Inc.
83	API Audio Products, Inc.	153	Los Angeles Recording Workshop
146	Applied Research and Technology (ART)	165	LT Sound
63	Sam Ash Music	116	Meyer Sound
60	Aspen Music Festival	149	Microsystems, Inc.
51	Associated Production Music (APM)	2-3	Mitsubishi Pro Audio Group
128	Audio Gallery	136-137	1988 Mix Annual Directory
11	Audio Logic/DOD	169	Mix Bookshelf
27	Audio Media Research (AMR)	70	Musitek
62	Audio-Technica	50	NEOTEK Corporation
61	Berklee College of Music	9	Rupert Neve, Inc.
28	Beyer Dynamic	35	New England Digital (NED)
47	BGW Systems, Inc.	89	Nimbus Records
18	Biamp Systems	36	Orban Associates, Inc.
55	Bryston	7, 127	Otari Corporation
29	Burlington Audio/Video Tapes, Inc.	147	Penn Fabrication
51	C-T Audio Marketing, Inc.	38	Penny & Giles, Inc.
39	Carver Corporation	153	Polyline Corporation
129	Carvin Corporation	88	Power Studio Supply
52	Centro Corporation	115	Professional Audio Services & Supply
33	Cipher Digital, Inc.	63	QCA Record Pressing
91	Circuit Design Technology (CDT)	13	QSC Audio Products, Inc.
110	Clarity	175	RCA Test Tapes
126	Clarity Cassette Duplication	142	The Recording Workshop
93	CMX Corporation	111	Reliable Music
97	J.L. Cooper Electronics	159	Rhythm City Music
114	CRL Audio	42-43	RolandCorp US
157	D & R USA	14-15	Solid State Logic (SSL)
20	dbx, Inc.	177	Soper Sound Music Library
57	Digital Creations Corporation	119	Steward Electronics
134-135	Digitech/DOD	19	Studer Revox
133	Diskmakers, Inc.	54	Studio Consultants, Inc.
119	E.A.R. Professional Audio-Video	44, 131	Studiomaster
121	Eastern Acoustic Works, Inc. (EAW)	80	TAD/Pioneer
132	Electro-Voice, Inc.	79	Tannoy Professional Products
92	Encore Studios	41	TASCAM
122-123	Ensoniq Corporation	67	T.C. Electronic
128	Europadisk, Ltd.	149	Thoroughbred Music
49	Eventide	103	3M Corporation
25	Everything Audio	98	Trebas Institute
48	EXP/Milab	188	UREI
17	Fairlight Instruments	165	Vertigo Recording Services
31	Farmyard Recording Studio	29	Vocal Dynamics
		91	Wise Music
		70	World Records
		73-76	Yamaha Music Corporation, Professional Audio Division

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