

MIX

SIGNAL PROCESSORS

- Their Future in Audio
- Digital Models Around \$500
- Vintage Gear in the Studios

THE RECORDING INDUSTRY MAGAZINE

The Urban Recording Environment

Directory: Northeast Recording Studios

Interview: David Lindley



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MAY 1990

THE RECORDING INDUSTRY MAGAZINE

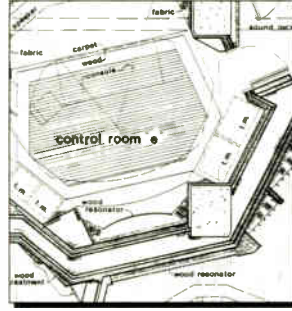
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FROM THE EDITOR

Founded 1977 by
David M. Schwartz and Penny Riker Jacob



May Cover: The newest room at NYC's Power Station, the reigning TEC Studio of the Year, is a hybrid audio-for-video mixing suite, and features an 80-input Solid State Logic SL 4000 G Series console with G Series automation. The studio electronics for this HDTV-ready room were designed by technical director Ed Evans, with acoustics by studio co-owner Tony Bongiovi. **Photo:** Robert Lewis. **Inset photo:** Jay Blakesberg.

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Circulation independently audited and verified by Business Publications Audit of Circulation since 1985.

Mix magazine is published at 6400 Hollis St. #12, Emeryville, CA 94608 and is © 1990 by NBB Acquisitions, Inc. Mix (ISSN 0164-9957) is published monthly. Subscriptions are available for \$46.00 per year. Subscriptions outside U.S.A. are \$61.00 per year. Single copy price is \$4.95, back issues \$6.00. Missed issues within the U.S. must be claimed within 45 days of publication date and abroad, within 90 days. Send subscription applications, subscription inquiries and changes of address to Mix magazine, PO Box 3714, Escondido, CA 92025-3714 or call one of these toll-free numbers: in CA 1 (800) 255-3302; outside CA, 1 (800) 334-8152. POSTMASTER: Send address changes to Mix magazine, PO Box 3714, Escondido, CA 92025-3714. Address all other correspondence to Mix magazine, 6400 Hollis St. #12, Emeryville, CA 94608, (415) 653-3307, Fax: (415) 653-5142. Second Class postage paid at Oakland, CA, and additional mailing offices. Mix magazine is distributed in pro audio stores, music stores and other related businesses. If you have a recording or music-related business and would like to distribute Mix, please give us a call. Display advertising rates, specs and closing dates are available upon request. This publication may not be reproduced or quoted in whole or in part by printed or electronic means, without written permission of the publishers.

Recently Britain's Association

of Professional Recording Studios commissioned a survey of sound levels in recording studios to help studio operators understand and comply with the newly legislated Noise at Work regulations. Targeted for those employed in the entertainment industry, the regulations implement the requirements of the European Council Directive on the protection of workers from noise in the workplace. The directive itemizes actions to be taken in severe situations, including reducing noise levels, providing education to workers and supplying ear protectors as necessary.

The APRS survey, a ten-studio examination conducted by Sandy Brown Associates, showed that noise exposures in the average studio were above the first Action Level of 85 dBA 34% of the time, not including periods of studio "down time." The second Action Level of 90 dBA was exceeded 15% of the working time in the studios under study. These levels indicate that specific requirements will be imposed on employers, however the APRS does not see these as having an adverse effect on the operation of studios.

While the APRS assembles its own guidelines to better understand and monitor the sound level issue in studios, it is advising members that sound levels should be kept as low as reasonably possible, with the occasional extremes being moderated. The organization will soon be supplying its members with an "action pack" containing leaflets, notices and information cards on the subject. For more information on their package, APRS can be contacted at 163 A High Street, Rickmansworth, Herts, WD3 1AY UK.

We applaud the APRS' pro-active approach to an issue that hits so close to home for Mix readers. And we urge other organizations whose members serve the professional sound community to promote the idea of safe, sane and reasonable sound levels in the work environment. Our careers depend on it.

Keep reading,

David Schwartz
Editor-in-Chief

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Available in 24, 16 and 8-track versions, the A827 features a computer controlled transport with 3 tape speeds, varispeed, microprocessor assisted alignment, switchable Dolby HX[®] Pro and phase compensated audio electronics.

There's never been a better time to part ways with those "other"

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CURRENT

Mix Announces TEC Foundation, 1990 Nominees

Mix magazine and Act III Publishing have announced the formation of the Mix Foundation for Excellence in Audio, a non-profit charitable organization incorporated in the State of California. The corporation was formed to encourage public interest in and understanding of the audio, video, music and other media arts. As part of its general purpose, the foundation will support and/or present charitable and educational programs to encourage excellence in the field of communications, as well as programs that work to cure, prevent and promote understanding of hearing impairment.

The TEC Awards will be a cornerstone of this new foundation. Beginning this year, all proceeds from the TEC Awards will be donated to the Mix Foundation for Excellence in Audio. This year will also see the start of a TEC Awards Sponsorship program. These sponsorships entitle participants to special seating at the awards show, advertising in *Mix* and the TEC Awards program book, and a range of other benefits. All monies thus contributed will go directly to the Mix Foundation, which will be responsible for distributing the funds to the beneficiaries.

In other TEC news, the 1990 TEC nominees have been announced. For a complete list, see page 42. The 1990 TEC Awards will be held on Sunday, September 23, at the historic Biltmore Bowl in downtown Los Angeles.

For more information about the TEC Awards, call Karen Dunn, Executive Director, at (415) 420-0144 or (415) 653-3307.

Swiss Company SAEG Refindus Acquires Studer Revox

Dr. Willi Studer, founder and sole shareholder of Studer Revox, sold his portion of capital to a Swiss holding company. Studer Revox,

known worldwide for its pro audio tape recorders and consoles, is now owned by SAEG Refindus Holding Inc., which receives technological, financial and managerial advice from the Motor-Columbus Group.

The Studer Revox purchase fits in with SAEG's objective to branch out into technology-based companies. Although the headquarters will remain in Regensdorf, Zurich, and the daily operations will stay independent, overall management will leave Dr. Studer's hands and be given to a management board led by Dr. Leo Wehrli (president), Eugen Spörri, Bruno Hochstrasser and Hermann Stierli. Dr. Erich Haag, an executive at Motor-Columbus Ltd. and chairman of the board of directors of SAEG, was appointed chairman of the board of directors of Studer.

AES and SMPTE Eye Joint Conferences

The Audio Engineering Society has formed a study group to explore the feasibility of jointly sponsored conferences with the Society of Motion Picture and Television Engineers, which includes an 18% membership overlap. The chairman of the AES portion of the group, Don Plunkett, said at the recent AES international convention in Montreux, Switzerland, that the first likely joint conference would be held February 1-2, 1991, in Detroit. No exhibits would be presented.

In other AES news, an exhibitor advisory committee is being developed to assist in long-range convention site determinations. The next international convention will be held February 19-22, 1991, in Paris.

Apollo Theatre Open for Recording

Ella Fitzgerald, Billie Holliday and Sarah Vaughan have all graced the stage of the famous Apollo Theatre in Harlem. Now the theater incorporates a 3,500-square-foot live recording space with a Neve V Series

console and MIDI equipment in the control room. The Apollo Theatre Recording Studios has already received artists from Warner Bros., MCA Records and Apollo Theatre Records/Motown. Owner/manager David Miles explains the appeal of the facility: "We offer superb hardware and staff, but it's more than that. We offer ambiance and the opportunity to record in a historic entertainment institution that has produced some of our nation's greatest artists."

The studio is also noted for starting a full-scale minority training program. Miles states, "Audio recording and engineering has always lacked minority participation. We're changing that."

1990-91 Mix Master Directory Scheduled for Release This Fall

The *1990-91 Mix Master Directory of the Professional Audio Industry*, completely updated with information on thousands of companies, is scheduled for release in September. In addition to distribution at the fall AES convention, the *Master Directory* will be delivered to more than 27,000 audio professionals.

The *Master Directory* is a comprehensive and clearly arranged industry sourcebook. All businesses and individuals are listed at no charge, ensuring that it is the most comprehensive reference available. Detailed listings are included for recording studios; video production houses; mastering, pressing and duplication facilities; location recording; sound reinforcement; lighting; staging; audio/video equipment rental firms; recording schools and programs; independent engineers and producers; and additional industry-related services. The 1990-91 directory also includes a cross-referenced directory to manufacturers and products in more than 50 categories. Deadline for display advertising in the sourcebook is June 15. ■

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DISKMIX 3 is a time-code driven system that provides unlimited mix data storage direct to hard disk, as well as complete off-line editing, including splice, merge, copy, fader and mute set and trim, plus insert and delete. The system uses multiple micro-processors and 10-bit data conversion, while high speed, dual ported RAM distributed over a proprietary bus system facilitates maximum data transfer with no system delays. This technology is

optimized for the latest Penny & Giles motorized faders to provide full fader travel in less than two SMPTE time-code frames.

DISKMIX 3 is designed with a user-interface very similar to that of current VCA-based automation systems. So if you are already using automation systems, DISKMIX 3 will be a quick study. In fact, the entire system is easy to understand and to use. It keeps you abreast of what's happening during all phases of mixing and gives you constant feedback in all modes of automation.

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INDUSTRY NOTES

Jean-Louis Gassée is leaving his post as president of **Apple Products** (Apple Computers, Inc.) in Cupertino, CA...**Sony Corp.** (Park Ridge, NJ) announced the following promotions: **Richard K. Wheeler** to president, Sony Operations and Technical Services, and **Dr. Harry Taxin** to Sony Systems and Technology (both in San Jose, CA); and **Mark Gray** to president, Sony Communications Products Company...**Solid State Logic** brought aboard former Konk studio manager **Dave Powell** to be its Eastern regional sales engineer in New York City...**Parsons Audio** (Wellesley, MA) and **Audio Video Research** (Watertown, MA) are new dealers for **Time-Line** products in the New England area...**Powerhouse Entertainment**, which owns Powerhouse Studios, recently purchased post-production company **Groupe Andre Perry** in Washington, DC...In Northridge, CA, **Lance Korthals** joined **JBL Professional** as VP of market development...**Kris Jackson** was promoted to technical manager/technical sales at **Trident USA** (Torrance, CA)...Students at Napa Valley College in Napa, CA, formed a **SMPTE** chapter; many in the chapter are enrolled in the school's Telecommunications Technology program. In White Plains, NY, SMPTE has called for papers to be presented at the 132nd conference to be held this October in New York City. For info call Nancy Engel, (914) 761-1100...**Rank Cintel** of North Hollywood, CA, added MK3 Turbo to its telecine line (**Unimedia, Inc.**, developed the product, and is now a division of Rank Cintel)...**Agfa** of Ridgefield Park, NJ, selected **Pro Tape Northwest** as a rep in the Seattle area...**Body Electric Studios** (Bolingbrook, IL) has renamed itself **Sound Decisions, Inc.**, and will now do corporate audio production work...Acoustical consultants **Peter George Associates** has moved to 40 Prince Street in NYC...**Douglas Ordon and Company** of Chicago will represent

Soundmaster Integrated Audio Editing System in the North Central region...Signal processor and power amp manufacturer **ARX Systems** of Victoria, Australia, appointed numerous U.S. reps. Phone (714) 649-2346 for details...**Target Productions** won a silver medal at the 32nd annual International & TV Festival, held in Manhattan in January...In Los Angeles, **Westlake Audio** hired **Carl Marinoff** for pro audio sales...**Susan Radice** is the new graphics production manager at **VSC Post** in NYC...In Manhattan, **John Ceglia** joined audio production studio **ServiSound's** engineering staff...**BBE** appointed **Rob Rizzuto** as assistant sales manager in Huntington Beach, CA...In NYC, **Todd-AO** announced the following staff changes: Academy Award-winner **Richard Portman** as sound mixer and director of technical standards, and **Paul Zydel** as ADR mixer...**Jim Goodwin**, member of The Call, became a partner in **B5 Studios** in Los Angeles...**Karl Lahm**, **William Suffa** and **Garrison Cavell** formed a consulting firm (**Lahm, Suffa & Cavell, Inc.**) out of Fairfax, VA, to provide advice to studio owners and operators...**Gail Nord** is leaving **Russian Hill Recording** in San Francisco to be **Fleet Street Pictures'** general manager; **Cynthia McSherry** will take over Nord's position at Russian Hill as manager...**Sheldon Pines** joined **Lyon Lamb Video Animation Systems** as VP, sales and marketing, in Burbank, CA...**Aurora Systems** brought aboard **Fred McCoy** as Southeast regional sales manager in Redwood City, CA...**HSN Telemation** (Chicago, IL) hired **Jill Royce** as sales manager out of its Dallas office...**Videotape Distributors** has a new national sales and marketing manager: **Eric (Ric) Sherman** in Northvale, NJ...**Novell, Inc.**, gave permission to **Solidstate Controls, Inc.**, (Columbus, OH) to manufacture its Uninterruptible Power Supply monitoring card. ■

SESSIONS AND STUDIO NEWS

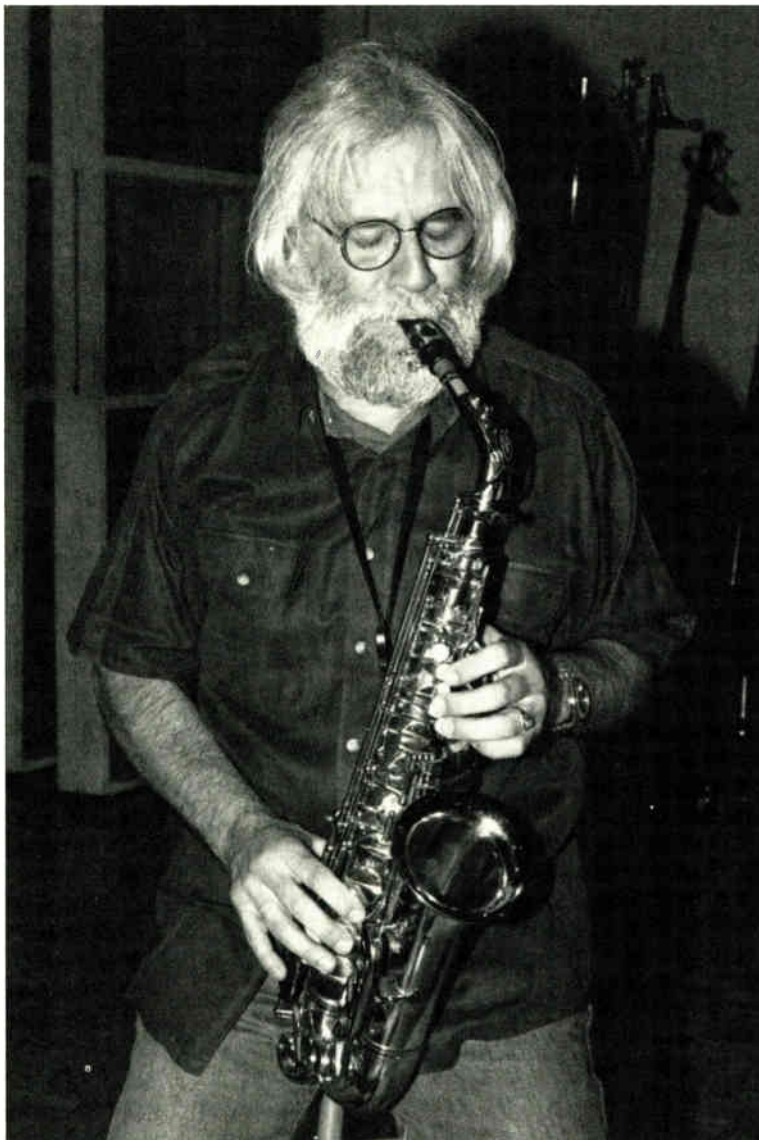
SOUTHERN CALIFORNIA

Milli Vanilli were in at **Elumba Recorders** of Los Angeles to remix "Girl You Know It's True." **Randy Peterson** produced with help from engineer **Jared Held** and his assistant, **Rick Caughron**. Rough Trade artist **Victoria Williams** was in at **Scream Studios** (Studio City) doing 24-track analog mixes for her upcoming album. **Michael Blair** produced and **Kevin Smith** engineered. **Aldy Damian**, drummer and founding member of the hard rock band **Eyes**, completed tracks for an upcoming Eyes album at **Pasha Studios** in Hollywood. The band's self-produced debut is due in June. **Interlok Studios** in Los Angeles has been signed to post the audio for the television series run of **Zorro**. Interlok brought in **Ron Franklin**, a Studer Dyaxis expert, to handle the music and dialog editing chores and constructed a special editing bay around a 2-track Dyaxis system for the project. **Bruce Hornsby** and engineer **Ed Thacker** stopped in at **Larrabee Studios** (L.A.) to mix a song for **Bruce Hornsby & the Range's** upcoming album. **Steven Tyler** also was in to remix **Aerosmith's** "One or the Other," an upcoming Geffen release with **Sylvia Massy** mixing. Ex-Crusaders keyboardist **Joe Sample** was in at **Skip Saylor Recording** (L.A.) put-

ting down tracks for an upcoming **Carl Anderson** album; Tom McAuley engineered. **Randy Newman** was in at Burbank's **Alpha Studios** to record theme music for the new sitcom **Cop Rock**. **Danny Lux** engineered and **Steve Egelman** assisted. At **Lion Share** (L.A.), **Ross Pallone** and **Guy DeFazio** recorded Japanese recording artist **Tatsuhiko Yamamoto** with

guest musicians **Michael MacDonald** and **Jeff Porcaro**. **The Four Tops** were in at **Studio Masters**, Los Angeles, doing vocals with producer/engineer **Elliott Wolff**. **Wolfgang Aicholz** and **Brad Cox** assisted on this Arista Records project. At **Sunset Sound Factory** of Hollywood, **Buckwheat Zydeco** cut tracks for a new album for Island Records. **David Hidalgo**

(Los Lobos) produced and **Mark Linett** engineered. At **Hit Single Recording Services** of San Diego, **Country Dick Montana** of the Beat Farmers was in post-production with the live tapes from the notorious **Pleasure Barons** West Coast tour. The **Pleasure Barons** are Montana, ex-Blaster **Dave Alvin** and **Mojo Nixon**. **Randy Fuelle** did the engineering. Local acts in the studio included: **The Harpoons**, the **Tell-Tale Hearts** and the **Holy Love Snakes**. **Dan Fogelberg** returned to **Lahaina Sound** on the island of Maui to work on his forthcoming release with engineers **Marty Lewis** and **Dave Reynolds**.



George Young during a session for his new album at The Edison (a division of National Video Center).

NORTHWEST

At **Hyde Street Studios** in San Francisco, engineer **Matt Kelley** was working on an album dedicated to the late **Abbie Hoffman**. Entitled *Sound Bytes from the Counter Culture*, the Atlantic Records project includes narrations by **Hunter**

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Of course, sonic performance isn't the only story behind our console. Flexibility is a necessity in the creative recording process, as well. Naturally, the MXP-3000 offers a host of flexible features at an unmatched value.

For instance, you have your choice of five distinct equalizers, and five different channel input modules. Plus, there are many other options available to suit your individual needs. All of which come housed in an ergonomically designed control surface.

For a demonstration of the quietest addition to your control room, contact your Sony Professional Audio representative. Or call 1-800-635-SONY.

And remember, when you want a quiet mixer to back you, put a Sony MXP-3000 in front of you.

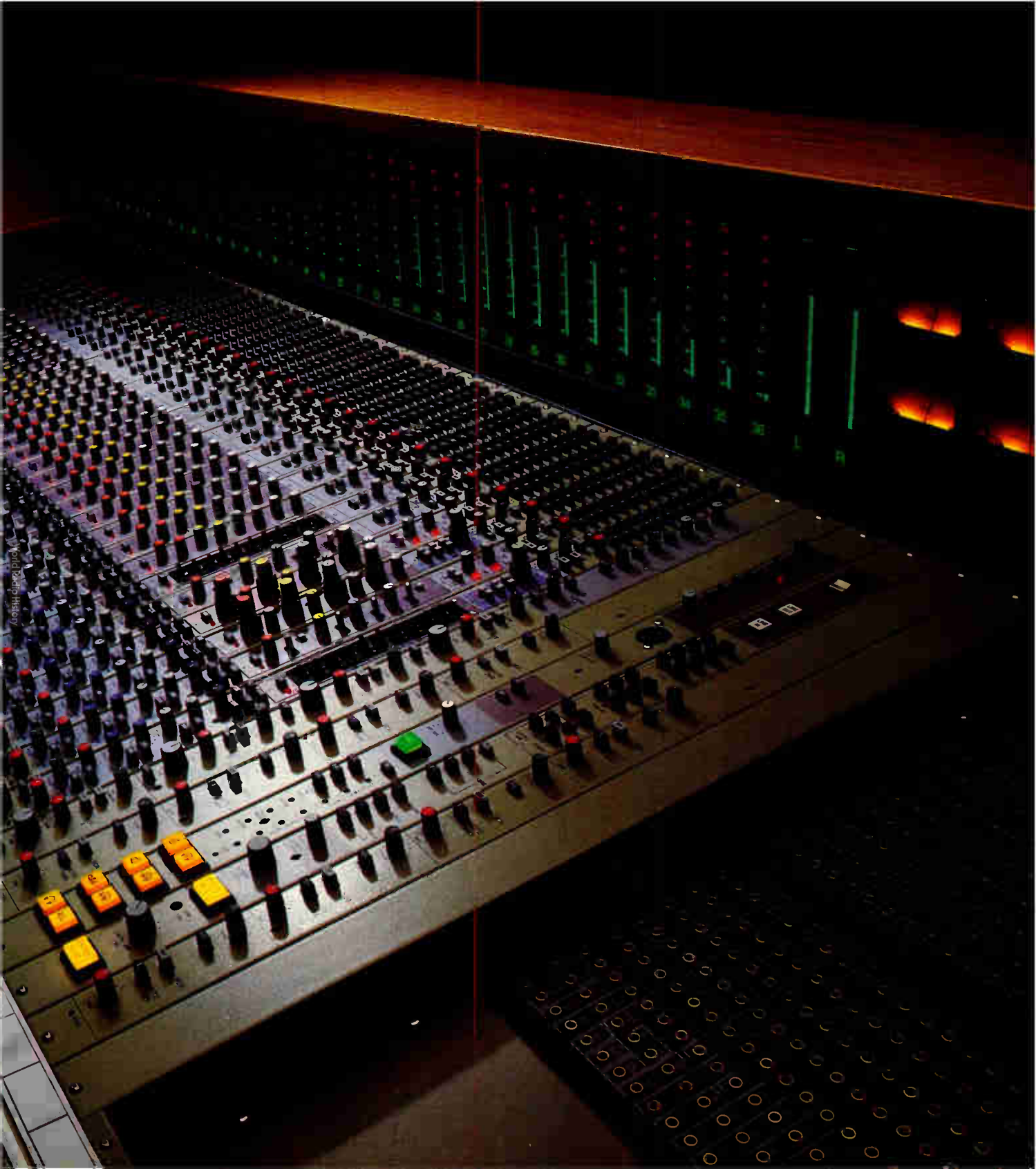
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World Radio History





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S. Thompson, Jello Biafra, Timothy Leary, Jim Carroll and the late **Abbie Hoffman** himself...Capitol recording artists **Exodus** were at San Francisco's **Alpha & Omega Studios** mixing tunes for their new album. **Mark Sensasac** engineered and **Ulrich Wild** assisted...**Studio D Recording** (Sausalito) has been busy with **Clarence Clemmons & the Red Bank Rockers**. **Dana Chappelle** engineered and **Watts Vereecke** assisted...**The Chuck Metcalf Quintet** (with **George Cables** on piano) completed recording and mixing an album at **Lawson Productions** of Seattle with engineer **Carol Howell**...**A.P. Alexakis** self-produced his solo album project for Shindig Records at **Sound & Vision** studios in San Francisco. **Kevin Army** was at the board...

NORTH CENTRAL

Blues great **Byther Smith** was at **Soto Sound Studio** (Chicago) recording his latest album, *Addressing the Nation with the Blues*. **Jerry Soto** was at the controls...Projects at **Royal Recorders** (Lake Geneva, WI) included **Adrian Belew** putting the finishing touches on his fifth solo album, with **Rich Denhart** engineering and **Dan Harjung** assisting...**Naked Ray-Gun** began work on their latest album at **Chicago**

Trax Recording with **Keith Auerbach** engineering the project...Grammy nominees **Commissioned** put down rhythm tracks in the Synclavier-based MIDI room at **Studio A** (Dearborn Heights, MI); **John Jaszcz** and **Randy Poole** engineered...In Cleveland, **Janet Jackson** spent nearly ten hours at **Beachwood Studios** recording vocals and keyboards during a stop-off on her "Rhythm Nation" tour...**Genesis** guitarist **Daryl Stuermer** finished two songs at **A.D. Productions** of Milwaukee. Grammy-winner **Don Murray** engineered...In Chicago, sax great **Richie Cole** recorded at **Sparrow Sound Design** with engineer **Joanie Pallatto** and producer **Bruce Bendinger**. Sparrow also recorded seven Chicago bands on location at the **Jazz Bulls Nightclub**

in Lincoln Park. The club celebrated its 25th anniversary with the compact disc release of *Live at The Bulls*...A&M artists **Trip Shakespeare** finished re-mixing three songs and recording and mixing a fourth with **Tom Tucker** at **Metro Studios** in Minneapolis...

SOUTHWEST

Cook Sound and Picture Works of Houston recorded local talent for Spanish-language radio advertisements...**Teleproductions Unlimited**, Tulsa, OK, completed audio and video post-production on *Delivering the Future*, an upcoming documentary. **Greg Elzea** edited the program and **G.L. Laughlin** engineered...Dallas-based **Rodeo Love Gods** laid down tracks at **Planet Dallas**. **Rick Rooney** engineered and co-produced with the band...



L to R: Joe Pasquale, Greg Droeman, Art Wood at Project Studio in Sherman Oaks, CA.

SOUTHEAST

Waylon Jennings was at **Music Mill** in Nashville laying down and mixing tracks with producer **Ritchie Albright** and engineers **Joe Scaife** and **Mike McCarthy**...At **Recording Arts** in Nashville, Arista artists **Asleep at the Wheel** recorded overdubs for their next album. **Chris Hammond** was at the board. **Alabama** was also in overdubbing for their new RCA album with **Steve Marciantonio** engineering...Well-known engineer **Bradley Hartman** relocated to Nashville to put together **Emmylou Harris'** album of duets for Warner Bros....Singer **Joseph I**, formerly of **Bad Brains**, was at **Cue Recording** (Falls Church, VA) to record a dub-style record. **Joe Gelchion** handled the recording...Epic recording artists **Big Dipper** recorded

and mixed their debut album at **Reflection Sound Studio** in Charlotte, NC. Also at Reflection, **Daryle Ryce** recorded a song for TV and radio promo spots for the nonprofit organization **Wish I Could**, with **Mark Williams** engineering...At **Musiplex** in Atlanta, guitarist **Glenn Phillips** was in overdubbing and mixing tracks with engineer **George Pappas**...Down in Fort Lauderdale, FL, rap artists **Side/FX** recorded tracks for their debut album on **NastyMix Records** at **New River Studios**. The project was engineered by **Dave Barton** and produced by **Jim Thomas**...

NORTHEAST

At **Baby Monster Studios** in NYC, **David Johansen** recorded demos with **Gil Abarbanel**. **Swans** recorded material for their forthcoming LP and digitally remastered their first two albums on a newly installed **Sound Tools** system...**Teo Macero** was at New York's **Passport Recording** to cut demos for his upcoming opera. **Sue Fisher** mixed...**Post Modern Music** was recently at **Videomix Studios** (NYC) recording the music for a television campaign for Quincy's restaurants, featuring a **singing yeast roll**...Renowned jazz drummer **Chico Hamilton** brought his band to **Crystral Sound** (NYC) to record and mix a project

with engineer **Steve Vavagiakis**...**Tony Humphries** was at **Quantum Sound Studios** (Jersey City) producing various new mixes, including "What You Waitin' For" for the **Jungle Brothers**...EPMD's **Parrish** was in at **Power Play Studios** (Long Island City) producing **K Solo's** debut album for Atlantic...**Tom Swift** mixed **Tania Maria's** next album at **East-side Sound** (NYC)...Guitar virtuoso **Stanley Jordan** made a cameo appearance at **Soundtrack** in NYC for **Dionne Warwick's** next Arista release...Tony Award winner and screen actor **Philip Bosco** was at **New York Audio Productions** recording the narration for an upcoming **Random House Audio Book**, **James Michener's Hawaii**. **Paul Barboza** engineered...

STUDIO NEWS

Clifty Studios, of Paris, TN, purchased 12 additional tracks of the Akai A-DAM system to upgrade its current 24-track system. ... **South Coast Recording Studio**, in Santa Ana, CA, has moved to a new, larger location to accommodate its growth. Located at 1513 South Grand Avenue, the new **South Coast** will have a Lexicon LXP1 digital multi-effects processor, Yamaha NS-10M near-field monitors, a Roland R8 drum machine and more. ... **Sonic Images**, a digital recording facility in Anaheim, CA, joined forces with Orange Coun-

ty's well-established film audio company **Cinemax**. According to Sonic Images president, **Craig Kitchens**, "This new venture will provide comprehensive film sound services including transfers from any format to 16mm or 35mm mag film from a new screening room and interlock insertion mixing board." ... **Far East Communications** of Detroit opened the doors of its new 24/16-track studio. ... In Universal City, CA, **Universal Studios** has formally reopened its Alfred Hitchcock Theatre with a newly installed Solid State Logic SL 5000 M Series Console. The console, designed for three operators, features 80 individual channels,

with two separate inputs per fader and six pre-dub returns with four inputs each. The modular architecture of the console allows chief engineer **Doc Goldstein** to assemble a wide variety of cassettes within each channel strip. ... **Southlake Recording** in Metairie (a suburb of New Orleans) acquired a new Neve 8248. Although **Southlake** is known for recording the likes of **Elvis Costello**, the **Neville Brothers** and the **Dirty Dozen Brass Band**, studio owner **Paul DeCorte** will use the console for voice-overs, commercials, documentary film and video work, as well as music recording. ... **Right Track Studios** of Cleveland installed a 44-input Trident 24 console in its newly constructed B room. ... Bryston amplifiers were installed into the Metropolitan Life "Wonders of Life" pavilion at **Walt Disney World/Epcot Center** in Orlando, FL. **Drake W. Wayson**, president of General Projection systems and contractor for the project, states that this system is the largest single audio/video system in Epcot and that it entailed over 200 different A/V products and over 375 miles of cable. ... Back in L.A., **Take One Recording** purchased a Solid State Logic SL 4000 console. ... The **Berklee College of Music** in Boston installed three TimeLine Lynx Time Code Modules in its film scoring department. ... **Studio Masters** of Los Angeles recently completed remodeling its Studio A and installed a new Neve 8248 console. ... In Nashville, **Digital Recorders** recently purchased its first 48-track DASH machine, the Sony PCM-3348. The PCM-3348 will complement the two existing PCM-3324s that the company already owns. ... Renowned architect **John Storyk** and HDTV pioneer **Barry Rebo** are expanding **Rebo Studios**, on Manhattan's lower west side. Storyk is designing and supervising construction of four video post-production suites, two offline edit rooms, two computer graphic suites, a machine room, a storyboard design room, client rooms and offices. ... **Soundtrek** expanded its facility in Omaha, NE, to include a second studio. The new studio features the Tascam M-600 production console, the Tascam ATR-60-16 1-inch, 16-track tape machine and a variety of signal processing gear. The room was designed by **Steve Durr** and constructed by **Dan Peterson**. ... In Alton, IL, **Midland Studios** purchased a Tascam MTS-1000 MHDiZER, an audio-for-video synchronizer. ■

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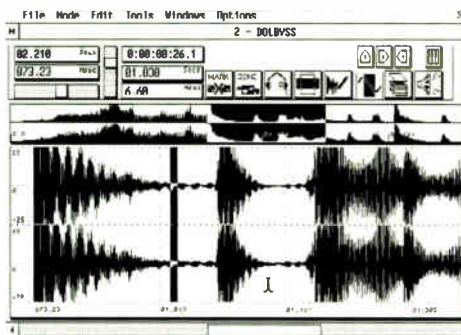
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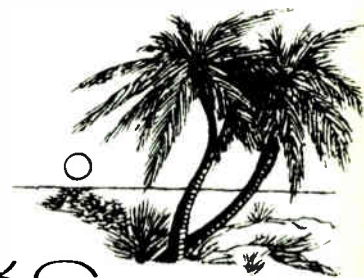
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D&R Mixing Consoles



Gold Record producer; Darrell Bledsoe, from Silver Burdett & Ginn, says: "I've never recorded on a cleaner console than the **D&R Dayner Series**". Pictured at Fourth Creation's new C-Mix automated **D&R Dayner Series** console (from left to right) are Carey Wise and Darrell Bledsoe. Fourth Creation is located in Conroe, Texas.



Record producer and engineer; J. Michael McKenney says; "The clean transparency of the **D&R 8000 Series III** offers everything I'll ever need. This is our second **D&R 8000 Series** console". Pictured from left to right in Revelation Productions main room is Roger Hart (company director) and J. Michael McKenney. Splice of Life Recording and Revelation Productions are located in Corbin, Kentucky.

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by Ken C. Pohlmann

BEYOND WINCHESTER

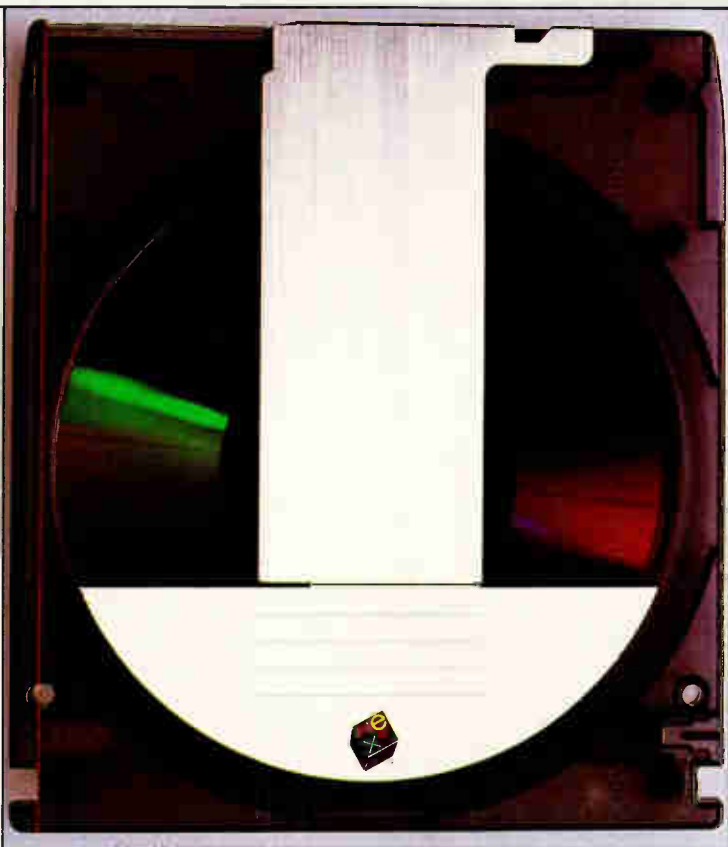
TOWARD AN OPTICAL FUTURE



Without question, magnetic tape offers reliable storage of digital audio data, and magnetic hard disks facilitate editing of data. But tape lacks random access—an important element for many applications, and most hard disks suffer from non-removability—another fatal flaw for many applications. Both obstacles can be overcome by recordable optical disk systems using magneto-optical, phase-change and dye-polymer technologies. In fact, such systems have already appeared in large numbers in computer applications. For the most part, optical disk recording in the audio industry has been limited to write-once optical disk systems. Still, the recordable/erasable optical disk is poised to make its debut in the recording studio.

Optical media provide about 100 times the storage capacity of the same size magnetic media. In other words, the storage cost of optical media is a fraction of the cost per byte of magnetic media. Current-generation 5.25-inch erasable optical drives hold about 600 megabytes, and larger diameters hold over a gigabyte (a gigabyte is 1024 MB); over the coming years their capacity may increase more than tenfold.

Data transfer rates are currently about 5 megabits per second, but faster rotation speeds and multiple laser heads placed on parallel tracks will boost the rate to 500 megabits per second or more. Unlike most hard disks, optical disks can be removed



from the drive. In addition, their life is much longer than that of magnetic media: They are much less susceptible to damage from heat and humidity, and essentially impervious to magnetic fields, fingerprints and head crashes. With erasable optical systems, data can be written, read, erased and written again.

Magneto-optical (MO) recording technology combines magnetic recording and laser optics, utilizing the record/erase benefits of magnetic materials with the high-density and contactless pickup of optical materials. Magneto-optical recording uses a vertical magnetic medium in which



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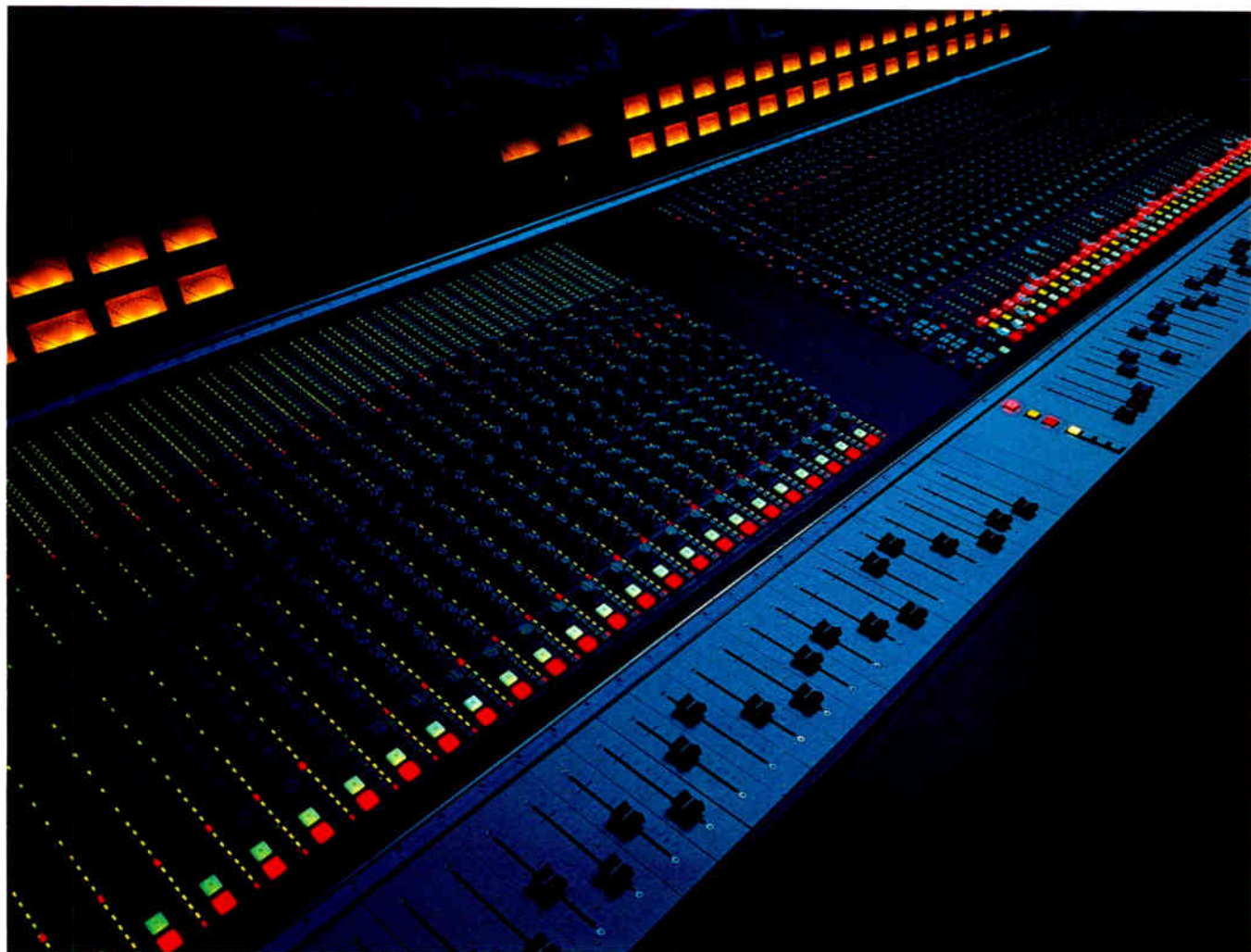
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magnetic particles are placed perpendicular to the surface. Vertical recording provides greater particle density and shorter recorded wavelengths; however, the high recording density is not fully used by conventional magnetic heads because their flux fields cannot be narrowed sufficiently. The recorded area is thus a far larger area than necessary. Optical assistance increases the recording density.

With magneto-optics, a magnetic field is used to record data, but the applied magnetic field is much weaker than conventional recording fields. It is not strong enough to orient the magnetic particles. As the oxide particles are heated, their coercivity decreases sharply at a certain temperature. This temperature is called the Curie point. A laser beam focused through an objective lens heats a spot of magnetic material to its Curie point. At that temperature, only the particles in that spot are affected by the magnetic field from the recording coil. After the laser pulse is withdrawn, the temperature decreases, and the orientation of the magnetic layer records the data. In this way, the laser beam creates a recorded spot much smaller than otherwise possible, increasing recording density.

The Kerr effect may be used to read data; it describes the slight rotation of the plane of polarization of polarized light as it reflects from a vertically magnetized material. The rotation of the plane of polarization of light reflected from the reverse-oriented regions differs from that reflected from unreversed regions. To read the disk, a laser is focused on the data surface, and the angle of rotation of reflected light is monitored. The pickup distinguishes differences in between rotated light, thus recovering data from the laser light. The intensity of the reading laser is much lower than the recording laser, so recorded data is not affected. To erase data a magnetic field is applied to the disk, along with the laser heating spot.

The magneto-optical recording layer can be placed between a transparent substrate and a protective layer, through which the laser light shines. A variety of magnetic materials may be employed. They are selected on the basis of signal-to-noise ratio, orientation properties and long-term stability. In general, amorphous, thin-film

magnetic materials with coercivity of about 2,500 Oersteds are used. Tests indicate that magneto-optical media could be erased/recorded more than 10 million times and would retain data for over ten years.

Erasable phase-change systems use materials that exhibit a reversible, crystalline/amorphous phase change when recorded at one temperature and erased at another. For erasable media, a high-reflectivity (crystalline) to low-reflectivity (amorphous) phase change is typically used to record data, and the reverse phase change to erase. Information is recorded by heating an area of the crystalline layer to a temperature slightly above its melting point. When the area solidifies, it has become amorphous, and the change in reflectivity can be detected. Because the crystalline form is more stable, the material will tend to change back to this form; when the area is heated to a point just below its melting temperature, it will return to a crystalline state, erasing the data.

A number of materials have been devised for the recording layer; for example, layers comprised of gallium antimonide and indium antimonide have been developed. Some systems use tellurium alloyed with elements such as germanium and indium. Phase-change media have a long shelf life, and are not affected by ambient temperatures and humidity. A large number of erasures can be achieved.

In dye-polymer recording, light-absorbing dyes are placed in a bi-layer disk structure; the structure itself is optimized according to the wavelengths used. The two layers are placed on the substrate. During recording, laser light of a specific wavelength is absorbed in the two recording layers, causing their temperatures to rise. The lower recording layer expands more quickly and pushes up the top layer, forming a bump. The top layer cools faster than the lower layer, and the formation is frozen. This formation may be read by a low-power laser beam through a phase shift. To overwrite new data, light of a second wavelength is absorbed by the layers, expanding the top layer and restoring the surface to a flat condition, ready for new data. The system is efficient because the recording surface changes state each time laser light with the correct wavelength and power strikes the surface. One wavelength creates a bump,

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INSIDER AUDIO

another wavelength flattens it; in addition, the wavelength that flattens a bump does not affect an already-smooth surface. Data can then be overwritten on a single revolution of the medium, using both lasers simultaneously.

As noted, optical disk technology is already well established in the computer industry. Companies such as Maxtor, Ricoh, Mitsubishi, Toshiba, Hitachi and Sony are all very active in the field with diverse product lines. However, when it comes to storing data that happens to represent an acoustical waveform, the timetable is slower. Taiyo Yuden, Nakamichi, Philips and Thomson (parent of RCA consumer electronics) have shown prototype consumer optical recorders, but plans for introduction are unclear. In the pro audio field, Gotham's CDR-90 write-once mastering recorder has made a splash, and other work is underway. Sony, for example, announced a joint venture with Taiyo Yuden to develop a professional audio CD recorder, using write-once technology. Reportedly, other manufacturers have used Sony MO drives in erasable recorder prototypes.

With its heavy investment in magnetic tape, Sony might be reluctant to push optical recording. In that case, other companies could fill the void. Ricoh, for example, manufactures the RO-5030E rewritable MO drive with ISO-approved, standard 5.25-inch cartridges and SCSI interface; it stores 600 MB. Need more storage? Simply daisy-chain the drives. Need a ton of storage? Try Ricoh's RJ-5330E library; it uses two RO-5030E drives and stores 56 cartridges with loading time of 2.5 seconds. Total capacity is 33 Gbytes—in a chassis the size of a 2-track recorder.

Maybe a big company like Ricoh doesn't want to mess with a small market like pro audio. In that case, surely some entrepreneurial company could OEM Ricoh's products and market its own studio recorder—an optical disk recorder with random access, fully removable media, priced competitively with a digital tape recorder and perhaps less than a hard disk system. ■

Ken Pohlmann was recently promoted from associate professor to professor at the University of Miami.

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by Stephen St. Croix

SIGNAL PROCESSING

EMPTY FIELD TO AMBIENT FIELD

Signal processing. Yer either fer it or agin' it. At least that's what many seem to feel. I wonder, though, if those people have given the matter any real thought. The way I see it, the only way you can truly listen to unprocessed music is if you listen only to live acoustic performances in the dead of night, way out in the middle of an abandoned country, in an open clearing.

If any amplification, either electronic or mechanical, is used, or if any walls reflect audio causing reverb or ambience, or even if any traffic noises are heard to mix with the performance, you have some form of signal processing. Further, if you wish to tape the performance, the sound would be processed right out of time itself!

Okay, Okay! So the question isn't really if you are for or against signal processing. It's more like, signal processing: destruction or enrichment?

The seemingly silly point made in the first couple of paragraphs is actually there for two reasons. First, I like to make seemingly silly points. Second, the first electronic audio signal processing that man ever did was destructive in nature, but for a reason.

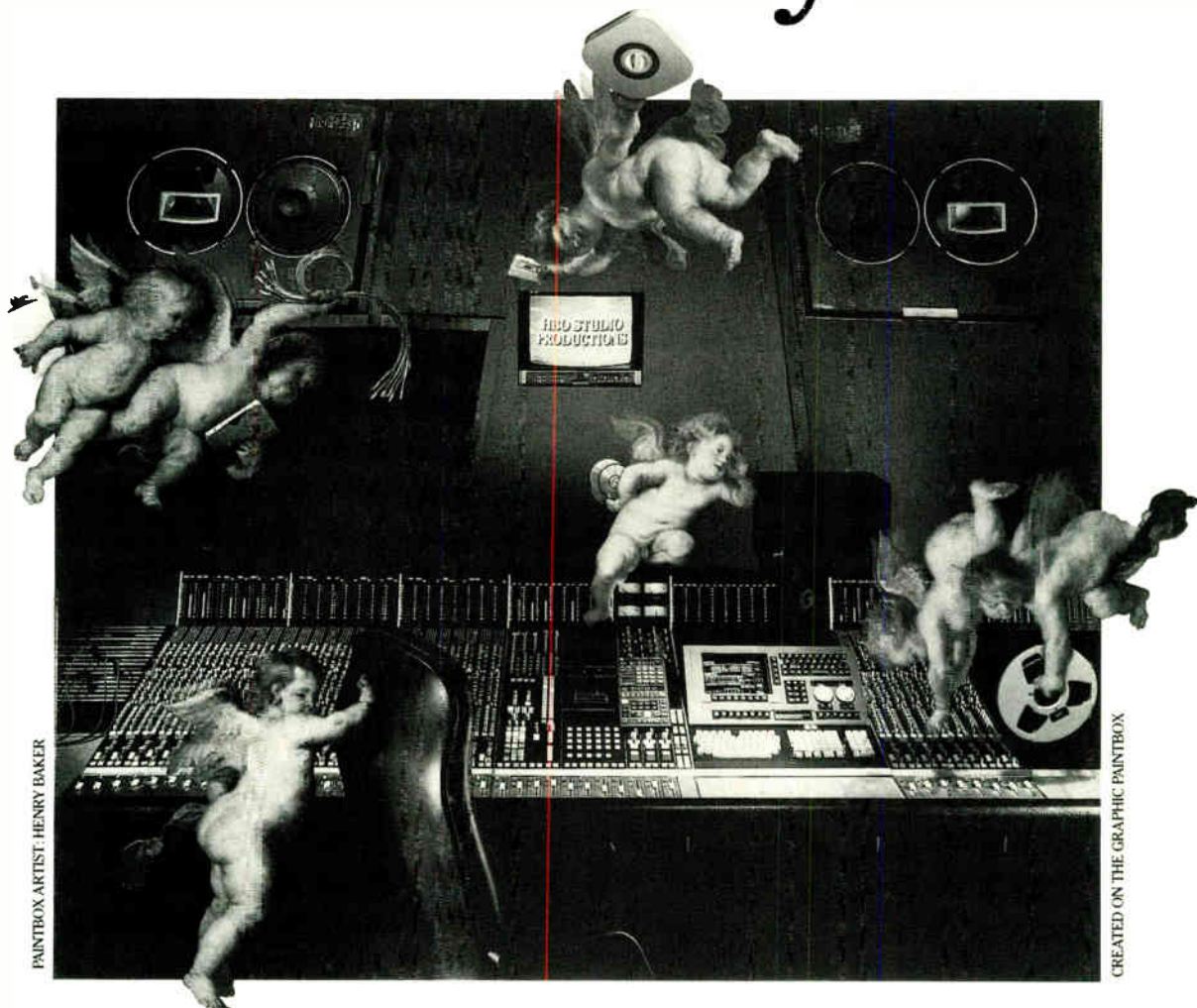
Some guy named Bell (Al Bell, I believe) beat the hell out of the human voice until it was long and skinny enough to fit in a wire. Then he got a call from someone in trouble. The phone has been used primarily for calls like this ever since, usually late at night or on Sundays.

This marks the historical point when signal processing transcended space; you could hear audio being generated in one place at another place, miles away, and at the same time. A truly awesome accomplishment, real sci-fi stuff—and very impressive as our *first* signal processing feat. It sounded bad, real bad, but it



ILLUSTRATION: JOEL NAKAMURA

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THE FAST LANE

accomplished a job that was previously unheard of (sorry). See? Destruction (in that there was severe signal-quality degradation), but for a purpose.

Then another guy, named Edison, proceeded to mangle audio even more, and transcended *time* itself!

If you are into wax, you can hear a performance today that was recorded in another time and place, weeks, months, even years ago. Eventually, the first artist that recorded onto Edison's cylinders died, and then we *really* entered the twilight zone; you could throw on a wax tube with a spiral scratch on it, and hear a *dead guy* play music for you!

Imagine, audio relieved of the boundaries of time and space forever. Why, one could base an entire industry on that. And then maybe a magazine...

Now we jump forward a few years to other forms of destructive processing that are actually *worse* in a way, because the destruction itself is the point, as opposed to the previous examples where the audio degradation was necessary to accomplish the goal *du jour*.

The Arbiter Fuzz Face, Vox Distortion Booster, Vox Treble Booster and untold other devices began to appear in the '60s with the sole purpose of destroying audio voluntarily. I know; I was there working on some of these things. We wanted to re-create the distortions and sustaining qualities of overdriven amps, the terrible sounds of torn speakers, the insane howling of high-frequency feedback, all so our guitars would stand out in a crowd—a really *big* crowd. We did. They did. We got paid (this is the American way of showing you that you did the right thing, even if you did it in England).

Compression and limiting had already come to exist, of course. When used as originally intended, these processes, too, were technically destructive, but again they were there to deal with the limited dynamic range of media. Then some clever guy (Fred Volumax?) discovered a new way to abuse the technology. He squeezed the life out of everything possible that went on the air to keep the apparent volume up and thereby gain a marketing edge over his competition.

Of course, it is theoretically possible to engage in creative use of such

dynamic range processing, and that brings up a new category: modification as art. Some of today's new dynamic range processors can do amazing things when driven by a skilled engineer (and totally offensive things when in the hands of a jerk).

We as a group tend to casually think of signal processing in terms that are a bit more obvious. I guess that most of us think of EQ and reverb (a spring

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unprocessed music is
if you listen to only
live acoustic
performances in the
dead of night, way out
in the middle of an
abandoned
country.**

is a spring, of course, of course, unless that spring is the *tour de force*; but it's not, so it's finally dead) as the identifiable event horizon.

We have gone from a couple of knobs hooked to some resistors, capacitors and coils to a touchable EQ curve floating in a virtual world, hooked to bits. We still use EQ.

From a couple of transformers and jacks hooked to a 2-foot, finger-sized slinky to pictures of rooms floating in that same virtual world, hooked to more bits. We still use reverb.

We have come a long way and are now literally free of the boundaries of material reality in our new virtual DSP world. Refinements on existing effects and totally new families of effects should continue unabated from this time on.

One interesting new area that has popped up in the last few years is audio repair, or surgery. Two companies have emerged in this field: Sonic Solutions with its NoNoise Process, and Marshall Electronic with its Revectoring process. These two approaches are radically different, as are the results, applications and prices, but they share some interesting common ground.

Both offer serious noise removal for old audio. Both represent an obvious thing to do with DSP today—something that could have never been (and

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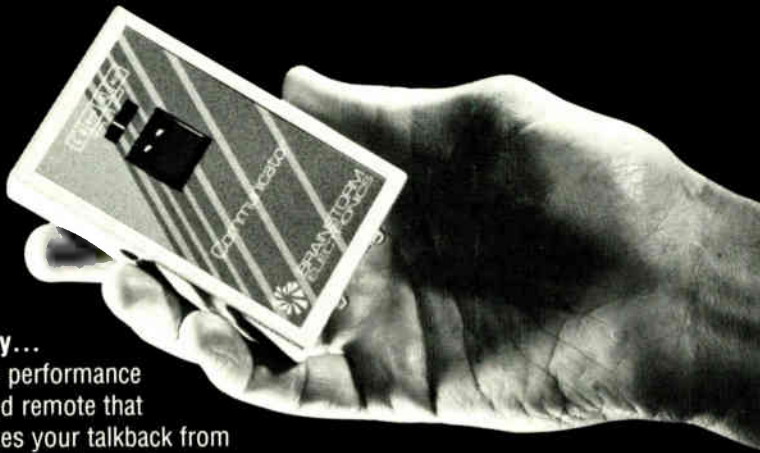


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never was) done before. Between the two of them, it is hard to listen to an oldies radio station or see a vintage film today without being exposed to the improvements that their respective forensic audio recovery technologies offer.

In the race to grab market share, today's manufacturers seem to have split into two basic groups. For the purpose of this column, I will call the first group "Max" and the other "Flash."

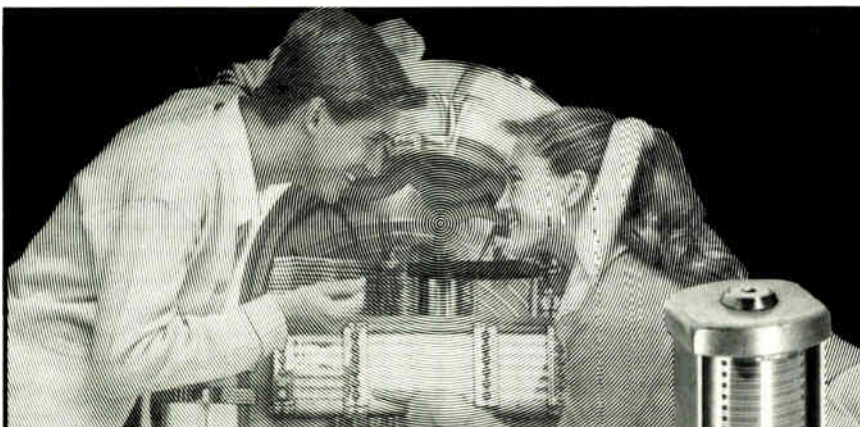
Max

The Max group works to make all aspects of the product perform to the maximum. The best converters, the finest hardware, the most open-ended architecture, the fastest, most powerful engines, the finest algorithms, the fastest, cleanest audio stages. These are a few of my favorite things. These design concepts are followed almost religiously by the few companies that offer such techno-art.

Interestingly enough, almost *all* these companies share several common, identifying characteristics. They are all small organizations, relatively speaking. They all offer hardware concepts that embody the most up-to-date electronic technologies possible, whether it be A/D conversion, engine speed or human interface solutions. They all offer products that are quite expensive, with serial numbers in the hundreds and *maybe* very low thousands. They all miss their promised delivery dates (often caused by the very fact that they use the most up-to-date electronic technologies possible). They are either American or German companies, with perhaps one or two offerings from the UK. Their prices do *not* go down every spring. Delivery usually remains terrible for the duration. They *sound* incredible.

Flash

Well, we have a very basic difference in attitudes here. These manufacturers print color literature by the hundreds of thousands, touting a list of features longer than the Pomona drag strip, and, amazingly, they deliver. Sort of. When you actually get hands-on time with one of these Flash class units, you find that it does, in fact, perform the functions that you were interested in, but it tends to do them the way that *it* wants to. Further, it does not *sound* exactly like you thought it would.



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surprises to slow you down. Everything is where it should be, from full parametric EQ to its 12 auxiliary sends, which makes operating speed another of the M700's best features.

You'll get superb routing flexibility, with 40 in-line monitors, 80 inputs, 32 subgroupings and quad outputs.

When you decide to move up to digital, to accompany your console, one option to consider is the DASH format DA800 24-track digital recorder with award-winning ZD circuitry. Currently available for \$99,000*

it's destined to be the best-sounding 24-track around.

So before you invest in any console, you owe it to yourself to hear the M700. We think you'll agree that the only thing more unbelievable than the sound of the M700 & DA800 combination is its price tag.

*Manufacturer's suggested retail price. Actual price may vary from dealer to dealer.

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One more good reason to consider Universal for your post production needs



New Solid State Logic SL 5000 M dubbing console in Universal's 300-seat Alfred Hitchcock dubbing theatre

Because the value of movie audio has never been more important to box office success, Universal City Studios has extensively refurbished their sound department—including the 5 dubbing stages, ADR stage, scoring stage, and the Foley stage.

Central to this facility update is the Alfred Hitchcock Theatre which serves as both a dubbing theatre and a luxurious screening room for up to 300 viewers.

Universal chose the Solid State Logic SL 5000 M Series console because it incorporated all of their sound mixers' design requirements.

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All the effects are actually there, but their versatility and editability are limited. You had better like it the way they do it, because if you don't, the only way you can change it is to wait for next month's model. It is sure to have those changes. If it doesn't, then the model that comes out the month after will; plus, you won't feel too bad about throwing away last month's machine when you get next month's, because last month's will only be worth 15% of what you paid for it anyway. No real loss.

MIDI implementation and sequential programming capabilities are usually awesome. They often do several effects simultaneously. Footswitches and other live-performance considerations abound.

Borderline conversion techniques are usually employed, so phase integrity, frequency response, noise and artifact specs are typically a bit disappointing, and often downright dismal. They are small, light and *very* inexpensive (and are discounted even further). The manufacturers ship on time from day one. Availability is never a problem: You can find them in your local pro studio supplier's showroom, Fred's Funkee Guitar Emporium, or three blocks down at K-Mart. The instruction manuals are almost always wrong. I used to think that they were confusing, that I just didn't understand, but I have come to realize that they are simply wrong. Serial numbers are in the high thousands, even if you get one in the first week that they ship.

Well. There are reasons for these two opposing schools of design. Both are valid; both are needed. Where would we be without cheap DSP for the masses? Where would we be without absolute top-quality DSP for the *real* projects?

Anyway, signal processing (and now DSP) is a vital part of our daily lives, whether for obvious special effects, artistic enhancement or downright surgical repair. As the power and versatility of these machines continues to grow dramatically, let us hope that those who use this technology are maturing at least at the same rate. If they are not, a brave new age of tastelessness may be upon us. ■

Stephen St. Croix (president of Marshall Electronic) uses both classes of equipment in his studio.

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by Mel Lambert

THE URBAN RECORDING ENVIRONMENT

SURVIVING IN THE BIG CITY

For most of us in the recording and production industry, urban living is a fact of life. And, for the majority of musicians, engineers, producers and facility owners, there's no denying that life in the "big city" adds a vibrancy and energy that can be beneficial to the creative process. A key issue in today's major urban marketplaces is one of "concentration"—more businesses need to pack themselves together more tightly in expensive real estate close to the action, with resultant human and technical frictions. And it's important to pay attention to the unique electrical, electronic and acoustic requirements of the recording studio in this environment—and, in so doing, to coexist in harmony with our local community. With that in mind, this month I'd like to offer the following Urban Survival Checklist.

Understand the Local Electrical Environment

It's wise to assume the electrical supply in your city is not always going to be reliable. Don't depend on the 60 Hz/110V supply behaving as advertised, especially if you're running wall-calibrated synchronizers and other time base-dependent hardware. On both coasts, you can practically tell the time of day from the voltage reading. Late afternoons, particularly, might not be the best times to run those routine archiving sessions from your automation computer, or to make slave 24-track reels using your first-generation synchronizers.

Grounding schemes also need to be executed carefully; anywhere downtown is a relatively hostile environment both physically and electri-

cally. You need to ensure that none of your neighbors is running electrically noisy devices, such as motors, compressors and similar induction-heavy units, on your power lines, and make sure your sensitive areas are adequately shielded from radiated interference.

Incoming power supplies to any studio should be derived from a dedicated single- or 3-phase spur. Running 3-phase supplies, which would be the norm for most facilities, means you can derive three isolated but interlinked zone supplies for, let's say, the lighting, technical and studio AC lines. If you anticipate using any electrically noisy hardware on these lines—such as a heavy-duty air-conditioning plant—make sure it can be isolated from the primary power supply to the recording hardware.

The facility should be laid out with properly grounded, "clean" and "technical" AC supplies, plus electrically contiguous shielding throughout the facility running to an ultra-low-Z primary ground. (And these days you might even consider adding a dedicated, uninterrupted power line for the most sensitive computer systems, with color-coded, possibly non-compatible connectors.)

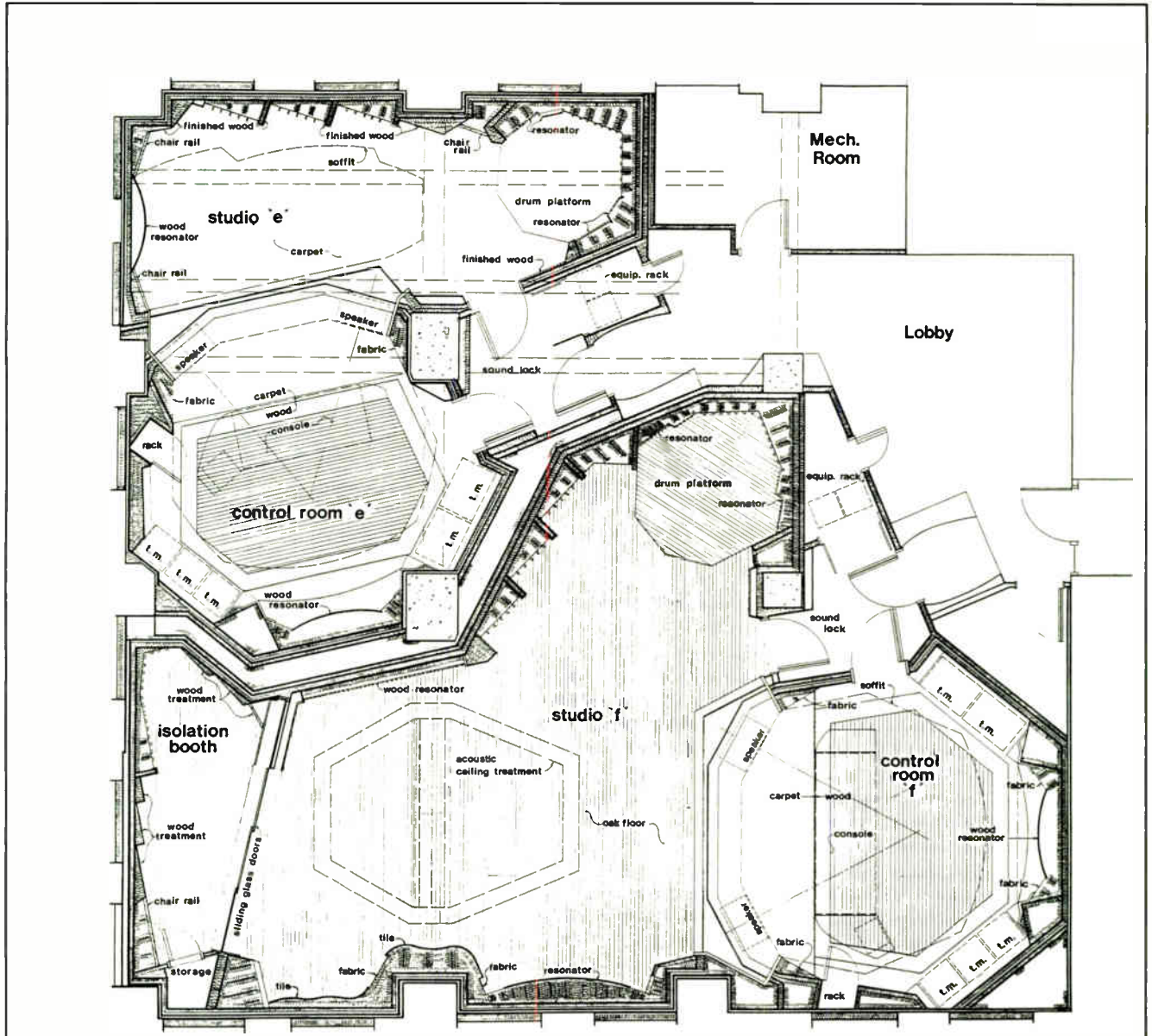
Securing a reliable, firmly sourced ground shouldn't be too difficult, but you must ensure that it cannot be interrupted on its journey from your penthouse studio to the basement, or that nobody else is using part of the run to carry electrical signaling. Also make sure the grounding scheme is laid out in a well-documented Star Network, and that you know whether a conduit or cable trunk is carrying the

ground toward or away from this central point, thus eliminating any possibility of creating a ground loop.

You might also consider installing a standby generator—especially if you do business anywhere near earth-

quake-prone areas of California, or where the power is known to vanish into the ether during the winter months—if only to power an emer-

gency lighting system and essential computer backup systems. (All your important data stored in automation systems or random-access workstations, not to mention an accounting/traffic system, is off to electron hell in



Howard Schwartz Recording
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Floor Plan

scale - ft. 0 5 10

Howard Schwartz Recording

Space is at a premium in New York City, and one studio to make maximum use of that fact is Howard Schwartz Recording. Located on the 19th floor of the Greybar Building—on top of Grand Central Station—it's one of the most sophisticated, compact, multistudio configurations. The studio is the home

for many of the country's leading jingle producers, as well as the audio digs for the *Saturday Night Live* reruns.

The two studios needed to be adjacent to each other in order to preserve space, according to designer John Storyk. The wall separating control room E from studio

F has eight layers of gypsum board, plus air space, a layer of lead and isolated layering. STC across the wall system has been measured in excess of 70 dB.

There was no room for a central machine room in this layout. The solution called for individual semi-remote rack rooms in each studio sound lock, with rear access from the corridor.

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JUXTAPOSITIONS

the event of a power outage or brown-out. Save your files regularly, and install a reliable backup PSU for the critical components, such as file servers and mainframes.)

In large cities the local line frequency can fluctuate by as much as 5% during the course of an average day. So don't be too surprised if your wall-referenced synchronizers develop unpredictable timing anomalies; always lock their clocks to an accurate house-sync source, or use an internal crystal.

Another related nuisance has been cropping up in recent years, one involving data errors in MIDI networks caused by both ground loops and induced electrical interference. Pushing multichannel MIDI data at transfer rates of 31.25 kbaud down unshielded or badly fabricated cables is courting disaster. (Remember when we interfaced early low-Z "semipro" equipment using excessively long cable runs of high-capacitance cable, and then wondered where all the HF energy went? It's pretty much the same deal with MIDI.)

One way around the problem is to use high-quality cable running in screened cable troughs, with MIDI thru boxes located every 15 to 20 feet. And make sure the MIDI-capable synthesizers, drum machines and sequencers are powered from correctly grounded AC outlets, and that you use ground lifters to prevent ground loops in metal racks and similar locations.

Pay Attention to Electrical Interference

While sensible grounding schemes and high-quality, shielded cable can eliminate the majority of hum and noise problems in cable runs throughout a multiroom facility, in some urban environments the amount of background RFI (radio-frequency interference) can be problematic. Common sources are the same ones that spray noxious spikes and other garbage all over your single- and 3-phase power supplies: motors and similar inductor-heavy hardware. Other sources include local radio/TV transmitters, whose sideband energy at the most bizarre audio and low-RF frequencies can find its way into all but the most well-insulated facility; or a nearby office that's running a newly implemented LAN system using unshielded/

ungrounded cables and connectors. (Try using a small, portable AM receiver to pinpoint the culprit. You may even want to offer to split the cost of replacing a cheap'n'leaky file server and peripheral cabling with fully screened, properly grounded ones—just like the FCC says you should use in the first place!)

If the problem is too tricky to handle on your own, then hire a reputable electrical consultant to brief you on the best solution. It might be a simple matter of relocating a mic termination panel, or resoldering a series of intermittent ground connections at the Christmas trees within your outboard effects rack. In the worst case, you might need to contract with the local building company to construct a proper Faraday Shield of fully interlinked, contiguous metal surfaces within all four walls, the ceiling and floor. More realistically, however, if you are contemplating adding a new room in the near future, or taking the acoustic treatment back to the walls to modify the room's current sonic signature, then investigate what's lurking within the spaces normally hidden from view.

Just as other people's telephone and computer systems can be prone to spurious RFI, you need to ensure that your AC hardware is electrically well screened.

Acoustical Considerations

By the same token, the facility's acoustic treatment should be ensuring that your loud noises stay inside the walls, and exterior sounds don't find their way into the control room or studio mics. In today's closely packed office environments, where rents require us to design recording spaces that can handle multiple types of sessions, the problem of noise abatement is even more crucial. Where existing treatment is inadequate (an otherwise functional air-conditioning duct designed for vocal sessions may be too acoustically transparent at the high SPLs generated during a tracking date), you need to make sure you're not a nuisance to your neighbors.

One source of potential friction can result from running heavy-duty air-conditioning plants on the building roof, or close to a ground floor facility. Acknowledge potential noise problems; while your acoustic treatment has been designed with such considerations in mind, few offices are

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as well endowed. During construction or extensive renovations, it might behoove you to inform others within the building of your plans and how they might impact other users.

Maintain Clear Lines of Communication with Your Local Resources

As a facility owner, you should network actively with local suppliers of services and hardware. Ours is a *people-based industry*, so make sure that you are listed in as many Rolodex, Filofax, Casio BOSS and PCs as possible. In the same way, make sure you have access to office and home numbers for all the various cartage companies, local repair technicians, freelance engineers, computer wizards, hardware suppliers, session musicians and the like; you never know when you are going to have to reach

them at a moment's notice.

Remain Close to the Up-and-Coming Engineers and Producers

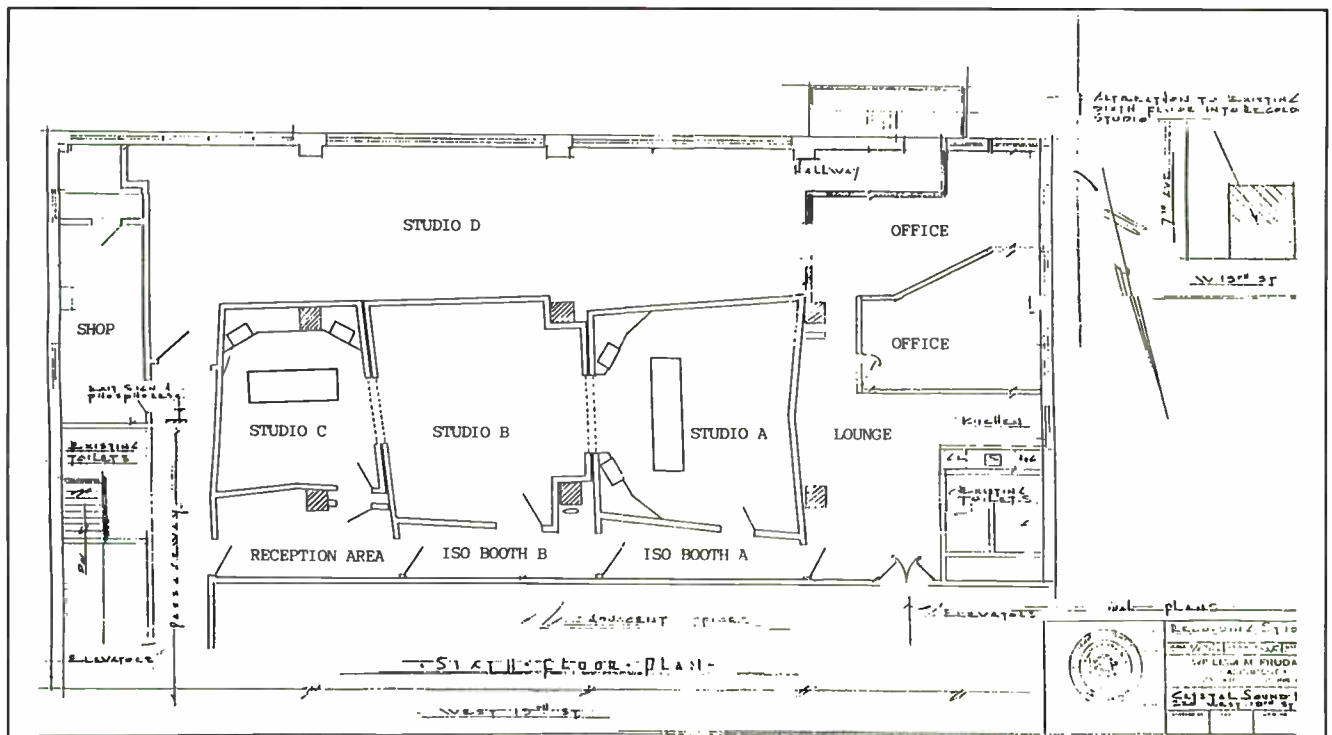
The casual visitors of today are just as likely to turn into the regulars of tomorrow. Be courteous to everyone. You never can tell who they are going to grow into or, just as importantly, whose production budget they might influence in the future. Also, within most medium to large cities there are dozens of individuals who are seen nightly at the more happening clubs and social watering holes. It is well worth your while either cultivating an interest in their interests—as members of a band, its retinue, contacts with local labels and so on—or alerting the studio manager of your favorite facility to their presence. There is always a pool of local talent in any urban center; to harvest a crop of future customers and clients, a facility owner

(and freelance engineer/producer) needs to sow the seeds now!

And finally, even if your facility is located in a reasonably busy commercial area, make friends with the locals. Your office hours will almost certainly not synchronize with theirs on a regular basis, and an extra set of eyes and ears during the daytime might prove a godsend down the line. We should all try to coexist and blend in with our immediate neighborhood.

With a little care and attention to both human and electronic well-being, life in the big city can be a profitable and enjoyable experience. ■

With over a dozen years of active involvement with professional audio on both sides of the Atlantic, Mel Lambert now heads up Media&Marketing, a high-tech consulting and marketing service for pro audio firms and facilities.



Crystal Sound Recording

In view of its location in the heart of New York City's Chelsea district, it was important that Crystal Sound Recording maximize its use of space. With an idea toward modular design, two control rooms (studios A and C) were built to share the two main playing rooms (studios B and D). A hallway runs along

sides A, B and C and can be converted into two separate isolation booths, each with visual communication, microphone lines and cue feeds. When the iso booths are in use, record lights over each access door are illuminated. The iso booth/hallway also serves as a sound lock between the rooms.

When tracking in studio A (the main 24-track control room), engineers also have the option of using studio C (the 2-inch, 16-track room) as a large drum iso booth. The layout of the three rooms allows unimpeded visual communication between musicians in B and C, and the control room staff in A.

THE 1990 TEC AWARDS NOMINEES

OUTSTANDING TECHNICAL ACHIEVEMENT

Recording/Storage Technology

- Akai A-DAM System
- Lexicon Opus/E
- Panasonic SV-255 DAT
- Solid State Logic ScreenSound
- Sony TCD-D10PRO DAT
- Studer/Editech Dyaxis 2.4

Signal Processing Technology

- Alesis MIDlverb III
- ART SGE Mach II
- BASE Bedini Audio Spacial Environment
- DigiTech MEQ-14 MIDI Equalizer
- Eventide H3000 SE
- Lexicon LXP-5

Console Technology

- Alesis 1622
- Amek Mozart
- Neve VR Series
- Otari Diskmix 3
- Soundcraft 200 Delta
- Trident Vector

Transducer Technology

- AKG C-426B Microphone
- Apogee AE-4 Speakers
- Crown SASS Microphones
- Intersonic Bass Tech-7 Subwoofer
- JBL 2200 Series Speakers
- Meyer HD-1 Monitors

Musical Instrument Technology

- E-mu Systems Proteus
- Ensoniq VFX-SD
- Korg T-Series
- Peavey DPM-3
- Roland U-220
- Yamaha SY77

Computer Software/Peripherals

- Lone Wolf MIDItap
- Mark of the Unicorn Performer 3.3
- Passport Designs Pro-4
- Spectral Synthesis Synthcard
- Steinberg/Jones Cubase
- Words & Deeds Archie 2.0

Ancillary Equipment

- Adams-Smith Zeta 3B Synchronizer
- Ampex DAT-Pak
- Audio Precision System 1 + DSP Test System
- Jensen Twin Servo 990 Microphone Preamp
- Tascam MIDlizer Synchronizer
- TimeLine Lynx Keyboard Control Unit

Sound Reinforcement Product of the Year

- Apogee AE-4 Speakers
- Crown System IQ-2000
- Crest Gamble Series EX Consoles
- JBL 2200 Series Speakers
- Showco Digital Crossover
- Soundcraft 200 Delta Consoles

Recording Product of the Year

- Akai A-DAM System
- Gotham CDR-90 Reference System
- Neve VR Series
- Solid State Logic ScreenSound
- Studer/Editech Dyaxis 2.4
- Tascam MSR-24 24-Track Recorder

OUTSTANDING CREATIVE ACHIEVEMENT

Recording Engineer

- Ed Cherney
- Bob Clearmountain
- Keith Cohen
- Kevin Killen
- George Massenburg
- Shelly Yakus

Remote/Broadcast Recording Engineer

- Guy Charbonneau
- Bob Clearmountain
- Ron Estes
- Randy Ezratty
- Ed Greene
- David Hewitt

Mastering Engineer

- Greg Fulginiti
- Bernie Grundman
- Ted Jensen
- Bob Ludwig
- Steven Marcussen
- Denny Purcell

Sound Reinforcement Engineer

- Rob Colby
- Clive Franks
- Dave Kob
- Benjamin LeFevre
- Mike Ponczek
- Brian Ruggles

Record Producer

- Peter Asher
- Jimmy Jam/Terry Lewis
- Quincy Jones
- Daniel Lanois
- Hugh Padgham/Phil Collins
- Don Was

Audio Post-Production Engineer

- John Alberts
- Bruce Botnick
- Ben Burt/Richard Hymms/Gary Summers/David Slusser
- Tom Fleishman
- Scott M. Gershin
- Ken Hahn

OUTSTANDING INSTITUTIONAL ACHIEVEMENT

Acoustics/Studio Design Company

- Tom Hidley Design Service, Montreux, Switzerland
- Joiner-Rose Group, Dallas, TX
- Perception, Inc., Los Angeles, CA
- RLS Acoustics, San Francisco, CA
- Walters-Storyk Design Group, New York, NY
- Waterland Design, Hollywood, CA

Recording Studio

- A&M Recording Studios, Hollywood, CA
- Conway Studios, Los Angeles, CA
- Ocean Way, Los Angeles, CA
- Power Station, New York, NY
- Real World, Bath, England
- Skyline Studios, New York, NY

Sound Reinforcement Company

- Audio Analysts, Plattsburg, NY
- Clair Bros., Lititz, PA
- Electrotec Productions, Canoga Park, CA
- Maryland Sound Industries, Baltimore, MD
- Showco, Inc., Dallas, TX
- Ultra Sound, San Rafael, CA

Mastering Facility

- Artisan Sound Recorders, Los Angeles, CA
- Fullersound, Inc., Miami, FL
- Bernie Grundman Mastering, Los Angeles, CA
- Masterdisk Corp., New York, NY
- Precision Lacquer, Hollywood, CA
- Sterling Sound, New York, NY

Remote Recording Facility

- Effanel Music, New York, NY
- Fanta Professional Services, Nashville, TN
- Le Mobile, North Hollywood, CA
- Record Plant Remotes, Los Angeles, CA
- Remote Recording Services, Lahaska, PA
- Westwood One Mobile Recording Division, Culver City, CA

Recording School/Program

- Berklee College of Music, Boston, MA
- Full Sail Center for the Recording Arts, Winter Park, FL
- Institute of Audio Research, New York, NY
- Middle Tennessee State University, Murfreesboro, TN
- Trebas Institute of Recording Arts, Hollywood, CA
- University of Miami, Coral Gables, FL

1990 TEC AWARDS HALL OF FAME INDUCTEES:

Deane Jensen, Quincy Jones, George Massenburg

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Left to right: Harry Bongiovi, Studio Manager; Bob Waters, President; Tony Bongiovi, Vice President, Studio Designer

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by David Allison Esq.

BILLY BARBER'S STUDIO IN THE SKY

The Composer/Keyboardist for Flim & the BBs Is Making His Music on Broadway

Billy Barber hails from a family rich in musical talent: His grandfather played trombone in the old vaudeville days with Jack Benny, Gracie Allen, George Burns and the Marx Brothers; his grandmother was a pianist who worked in Chicago theaters; and his father is a seasoned jazz pianist and big band arranger who married a singer in Minneapolis in the early '50s.

With such a background, it is not surprising that Barber became interested in music at an early age; at school he received formal piano training and rapped knuckles from some rather strict nuns, while at home his father adopted a more relaxed approach, initiating his young son in the ways of jazz improvisation. While all this was

going on, Barber also developed a fascination for all things scientific, even setting up a little laboratory in the house, where on one occasion he took it upon himself to melt down his father's coin collection!

The combination of these influences perhaps explains why Barber has developed into that rare breed of musician for whom a wide variety of musical styles and com-



Konk Studio

Recording in "Underground" New York

by Hank Bordowitz

The scene on the Lower East Side of New York City has often been called "underground," but Shannon Dawson and Geordi Gillespie take it to new extremes. Collectively, with several other downtown denizens, Dawson and Gillespie work as Konk, a fixture on the city's dance music scene for nearly a decade. When the clubs were happening, they could be seen around town twice a week: when playing the clubs in the city became an expensive hobby, they took to the studio, released singles and took day jobs. They finally got a break in 1988, placing a record on the soundtrack to *Bright Lights, Big City*. So these days, they are improving their studio. Konk Studio is located in a basement under a loading grate, deep in the bowels of the Lower East Side.

"We've had the studio for seven years," Gillespie, a.k.a. G. "Love" Jay, says. "We've been all over the place. We used to share space with the Bush Tetras on First Avenue. Then we were on Vestry Street, where we shared space with The Individuals. All the basements we were in were flood-outs."

They finally got space on Ludlow Street. The pair used these spaces for rehearsal, renting them out for same to some of the bigger names on the New York music scene so they could maintain it. As their focus turned from live performance to recording, the new space became more of a demo studio for Konk Records. The studio is 16 feet x 12 feet with a 6.5-foot dropped ceiling. Of course, working sonically within the parameters of a basement is not easy.

"The ceiling is dropped," Gillespie notes, "but it's a concrete floor. Our control room is hooked

When space is at a premium, you make premium use of space.

up to beams, so it's not sound-proof."

Dawson contends, "It's as close as you can get with continuous floor and beams."

"We were going to float the control room," Gillespie adds. "Instead we decided to drill a line through the cement."

Dawson explains, "So the cement doesn't actually connect. There's a line, about an inch-and-a-half, filled with caulking."

As we speak, Dawson, Gillespie and engineer Frank James are mixing a single, "Konk Blast," their first in a new record deal with Island subsidiary 4th & Broadway. Over the course of the last year, largely with royalties from the *Bright Lights* project, they have hooked the studio up to the point that they can think about actually making records there. The space is far from perfect, though. James sat in the control room the first day of the mix, listening to the studio, and eventually ran from the space screaming. When he finally regained his composure, he hung shutters around the room. "The room needed some wood," he says. "They had these readily available, so we used them."

"We still have some acoustic



Geordi Gillespie walking up & out the "front door" of Konk Studio.

work to do," Gillespie concedes. "We need some baffles. The design is not optimal. We designed it from *Mix*, with no parallel walls and all that stuff."

"In the next issue they revised it," Dawson adds with a smirk. "They printed a retraction that said, 'If you built the studio like this, you made a mistake. Don't mix in this room! Condemn it!'"

"The material is constant soundboard," James explains, "and so the frequencies being soaked out are constant throughout the room. It's just not natural. So I brought the shutters in. The equipment has lived in it up quite a bit, too."

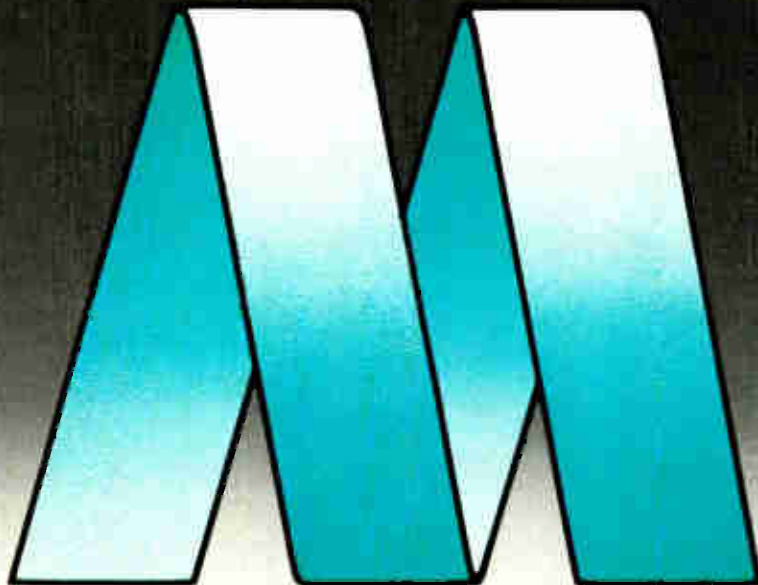
The influx of funds has allowed them to slowly but surely bring the





A. Michael Holland

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World Radio History

—FROM PAGE 45. KONK STUDIO

studio up to speed. They've carpeted the space, dropped the ceiling and, after eight years, put a sink in the bathroom. However, they were still short on the things needed to make a competitive mix.

"We're mixing our 4th and Broadway release down here," Gillespie says, "as well as recording it. Also, using computers and samplers is new to us. Before, we put all the parts down on 24-track. Now we're trying to prove we can do it down here. It's only 8-track, so we're using more synthesizers and a lot more triggered samples. For example, the horns were played, recorded, sampled and then put back on tape. There were five horn players, all playing together. We mixed that down, sampled it and put it back on the tape, onto one track instead of five."

Konk Studio sports a Soundtracs

24 x 8 x 4 x 8 board, Otari 8-track, Akai S950, Alesis drum machine, Macintosh with Performer software for sequencing, Yamaha DX7II+, Roland D-10, DAT for mixdown, SPX90II, DEP-3, some Audio Logic gates, a time code sync box, a pair of Westlake speakers, a small Sharp boom box (for reference when they mix) and a slew of instruments, like drums, percussion, guitars, horns and even a balafon.

For the mix, James brought a ton of equipment from his own studio, Dream Edit Recording in Newport, Rhode Island, including nuts-and-bolts stuff like a 6-band EQ from an Allen & Heath console—"It's nice because it has highpass on all six banks, so you can really clear up the mud that you put through it," James says—four new LXPs with MRC, a Linn 9000, various other reverbs and gates, and an Aphex Type C Exciter. But his secret

weapon for this mix was a Hybrid Arts ADAP I with an Atari Mega IV.

"That allows me, at a 44.1 kilohertz sampling rate, to get about half-a-minute in 16-bit stereo," James claims. "It's immense. We did 8- to 16-bar percussion drops with it. I got into the ADAP market about two years ago, because it was the only thing that would do for massive backup drops in the \$3,000 to \$4,000 range."

It is probably better that news of this doesn't get around the neighborhood. Gillespie and Dawson are looking to bring their studio up to date, buying additional equipment, but the neighborhood is still the Lower East Side. Theft is always a possibility, despite how well camouflaged the space is. Even if it's underground. ■

Hank Bordowitz is a New York area-based writer.

—FROM PAGE 44. BARBER

plex recording methods serve to widen creative possibilities.

He's perhaps best known as the principal composer and keyboard player for the award-winning jazz quartet Flim & the BBs, with whom he's made five successful albums on the DMP label, and most recently a sixth, co-produced by George Masenbourg for Warner Bros. Records. Barber's ability to embrace many musical styles has produced an impressive list of credits over the years: He's recorded two solo albums (*Shades of Gray* and *Lighthouse*) for DMP; penned a Number One hit single for the Oak Ridge Boys that was later covered by The Temptations; and a gospel-tinged song, "Love Is Worth the Pain," for Ray Charles. He's written numerous jingles for the likes of Coca-Cola, Pillsbury and General Mills, and written and recorded some memorable TV music, including a new theme for the series *All My Children*. Most recently he's branched out as a singer and lyricist, and he's entered the world of film scoring, writing the soundtrack for *Old Explorers*, scheduled for U.S. release in the near future.

Although Barber now works principally with MIDI technology, he first made his name pioneering live-to-digital recording techniques with Tom Jung and Flim & the BBs as early as

"THERE'S A REAL

need for people who can feel

equally at home both in the con-

ventional studio and in the MIDI/

SMPTE-based studio. Bridging

the two worlds is difficult."

the mid-70s. As he recalls, "We were working at Sound 80 Studios in Minnesota when 3M came out with some prototype digital machines. The boys in lab coats from 3M would bring these refrigerator freezer-type machines into the studio, we'd play into them, and sometimes they'd work and sometimes they wouldn't. They had this way of making editorial decisions all on their own." Despite the unreliability of the machines, Barber was immediately intrigued by their potential: "I remember when one of the engineers sat me down and explained how to sample something 44,000 times a second, and I looked at him like he was a genius!"

The advent of digital was certainly important in forming the musical style of Flim & the BBs. "All of a sudden," explains Barber, "we could forget about things like tape hiss and wow and flutter, and just concentrate on the dynamics of the music." In 1982 the band recorded the album *Tricycle* with Tom Jung for DMP. "We had fun playing with all these new transients," says Barber, "and the CD certainly destroyed a lot of woofers, which was something we were quite proud of."

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Around this time, Barber was also discovering the earliest incarnations of MIDI instruments: "I got into MIDI around '80 or '81, when I bought a Commodore 64 and some little boom-box 4-track sequencer that plugged into the expansion port. I was amazed at what it did. I played into it and it played it back, and I thought, 'This is really something.'" Today, the bulk of Barber's work is completed at his MIDI/SMPTE studio in central Manhattan, high up on the 18th floor of a stylish Broadway office block.

In a corridor populated by what appear to be rather serious law and accounting firms, the door marked Billy Barber Productions suggests nothing out of the ordinary. Once inside, however, you're truly in MIDI-land. Affording spectacular views of the city, the main MIDI composition room boasts impressive facilities, with tried and trusted favorites coexisting with the latest in MIDI technology. In order, as Barber puts it, "to cover all eventualities," the system utilizes three computers—Atari with 20-meg hard disk, a Macintosh IIcx 40-meg running Vision and Cue software, and a Wyse 286 IBM compatible with 30-meg hard disk—as well as an old Mac 512 used mostly for loading Kurzweil sounds.

Three Yamaha DMP7s are hooked together to offer a total of 24 tracks for processing a Korg M1 and a range of synthesizers, including the Yamaha TX802, Roland D-50 and Prophet-VS. Monitoring is via a pair of Westlake BSM6s driven by Acoustat pre/power amplifiers. Samplers include the Kurzweil SX string expander, Prophet-2002, Oberheim DPX1 and the Proteus XR. For film work there's the Sony VO-7600. Add to this the ADAP Soundtrack digital editor, Roland R-8 and Yamaha RX5 drum machines, plus a carefully selected range of effects and outboard gear, and the technology is all there to record Barber's multistyled compositions.

Next to the MIDI studio is a live room containing Barber's Steinway, together with a separate control room equipped with the Akai MG 1212 and a Fostex E2 mastering machine. Microphones include Neumanns, Shures and the Bruel & Kjaer 4011 cardioid, Barber's preferred mic for vocals. Barber also uses a rather esoteric preamplifier manufactured by Central Recording Services of Leicester, UK.

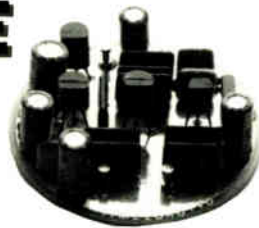
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World Radio History

Aside from conventional sound-proofing, the rooms did not need much acoustic treatment, save for the MIDI studio, where baffles designed by Soundmirror's John Newton have been positioned on the rear wall to tighten up the bottom end. As Barber explains: "I know it's heresy to say this, but monitoring is less important for me in this kind of MIDI setup than in a conventional studio, because you can always come back and change the sounds if you want to; that's the beauty of MIDI."

For Barber, composing in isolation

in his MIDI room is naturally a far cry from recording live in a big studio with Flim & the BBs. And while he relishes interaction between musicians, he also enjoys the solitude of working on his own. "It's totally different, and sometimes I miss input from other players, but I do like it when everyone's cleared out of the office, the phone stops ringing and I can get down to writing," he says. "I like the fact that I have total control over every note, and whatever part I'm playing I really try to go for what I imagine to be a realistic musical performance."

While Barber sometimes calls in an engineer during the acoustic sessions

to handle mic placements or EQ, in general he prefers to do it himself, because, although a trade-off sonically, "it saves having to waste time explaining the MIDI configuration, and the samples available are now so good that less signal processing is needed." Despite this, the lack of MIDI-proficient engineers is still something of a worry for Barber: "I actually think there's a real need for people who can feel equally at home both in the conventional studio and in the MIDI/SMPTE-based studio. Bridging the two worlds is difficult, but engineers sometimes tend to be a little MIDI-shy."

Although about half the work done at the studios goes to finished master, there are often occasions when Barber will record guide music using synthesizers and then go into a commercial recording studio to replace the synthesized sounds with real instruments. When he worked on the score for *Old Explorers* recently, Barber sent the director cassettes of synthesized cues each day for approval, before eventually hiring an orchestra to record the whole score at National Public Radio's facility in Minnesota.

Recording the latest Flim & the BBs album with George Massenburg at The Complex in L.A. proved to be the best of all recording worlds for Barber—a project where all the various technologies and creative influences that have inspired him came together. As he explains, "While the main body of music was recorded live-to-digital 2-track, George also used a Mitsubishi 32-track machine. I was playing a [Yamaha] MIDI grand most of the time, and it was triggering what seemed like synthesizers all over the building, which were then fed into the multi-track. So if we came to a verse or a chorus that needed a kick in the butt or maybe a bit of a release sonically, we could just dive in and take a keyboard out or add a different one. It was a great experience!"

Billy Barber's musical and technical versatility make it difficult to fit him into any one particular category. But if there is anything unifying his work, it is his love of melody and his enthusiasm for all kinds of music. With a new solo album planned and diverse television and film projects on the horizon, Barber looks set to go from strength to strength. ■

David Allison Esq. is a writer based in Great Britain.



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Sometimes an all-digital signal can be too clean. Suppose you're doing a film score for a movie set in the 1950s. Even out of the 3-inch television speaker, the audience can tell the difference between a digitally processed sound and one that's gone through tubes.

It all comes down to distortion. Not distortion in terms of an awful, raspy buzz; tube equipment emphasizes even harmonics, yielding a smooth, rounded, warm character that may be just right on a vocal track. In an age when harsh, over-digitized tracks seem to be the rule rather than the exception, tube processing gear can offer a soft, smooth touch. As that old

Photo above: Presence Studios, East Haven, Conn.

used equipment salespitch goes: "Sonic purity is just a crutch for people who don't own Pultecs..." or something like that.

But you better have a lot of money. Many of the old Pultec equalizers that went for \$50 to \$100 in the '70s now sell for \$2,000 and more. They're not getting any cheaper. Quality antiques never do. In fact, several companies, such as Tube-Tech and Summit Audio, now offer new processors based on classic tube technology.

This month, *Mix* contacted studio owners throughout the Northeast to find out how and why they're using classic signal processors. But it's not just tubes, as today's engineers are rediscovering the joys of acoustic reverb chambers, plate reverberators, and discrete (non-IC) circuit designs in consoles, equalizers, preamps and other gear. So it's time to pull out the Pultecs, APIs, EMTs, Fairchilds, Teltronixes, UREIs and even a Neve module or two. Ready? Let's go retro.

BEARSVILLE STUDIOS

Bearsville, N.Y.

Jeff Kahan, assistant manager

"The biggies for us are Pultecs and LA-2As and -3As," Kahan says. "In the case of the Pultecs, the frequencies people



Photo above: Will Schillinger at Marathon Recording, NYC.

want are there, and no one has really replicated the sound. The Tube-Tech gear is actually too clean for a lot of people—it doesn't have the warmth of the older stuff. We don't get a lot of requests for that; people seem to prefer

the Pultecs. With the LA-2A, the slowness of its optical circuit design makes it desirable; it softens the compression.

Photo below: Bob, Lola and Kenny Blank of Blank Productions, Stamford, Conn.

"Speaking of old gear, we have an old Neve console from 1971. People are dying to use that console because it'll warm up a 3348 better than any-



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thing else I know of. And people use it despite the fact that it's old, cantankerous and doesn't have as many outputs as it should. It's the same with the signal processing gear: There are trade-offs, but the bottom line is people like the way it sounds."

BLANK PRODUCTIONS

Stamford, Conn.

Bob Blank, owner

Though most clients come into Blank Productions for the state-of-the-art technology, Bob Blank often ends up recommending vintage processing for its warmth. "When we're working with bass or guitar parts that sound a little too harsh," Blank says, "we'll feed it through our Ampex 350 Tube Electronics, which has a vintage 1950s tube sound that muffles up the edges.

"We did the soundtrack for [NBC's] *Inside Video*, and the music was Bobby Brown-type music with old R&B saxophones," he continues. "We put the sax section through the Ampex and it came out great on TV. Before the Ampex, it had a thin, harsh sound. We also have a Pultec MEQ-5, which we used for background vocals to cut out the midrange notch. They came out a lot clearer.

"I used to own a studio full of old-time stuff," Blank continues. "I was buying LA-2As for 100 bucks. I was buying Pultecs for 50 bucks apiece. My staff was going crazy, saying, 'What are you buying all this crap for?' When I finally sold the studio, those were some of the most valuable assets in the place. In the '70s and early '80s everybody was trying to go high-tech, and they underestimated some of that old stuff. Vintage gear is what makes the new stuff sound good."

CHUNG KING HOUSE OF METAL

New York City

John King, owner/engineer

What started as a small, 16-track studio five years ago has blossomed into a three-room (with another under construction at press time) facility that specializes in rap and hard rock acts.

"Some of the old limiters I have are the predecessors to the LA-2, the Universal Audio 175 peak limiters," owner/engineer John King says. "They're about 30 years old, but are still working, still cranking out and still sound fantastic. Like most tube stuff, you have to try them out on different things. The only thing that sounds good on everything is a Pultec," King enthuses. "They have their own sweet



John King of Chung King House of Metal, NYC.

little distortion, which is what people like about them. We use our Pultec EQs all the time, on just about every session—I wish we had more—even four times as many."

"I love old plates, although we're moving things around in the studios here—constructing another room—and currently I don't have any of them hooked up. Old plates with the new



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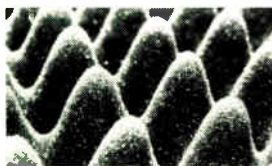
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preamplified transducers are especially nice, because the noise floor drops about 15 or 20 dB. Now that we're working with the Mitsubishi 32-track digitals, the noise floor is extremely important."

DOWNTOWN RECORDERS

Boston, Mass.

Mitch Benoff, owner

Specializing in album recording, this 24-track facility has hosted a variety of artists in the past, ranging from established acts—such as Aerosmith, Peter Wolf, Nils Lofgrin, Bon Jovi—to alternative acts, like the Pixies. At press time, the studio was booked by the Taylor family (James, Alex, Hugh and Kate).

"I have some old tube UA 175s, which eventually became UREI," Benoff says. "We do have a lot of people who like to run stuff through the tube electronics, just to warm up a track." At Downtown, many engineers prefer the older gear, Benoff explains. "The younger engineers may not know about [them], but the experienced producer will come in and say, 'Oh, wow, you have some old tubes, let's use them.'"

HORIZON RECORDING

Wilton, Conn.

Vic Steffens, manager

"We're using a lot of LA-2As, and we get requests for Fairchild compressors. We've been using some of the API stuff, both the mic pres and the graphic EQs. We also use the tube Echoplex a lot, for guitar players in particular.

"One of the things I've found is that a lot of producers, regardless of what's new that comes out, would rather use the tried-and-true equipment that they know and love. I think there may be a message to manufacturers there, because lack of user-friendliness in a lot of new gear drives people nuts. If a producer's really trying to move on a session, he wants it to be easy. Plus, I think a lot of producers really do like the sound of the older stuff. Certainly some of the interest is motivated by CDs. You used to have that final mastering option, where you could mediate some of the harshness, but now the warmth is either on the master or it's nowhere.

"But at the same time I've found that a lot of the younger bands are getting extraordinarily hip to this stuff, especially the guitar players. I'm seeing fewer people coming in with the big racks full of crap. A lot of them are

looking for Echoplexes and some of the old MXR gear. It's actually refreshing at this point to hear some of those older sounds. Yesterday we were working on this Lita Ford record, and we tried all these different things on acoustic guitar; we ended up using this ancient Boss chorus that [producer] Mike Chapman had. Actually, he is one of the reasons I'm seeing more of the older stuff. He even brought a Fender Rhodes in a while ago. A DX7 doesn't sound like a real Fender Rhodes."

GREENE STREET RECORDING

New York City

David Harrington, manager

At Greene Street in Manhattan, recent artists include Public Enemy, Tommy Page (with Arif Mardin producing), Peter Wolf, Fine Young Cannibals (remix), Eek-a-Mouse and (one *Mix* editor's favorite) Sonic Youth.

Manager David Harrington reports that studio clients are asking for "tons of Neve EQs—1073s, 1081s, almost anything I can get my hands on. People still like APIs, too." Harrington adds that Pultecs are popular, too. "There's the EQP-1, MEQ-5, the bottom end. Bam, people want dimes of those, although the Tube-Techs we have are a lot like them." People want the old signal processing gears' "warm, punchy tube sound."

HOUSE OF MUSIC

West Orange, N.J.

Paul Higgins, engineer

As the head of technical staff and engineer at House of Music, Paul Higgins observes that their most used classic piece of gear is the EMT 140 plate reverb. "We have three of them and they're used extensively by our own engineers and freelance engineers all the time. They have a classic sound that only today's Lexicons and the Quantec Room Simulators can come close to. They're used for vocals, and people like them for electric guitar tracks. It gives a '60s and '70s sound to the tracks.

"The [Pultec] EQPs and the MEQs are in demand, especially the tube versions," Higgins says. "Also the LA-2A compressor/limiters—both the Teletronix and the UREI—are used extensively. A lot of outside engineers request them. And we have two pairs of Fairchild 670 stereo compressor/limiters that are used a lot for vocals in a mix situation, because they provide a smooth compression and warm sound."

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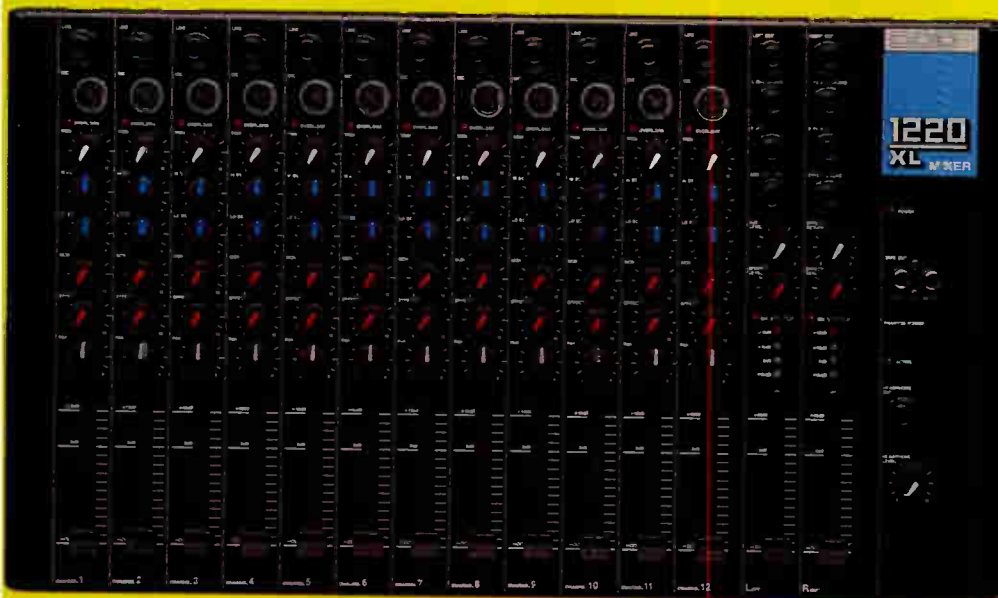
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KAJEM VICTORY

Gladwyne, Pa.

Mitch Goldfarb, owner/engineer

"We get a lot of requests for Focusrites, Massenburgs, Drawmer, Pultecs, LA-2As—they're all workhorses. What I have at my fingertips is a smattering of everything, from API EQs, to the ones I mentioned, to UREI EQs, you name it. We haven't gotten any requests for plate reverbs for a couple of years now, probably because the digital chambers—the 480Ls, the AMS and the EMT stuff—are so polished and flexible that you can really create anything with them. We have a large, ambient drum room, so I've been putting speakers in there and remiking them, even with synthesizers—running them through amps there and getting a room sound.

"It seems like most of the people who are requesting the older signal processing equipment are people who have a lot of experience with it and are used to the sounds. Plus, now that so much is digital and squeaky-clean, the older gear lets you put some of that friendly warmth back in. Most of the people leave it up to me, as an engineer/producer, to do whatever I want. As long as it sounds great on the monitors, they're happy. They'd rather pay attention to the creative part instead of the technical part."

MARATHON RECORDING

New York City

Will Schillinger, engineer

Years ago, Will Schillinger picked up an old Fairchild console and disassembled it for parts—bunches of compressors and EQs. Marathon is also home to a rack of API 550s, a Neve 1079 Series stereo limiter compressor, Pultec PEQs, EQPs and MEQs, and a couple of Teletronix LA-2A limiters.

"There is no compromise for the clarity and definition of vocals recorded with the vintage AKG C-12 in conjunction with a Teletronix LA-2A and the appropriate tube equalizer," Schillinger says. "Working with Vanessa Williams [Wing/PolyGram], I found the C-12 with a Focusrite mic pre directly through the Teletronix, transformer-isolated into the Sony 3324 digital machine, to be extremely intimate. I used a similar configuration on Mike Kessler's vocal for *Lonely in America*, a Greg Arnold film score.

"Sometimes I use the Fairchild as a compressor on a snare drum," he adds. "I use it almost overloaded to add a

certain punch through a Pultec. We like to use Pultecs on drums."

PRESENCE STUDIOS

East Haven, Conn.

Jon Russell, manager/engineer

"We probably get the most use out of the UREI 1176s," says Russell, whose work comprises regional and national album production. "They seem to be the thing for kick drum and any bass stuff. They're a pain in the ass to dial in right, because ergonomically they're set up poorly. But they're really nice. Ronnie Song, who produced Najee, Freddy Jackson and Melba Moore,

likes the 1176s a lot. He uses the Fairlight, so a lot of times we'll squash sounds with the 1176s before we go to the Fairlight. He also likes to use the AR-300 tape eliminators made by Marshall Electronic; they're wonderful for simulating tape echo on a voice.

"We've got Tube-Techs, because I refuse to spend \$2,000 on a Pultec. We use them on almost everything. [Producer] Paul Sabu likes using the Tube-Techs a lot. And, ironically, a lot of people like to use MXR delays for guitar or saxophone because it's a nasty, metallic kind of delay."

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views on the subject of classic gear, Russell didn't hesitate. "Somebody ought to do something about the absolutely ridiculous prices this equipment is going for. These prices are artificially inflated. Quite honestly, this gear is noisy. It creates a lot of hiss, and it really cracks me up when producers come in and say, 'No, I won't mix here because I don't want to use VCAs.' And then they'll patch in an SPX90, which has got half a dozen VCAs in it, or they'll use some of this older gear where the signal-to-noise ratio is 62 dB. I've got quite a few records on the charts that I engineered, and I think there's a myth being created that the old gear is the best stuff."

SABELLA RECORDING

Roslyn Heights, N.Y.

James Sabella, owner/engineer

Built about ten years ago on Long Island, Sabella Recording is a 24-track facility that has a sizable collection of vintage processing gear, including a 1979 Neve 8068 console (featuring all Class-A electronics) that originally came from Phil Ramone's A&R Studios in New York City.

"I have Neve and Neumann limiters, which are solid-state," notes Sabella, "but I also have a few tube limiters, like the UREI 175s, which aren't good on everything, but are really great on rock 'n' roll guitars, where you really crunch them down. I have 11 Pultec tube equalizers, which are just fabulous for vocals and drums, especially the models with the 16kHz EQ. Putting that on top of a vocal is better than any of the exciters out there. And when you put a Pultec on kick drum or tom toms, you can really hear it—the sound really comes alive."

However, there are ways to obtain a warm, classic sound, without using vintage gear, Sabella explains. "There's something wonderful about tubes. I have this new VTDB-2 tube direct box, made by James Demeter of Los Angeles, that sounds far superior to any other direct box. On guitars, basses and some keyboards, it sounds great."

Sabella has noticed an increasing interest in older equipment, from engineers, producers and manufacturers alike. "I'm in the midst of having my EMT 140 plate converted to stereo, and there's a new piece out from the Time Lord company in Japan," he says. "They claim their update improves the signal-to-noise ratio by 15 dB. I also love the EMT 250 digital

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James Sabella at Sabella Recording, Roslyn Heights, N.Y.

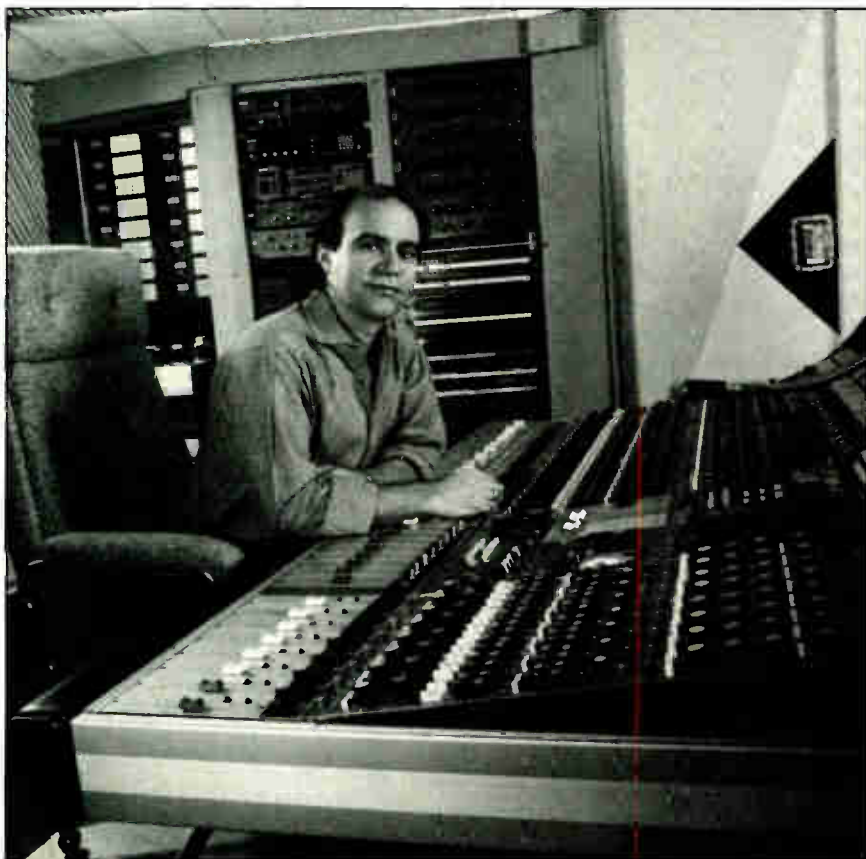


PHOTO: ROB RICH

reverb: a lot of the digital gear on the market today is priced right and sounds good, but nothing compares to the sound of EMT stuff. It's like putting a Neumann 47 or 49 in front of a great vocalist—there's nothing that sounds like that."

TAYLOR-MADE PRODUCTIONS

Caldwell, N.J.

Glenn Taylor, owner

Fourteen years ago Taylor-Made was a 1/4-inch TEAC room, now it's a 24/32-track original composition house. One of Glenn Taylor's secrets, however, is not to sell off the old gear when he upgrades.

"One of our pride and joys is a pair of the old MXR mini-rack flangers, and I've had many a freelancer come in and just drool when they see these things. This MXR mini-rack is a little four-position frame designed to hold an auto flanger, an auto phaser and a thing called a mini-limiter, which was pretty horrible. The only thing it limited was your dynamic range."

Many Taylor-Made clients are interested in what Taylor calls corporate remakes, and he's found the EMT 140 plate to be invaluable. "Somebody just called us to do a Beach Boys sound-

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alike, and the new digital reverbs are just too clean to get a lot of that old snare sound. If you want that 'California Girls' snare or tom tom sound, you gotta have a plate. Nothing gets that sound in quite the same way, especially this EMT and the fact that Greg [Hanks] made it into a stereo out.

"Tommy James was just in, and he couldn't get a vocal sound he liked," Taylor says. "We ended up with this Mutron Bi-Phase—more of a guitar or keyboard effect—then we ended up with transformers patching his vocals through this thing to get a particular nasal, watery sound. Tommy is one of these guys from the '60s school. In-

stead of saying, 'Give me a 10dB boost at 10k,' he says, 'Make it sound green.' As his engineer, you have to know what he means."

321 STUDIOS

New York City

Ted Trehwella, engineer

321 officially opened in the old Record Plant space on March 21, also owner Nick Schiralli's father's birthday, also the street address, also the number of rooms: three digital mastering, two mixing and one video post. Synchronicity. Though there has been a complete renovation, the Tom Hidley-designed rooms have been

maintained.

Currently, 321 has a selection of Pultecs, Fairchild limiters and Teletronix LA-2As. Engineer Ted Trehwella, who has worked with The Fixx, The Hooters, Badlands and The Outfield, says he would also recommend purchasing "an old CBS Automax limiter, any tube Teletronix, the Fairchild 131 and an EMT 250. They're harder and harder to get, but if you have the budget... All the newer stuff has the same kinds of presets and sounds, but the older stuff has a distinct characteristic.

"What you've heard and what usually sounds good is pre-1980s," he continues. "A lot of it is easier to use. If you're recording and you want something spur-of-the moment, you plug it into a limiter, and it's easier to go to three or four knobs and know that they work than it is to go to 16. I found that out working with different engineers—ease of use is definitely a factor, especially if you're on the clock."

UNIQUE RECORDING

New York City

Bobby Nathan, co-owner

"Basically, we have three SSL rooms with 48-track decks, but for those people who are not satisfied with the SSL's EQ, each room has its own dedicated rack. We have racks with four 550A and four 560A APIs and eight 1073 Neves and eight Focusrite EQs. All the rooms have complements of Drawmer gates, but I don't consider them classic. They're standard, everyday working stuff."

He states that Pultecs, Focusrite modules and APIs are considered classics. When asked if clients ask for these pieces, Nathan states, "That's one of the main reasons why they record here. It's like a prerequisite that they have to have all these choices. People will use certain API modules for the drums and vocals, Neves for other instruments and Focusrites to fix things. Every engineer's preference is his own."

The studio, known for recording Steve Winwood's classic *Back in the High Life*, has also seen New Kids on the Block, Living Colour, New Edition and Soul II Soul. Currently, Al B. Sure! is working there on his second album. "We just had Tony Visconti. He's a producer/engineer, so he knows exactly what kind of gear he wants. He just patches in and does it." ■

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Invent a future. Your future may predict a development that isn't going to happen: the prediction erroneous. You may fail to predict a development that is going to happen: the prediction vacuous. Or you may get it right: the prediction fortuitous. It isn't possible to predict the future, and it's even less possible to predict the future of technology. Could you have predicted ten years ago the technology you would have available today for your job?

But sometimes it's fun to try to predict the future. I do this with some trepidation, for I know full well that most of the really important developments are unexpected. So I'm going to play seer, but—and here's my first prediction—by the end of the '90s these predictions are going to look quaint in their naivete.

The Method

Having been denied membership in the Guild of Seers, I am not equipped with a crystal ball. Therefore, I am left

with only the tools of my trade: scientific reasoning. What we will do is examine trends in the underlying technology that goes into signal processors and try to guess what impact these trends will have on audio technology.

Inevitably, my background will color my predictions. Considering my involvement in digital technology, I am inclined to view it as important to the future of audio, but perhaps at this point few would disagree with that outlook. We have seen digital technology's role burgeon in the '80s; who would doubt that the trend will continue?

Will analog technology disappear by the end of the new decade? Certainly not. The universe is analog, so we will still need analog circuitry to bridge the real world to a digital signal processor. But wait: How about digital transducers—microphones and loudspeakers that produce or accept digital signals directly? Such technology might exist by the end of the '90s, but I doubt that it will play a significant role. Some things are easier—and



ILLUSTRATION: CHARLIE POWELL

The Future of Signal Processing in Professional Audio

by Jeffrey Borish

cheaper—to do with analog technology, and that will always be true. Dolby SR is a good illustration of analog's untapped potential. But most of the important innovations in audio will use digital technology.

One tool for prognosticating digital audio is to look for a bellwether in our field. I humbly nominate SoundDroid, which I worked on when I was at Lucasfilm. Call it sour grapes—financial constraints made it impossible for us to bring this product to market—but I see many of the ideas that we pioneered appearing in products today.

SoundDroid was a disk-based editing system for post-production in film and video. It was based on a powerful signal-processing computer that we designed called the Audio Signal Processor (ASP). After finishing it in 1983, we used the prototype for sound effects and signal processing on the films *Amadeus*, *Indiana Jones and the Temple of Doom* and others. Also, the sound for the THX logo was synthesized by the system.

SoundDroid pioneered several

features that are now becoming accepted. Most important was disk-based editing. Because it is non-destructive, disk-based editing facilitates experimentation and artistic expression. It is simple to adjust an edit to see how it sounds and then undo the change if it sounds bad. SoundDroid used a programmable signal processor that made it possible to apply the same hardware to different products simply by changing the software. SoundDroid also utilized digital technology to provide a level of configurability not easily possible with analog components. Expect to see these ideas applied in future products.

Now let's pick a few key pieces of digital technology and extrapolate trends. With a little brainstorming we should be able to get some ideas of what impact each development might have on digital audio.

Bulk Storage

Bulk storage devices include hard disk, floppy disk and optical disk drives. Digital audio eats hard disks for breakfast. One minute of stereo sampled at

48 kHz consumes 11.52 MB. That means that the sort of disk you get with a typical PC (say 40 MB) is good for about 3.5 minutes of stereo—not too useful. Today, 5.25-inch Winchesters are the most popular size, and they are just passing the 1-gigabyte level. The capacity of hard disk drives has doubled every two years or so over the past decade. If this rate continues—and there doesn't seem to be any good technical reason for it not to—we should be expecting 30-gigabyte drives by the end of the decade—large enough to store over 90 track-hours. Even if one disk stores all the sound for 16 channels of audio, that still gives almost six hours per channel. That's getting interesting.

The other important characteristic that we need in hard disks is fast access times. The main advantage of disk-based editing is that editing never changes the original snippets of sound. What you hear is assembled on the fly. But accessing those snippets requires the heads of the disk to hop around quickly. Current disk technology would be hard-pressed to sustain 16

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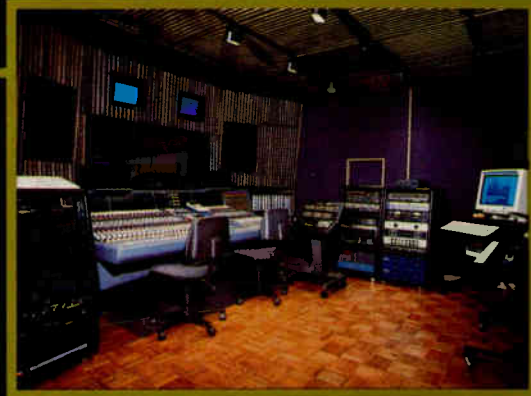
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16-Track Post Pro

direct-to-disk with 32 MB, the Sony 3348: 48-track digital, an Otari DTR 900: 32-track digital, and a vast array of other pieces by such greats as Tannoy, Perreaux, Quantec, Lexicon, Focusrite, Summit, Aphex, TC electronics, Boulder, B & K, Schoeps, Neuman, AKG, and the list goes on...



* Studio 7 was the recording site for two Grammy Award winners in 1989. One of them was the Met's stunning *Die Walkure*, the final opera of the complete *Ring* cycle recorded at the Manhattan Center over the past three years.

channels of audio without careful arrangement of the sound on the disk, which violates the tenet of random access. Access time will improve, but not dramatically. There are fundamental physical limits at work.

It is possible to spin the disks faster, reducing rotational latency (the time it takes for the disk to spin around until the data we want is situated under the head). Higher recording density permits platters with smaller diameters; smaller diameters reduce worst-case access time by reducing the distance the heads have to move. Also, faster buses such as SCSI-2 and IPI-2 will make it possible to transfer the data between the disk and the processor at these higher rates.

The other trend in hard disk drives will be toward smaller-diameter disks. A large part of the market doesn't really need 30-gigabyte drives—how big a spreadsheet do you need, anyway? By using the same recording technology on smaller platters, disk drive manufacturers will be able to drive down the price per byte of hard disk storage. Already 3.5-inch drives exist and 2.5-inch drives are beginning to appear. Their small size and low cost will make these drives commodity items.



SoundDroid

SoundDroid was a disk-based editing system for post-production in film and video. The system was built around a high-speed, programmable digital audio processor, which we called the "Audio Signal Processor" (ASP). The ASP was controlled by "console computers"—Sun workstations augmented with

a touch-sensitive display and a variety of knobs, sliders and buttons. The ASP itself had several modules: computer disks, AES/EBU digital audio interfaces and one or more digital signal processors (DSPs). The modularity of the system made it possible to adjust the configuration to suit different applications.

The core of the ASP was the DSP,

— CONTINUED ON PAGE 68

Get in Gear for the 90's

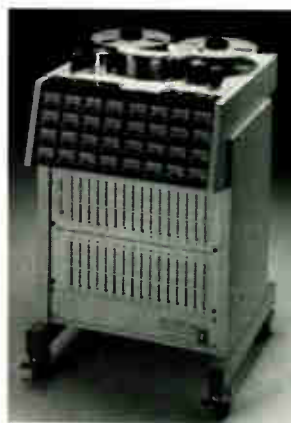


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So even if the technology is capable of 30 GB on a 5.25-inch drive, we probably won't get one because the market will have shifted to smaller drives. Even so, inexpensive 3.5-inch drives might be capable of storing 5 to 10 gigabytes by the end of the decade, which is still good.

Floppy disk drives will also increase in capacity. Several new technologies are in the works that could lead to floppies with capacities of 100 MB to 200 MB by the end of the decade. The big advantage of floppies over hard disk drives is that the storage medium is removable. The classic problem with disk-based editing systems is getting

the sound on and off the hard disks. It's a time-consuming process that might have to be performed several times if the equipment is being shared among several productions. With a removable medium, you just pop out the disk for production A and pop in the one for production B. But even at 200 MB, there doesn't seem to be much that we can do with floppies—they still wouldn't provide enough track-minutes of audio.

But another removable disk technology probably will: optical disk drives. When erasable CDs appear, they will provide a storage capacity that is adequate by definition: CDs

—FROM PAGE 67, SOUND DROID

the signal processing engine itself. Because 24-bit digital signal processor chips weren't available at the time, we built a custom DSP. Each DSP was capable of executing approximately 410 instructions per sample period (at a 48kHz sample rate). Signal processing operations, such as equalization, reverberation or compression, were encapsulated in subroutines so that the capabilities of the machine were limited only by the subroutines in the library. Machines that dedicate hardware to specific tasks are less versatile. With our general-purpose architecture, we could easily add new capabilities simply by writing additional subroutines.

There were two forms of bulk storage in the ASP. Magnetic disk was used for online storage, and write-once optical disks were used for archival storage. Each magnetic disk was capable of more than ten simultaneous audio channels, without any restrictions on the position of the sounds on the disk or their duration. Each disk could store more than two hours of monaural material or more than 12 minutes of 10-track audio. Optical disks are well-suited to archival storage because they are removable—unlike the Winchester drives that we used for online storage—and they offered virtually error-free storage that would not degrade over time.

The system was modular in several dimensions. Each ASP could have up to 16 DSPs, depending on the processing power needed. Each DSP could have up to four disks, or even 16 using a simple adapter box. And there could be up to eight console computers. This modularity made it possible to "tune" the configuration to different applications. Specialization was not a matter of building new hardware, but merely of configuring the system with the appropriate number of DSPs, control computers, converters and disks—and, of course, of writing the appropriate software. While this system integration and programming was by no means trivial, it was still simpler than doing all of this *and* designing new hardware as well.

—J.B.

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were designed to store sound. Even higher capacities may be possible, but not much higher, because the storage density of an optical medium is limited by the wavelength of light, and solid-state lasers with much shorter wavelengths are unlikely to appear. Optical drives also suffer from relatively slow access times, and probably always will because of basic physical constraints. So this technology probably won't overtake magnetic storage.

R-DAT, having failed to gain a foothold in the consumer audio market in the '80s, is being reincarnated as a data storage device. The industry

has split into two factions promoting incompatible standards. As in the Beta/VHS war, it looks as if this one too will be decided in the marketplace. Unfortunately, neither provides a sustained transfer rate high enough for digital audio sampled at 48 kHz—ironic considering that the technology originated in the audio world. The additional formatting and error-correction required in a computer product account for the apparent loss of speed. It is likely that improved transfer rates will be available later in the decade. If so, this technology could be very useful for digital audio because it offers large storage capacity (1.3 GB) and

random access at a low price. The only limitation is the relatively long access time, but there might be ways to get around that problem.

Integrated Circuits

Integrated circuits will continue to increase in speed and density. That's a safe prediction. But what is that increased speed and density going to do for us in audio? Well, programmable digital signal processors are among the most basic building blocks of digital audio. These devices are now capable of executing on the order of 250 instructions per sample period. Additional instructions per sample period mean that the processors will be able to perform more complex signal processing.

Perhaps faster DSPs will lead to an inexpensive real-time de-noiser. Time-scale modification could be less expensive and better-sounding. Spatial manipulation of sound could be an important new application. A fundamental advantage of digital processing is its ability to adapt—to change the processing according to external inputs. A digital loudspeaker crossover/equalizer could adapt to the listening room; an adaptive compressor for cars could adapt to the noise in the passenger compartment to keep the sound audible.

It's also probably safe to assume that no matter how fast they get, digital signal processors will still not be fast enough for some applications. This decade will see the explosion of multiprocessor architectures, not only in digital signal processing but also in general computing. As chip size moves beyond the 1 million transistor mark, just broken by the Intel i860 and 80486, perhaps we will see multiprocessing DSPs with several processors on a chip. The recently introduced Sanyo D2SP is a harbinger with its stereo architecture. Sophisticated software aids will simplify the programming of these multiprocessor architectures. The speed of these machines will allow us to program in high-level languages even though compilers produce less-efficient code than assemblers. Multiprocessing will not only make it possible to blast through problems of arbitrary complexity, but also to introduce a degree of modularity that allows users to configure the system to meet specific requirements.

To use these faster DSPs effectively, we will also need faster digital memory. There's little point in a signal

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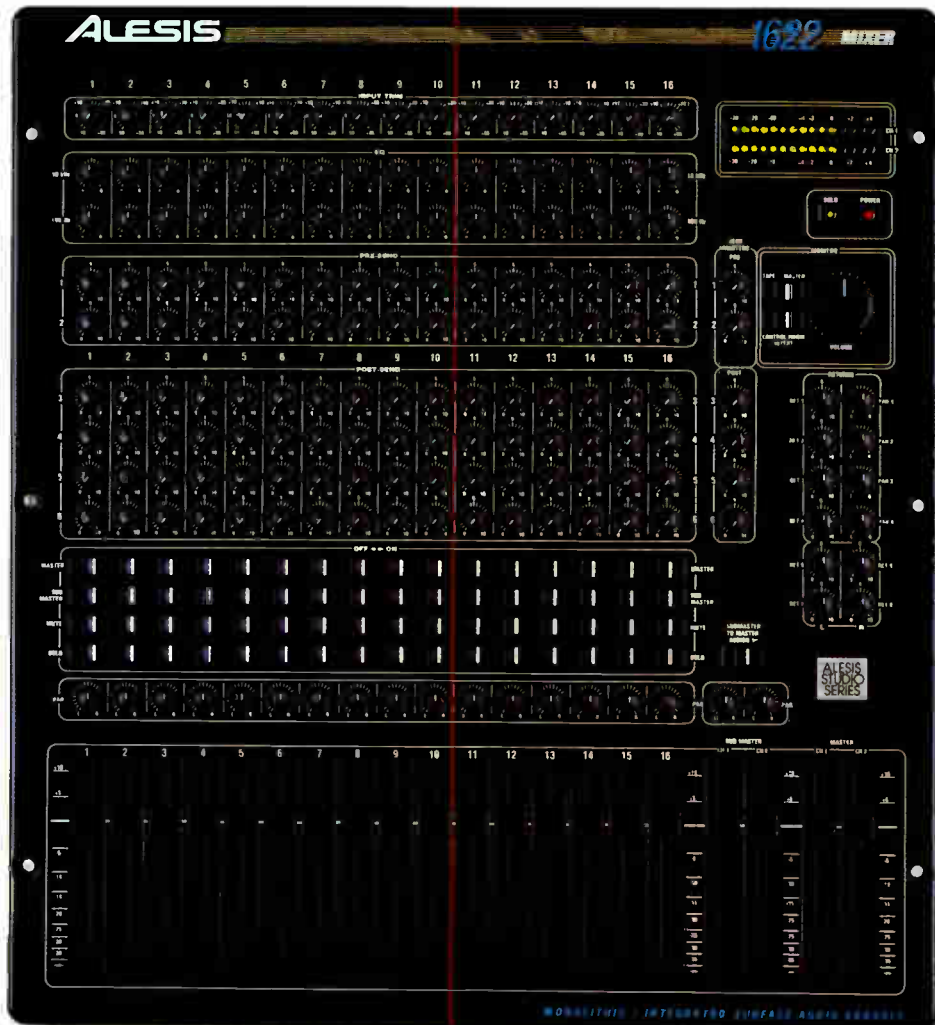


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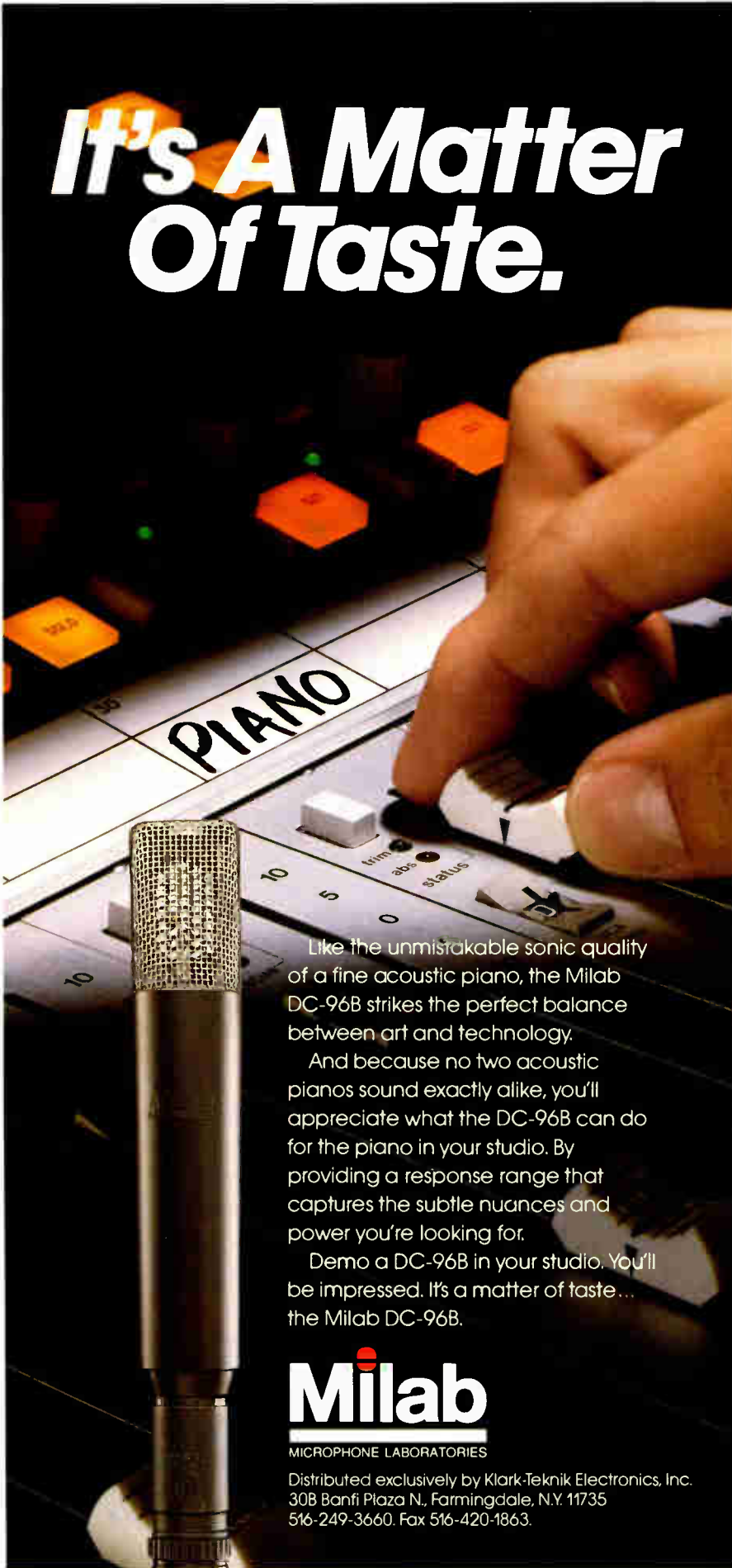


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processor capable of executing an instruction in 10 nanoseconds if we have to wait 120ns to retrieve data from memory. Memory will get faster and bigger—another safe prediction. If DRAMs continue to quadruple in capacity every two years, then we might be looking at 256 MB DRAMs by the end of the next decade—truly mind-boggling. (I can remember when 1 KB DRAMs seemed pretty neat.) What would we do with all that memory? That's enough storage for almost three minutes of stereo *in one chip!* Audio delay lines or reverberators need only a 1MB chip, but the bigger chips would improve the realism of music synthesizers by allowing more samples. Similarly, huge ROMs will be useful for predefined samples. Huge static RAMs will be well-suited to high-speed DSPs because of their faster access time.

The big news of the '90s is going to be ASICs (application-specific integrated circuits). These devices make it relatively inexpensive for users to specify the function of a chip. During this decade, sophisticated software tools will make it possible to design complicated functions without being an expert in IC design. When you use a general-purpose digital signal processor, you are stuck with the compromises its designers made when they designed the chip to serve a wide range of applications. Chances are you are paying a cost penalty too, as the chip will have functionality that you don't need for specific applications. ASICs will allow you to roll your own.

Displays

One of the radical concepts in SoundDroid was to largely eliminate physical controls by using a virtual front panel—a drawing of a front panel on a high-resolution computer screen.

—CONTINUED ON PAGE 147

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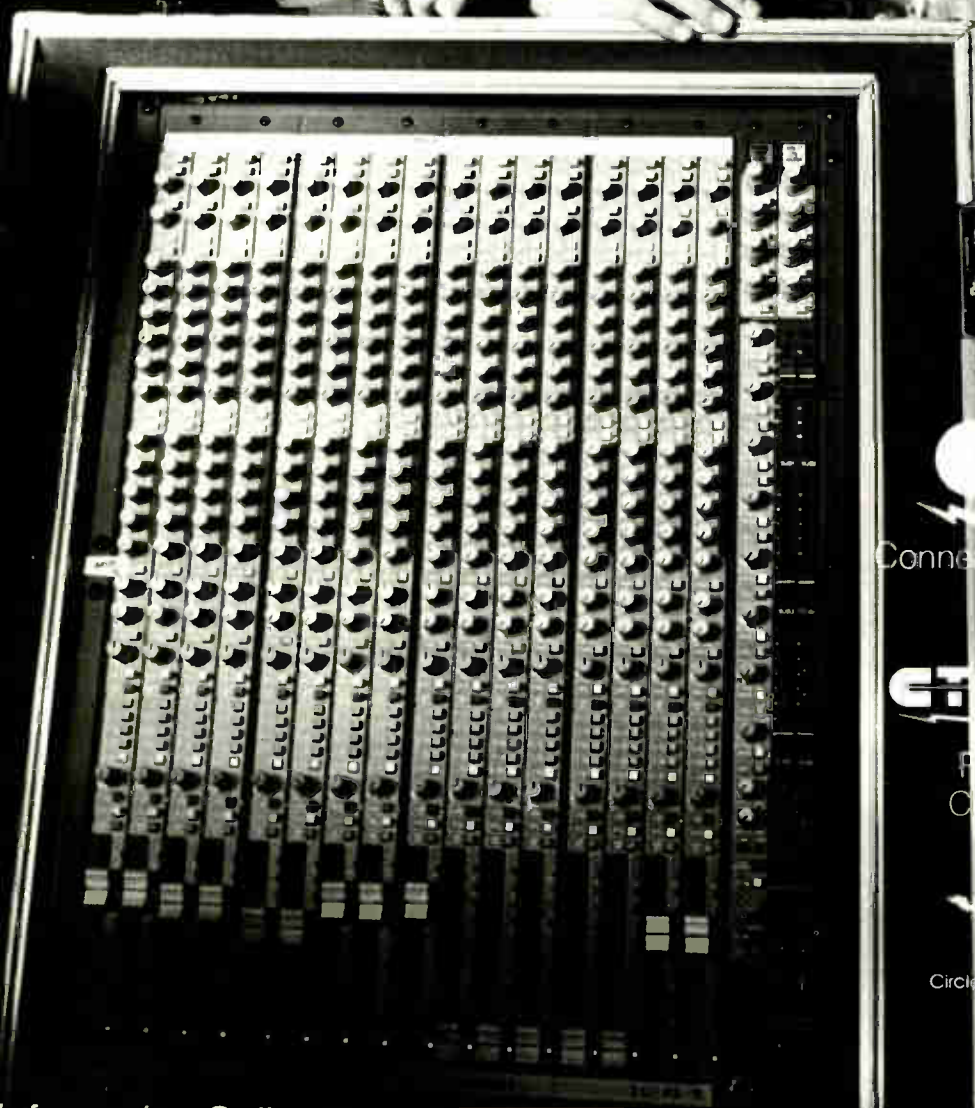
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DIGITAL SIGNAL PROCESSORS AROUND \$500

Once confined strictly to *crème de la crème* recording facilities and the studios of the rich and famous, digital signal processing technology is now affordable and available. No surprise here, but there are a number of decent and even pretty good-sounding rack-mount, digital multi-effects gizmos in the \$500 price range.

Not that anybody should be embarrassed about having a signal processor with an under-\$500 tag. In the analog realm, there are dozens of fully pro-quality compressor/limiters, equalizers, exciters, gates, etc., that are eminently listenable. Outboard parametric EQs offer a cost-effective alternative to inadequate console equalization. Quad noise gates (among those in the under-\$500 market are units from Ashly Audio, Audio Logic and Furman)

range—such as the JBL/UREI 7110 and the dbx 160x—provide superb performance. And a proliferation of third- and half-rack devices (from Alesis, Boss, dbx, Rane, Symetrix, Valley and others) not only offer a savings in valuable rackspace, but also allow

Microverb II



users to “mix and match” units to suit different needs.

Unless otherwise stated, all the digital multi-effects boxes in this report feature single-rackspace mounting, 1/4-inch unbalanced inputs/outputs, 16-bit A/D and D/A converters (although the resolution of the *arithmetic* processing varies considerably) and

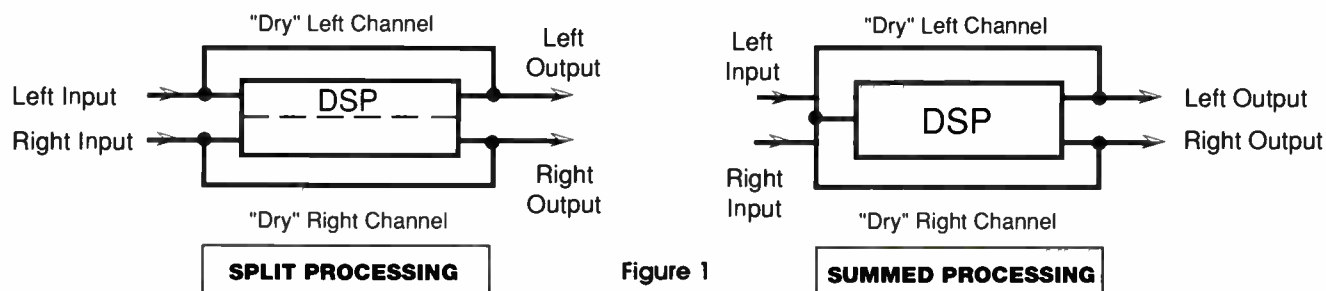


Figure 1

are an affordable, flexible “best bet” that can go a long way toward tightening tracks and cleaning up noise problems, while several compressor/limiters in the upper end of this

stereo operation. In terms of the latter, don't expect frills such as split processing (the ability to process both *input* channels independently), but all the devices listed here will produce

Fig. 1: Summed versus split digital signal processor designs.

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stereo effects based on the source input. Since these units use a summed version of the input signal to create a desired effect (see Fig. 1), they should be regarded as mono input/dual output devices, unless used in-line with a stereo input where the "mix" control is employed to adjust the wet-to-dry (processed vs. unprocessed) ratio. Thus, only one console effects send (this can be connected to either the right or left input on the processor) is required when using summed processors in mixdown. Why would a manufacturer use a summed rather than a split design? The answer is pure economics, since both construction and software development costs are significantly reduced in a summed processor.

Priced around \$500 (or less), the digital signal processors mentioned here will not cause anyone to sell their 480Es, TC 2290s, Quantec, AMS or other world-class gear. However, lower-cost products provide a sensible alternative for the budget-conscious studio or live sound setup, as well as additional sources for ambience and/or effects in a complex production. Why spend \$5,000 to \$10,000 for a reverb that is only used to fatten up those four handclaps in the bridge of a song, anyway? And at \$25,000, does Sony's new and quite revolutionary SDP-1000 Digital Audio Effector really sound more than 100 times better than the \$199 Alesis Microverb II? With these and other existential questions in mind, here is a look at some of what's available in budget digital signal processors, listed alphabetically by manufacturer.

As its name implies, QuadraVerb, Alesis' flagship signal processor, provides up to four simultaneous effects, among them reverb, delay, flange, phase shift, chorus, pitch detuning, graphic and parametric EQ, and Leslie simulation. The \$499 QuadraVerb features a 41.6kHz sampling rate (20kHz bandwidth), 24-bit arithmetic processing, a two-line/32-character LCD display, naming of user programs, real-time MIDI control, 90 factory presets, and up to 14 user-programmable parameters in the reverb patches.

At \$349, the rack-mount Alesis MIDIVerb III boasts 100 factory reverb and effects patches, along with space for 100 additional user programs, all

with 16-bit, 15kHz specs. Up to three effects—reverb, delay, chorus or flange—can be used simultaneously, along with high-frequency roll-off. A three-digit LED readout displays the number of the program selected, and other features include real-time MIDI parameter control, MIDI mapping and system exclusive program dump capability. The latter permits storing/off-loading data to external devices, such as computers or the Alesis Data-Disk floppy disk system.

The Alesis Microverb II is a one-third-rack unit offering 16 stereo ambience sounds (four small, six medium and four large rooms, as well as two gated reverbs), along with individual input, mix and output controls. There's no programmability or MIDI control in this \$199 box, but 16-bit resolution and a 15kHz bandwidth are standard. A rack adapter that accommodates up to three Micro Series units is optional.

The DR-X from Applied Research & Technology is a \$599 digital multi-effector featuring more than 60 different programmable effects (up to ten can be used simultaneously), with 16-bit resolution and a 20kHz bandwidth. Internal processing is made at 20 bits, and the DR-X's 200 memory locations can be accessed via MIDI or the front panel controls. The unit also provides real-time Performance MIDI™ control, and both a large LED program number readout and a two-line LCD display are included. Among the DR-X's programmable effects arsenal are: 24 reverbs, 20 delays, harmonic exciter, EQ, compression/limiting, sampling, two-octave pitch transpose, flange, chorus, Leslies and more.

At \$499, ART's MultiVerb III is a fully programmable, 16-bit unit (20-bit arithmetic processing), with 53 effects

Performance MIDI control, and the front panel has both LED and LCD displays.

ART's MultiVerb LT (\$299) offers 192 combinations of effects based on the MultiVerb III's sounds, but without the complexity of programming. The unit can process up to three effects simultaneously, and programs can be selected by footswitch, a front panel button or mapped to MIDI. Patches include large reverbs with decays up to 25 seconds, along with an assortment of rooms, halls, plates, reverse and gated effects, stereo delays, panning, flanges, choruses, echoes and more.

The RE-1000 Digital Multi Echo (\$349.50) from Roland's Boss division combines 16 preset programs with the ability to simultaneously produce reverb and delay effects. The RE-1000 provides 16-bit resolution and includes low- and high-frequency controls and a decay adjustment knob. However, the RE-1000 also offers a "warmth" control that rolls off some of the high-frequency content of the effect output, for simulating the sound of analog delay devices, such as Roland's classic Space Echo.

Another Boss processor, the RV-1000 (\$295), features 16 preset reverb modes, ranging from cathedrals to small rooms, and plates, delays and gated/reverse effects. While not programmable, sounds can be individually tailored using front panel controls for high and low equalization and a decay/gate time adjustment.

Priced at \$559, the HM-4 Harmony Machine from DigiTech is an intelligent pitch shifter that allows the creation of two- and three-part harmonies. Said to be identical in sound quality to the more complex (and programmable) DigiTech IPS-33 Smart Shift, the



ART DR-X

(up to four can be used simultaneously) and 200 memory locations. Programs include 24 different reverbs, 20 delays, Leslie simulation, flanging, two-octave pitch shift, stereo echoes, chorusing and up to two seconds of sampling (triggerable automatically, manually or via MIDI). Like the DR-X, the MultiVerb III provides real-time

HM-4 organizes its harmonies by musical type—rock, blues, jazz and country—each having 16 presets accessible by MIDI, the front panel or from a footswitch included with the unit. The HM-4 also has a stereo pitch detune chorus, which can be used simultaneously with any harmony.

—CONTINUED ON NEXT PAGE

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AUDITIONS

DigiTech's DSP-256 Multi-Effects Processor (\$499) offers up to four simultaneous effects, with a 20kHz bandwidth. The fully programmable DSP-256 features 256 program locations, alphanumeric LCD and LED



DigiTech DSP-256

program number displays, program titling capability, 24 different effects combinations and a comprehensive MIDI implementation with continuous MIDI control of all parameters.

The DSP-128 Plus from DigiTech is priced at \$399 and provides up to four simultaneous effects from a choice of 12, including large and small rooms, halls, gated and reverse reverbs, delays, multitapped delays, chorus, flange, and graphic and parametric EQ (each with an LED indicator that lights when active). The DSP-128 Plus also features 20kHz bandwidth, 20-bit processing, continuous MIDI control, and 128 user-definable memory locations. A four-digit LED display indicates the parameter or program selected.

Lexicon's LXP-1 (\$549) has 16 factory programs (room reverbs, halls, plates, delays, choruses, gated and inverse effects) in a half-rack chassis (rack adapter optional). Resolution is 16-bit with a 15kHz bandwidth. Front panel controls for delay and decay allow user-customization of the pro-

MIDI program change command. The unit also features Dynamic MIDI,[™] enabling any MIDI controller (mod wheel, aftertouch, etc.) to alter decay and delay settings in real time.

Like the LXP-1, Lexicon's LXP-5 is a \$549, half-rack processor, although it includes both reverbs and a variety

of effects (three octaves of pitch shifting, delay sweeps, flanging, chorus, stereo/mono delay, high/low EQ). All editing parameters and its 192 programmable effects (64 factory, 128 user-definable) can be accessed or programmed from the front panel or via MIDI commands. Up to five simultaneous effects are possible (hence the name LXP-5). The LXP-1 and LXP-5 (and Lexicon's PCM70, as well as a host of MIDI-addressable digital processors from other manufacturers) can be controlled by Lexicon's (\$399) MRC MIDI remote controller, whose four "soft" faders and switches can be defined as any MIDI controller.

The Peavey UltraVerb (\$449.99) allows up to six simultaneous effects with complete control of the parameters of each. Wet bandwidth is 11.5 kHz, and 100 factory presets include 50 reverbs, 40 effects and ten multi-effects. The factory sounds can be moved, saved, modified or refiled to new locations with a few keystrokes. MIDI access is provided, and delays of up to 2.75 seconds can be independ-



Lexicon LXP-5

grams, while up to eight separate parameters in each effects program can be accessed via MIDI system exclusive commands. Presets and up to 128 user registers can be assigned to any

ently set for each channel. The DSR 1000 from Peavey's Audio Media Research division is essentially identical to the UltraVerb, but includes removable rack ears.

At \$399.95, the AddVerb II from Peavey provides 100 presets, and all except reverbs and specials (panned and combination effects) can be modified and stored. In addition to ten combination multi-effects, the factory settings include 50 reverbs, 40 delay/echo and ten modulation effects, such as chorus and flange. Presets can be mapped to 128 MIDI program numbers, and up to 680ms of delay is available.

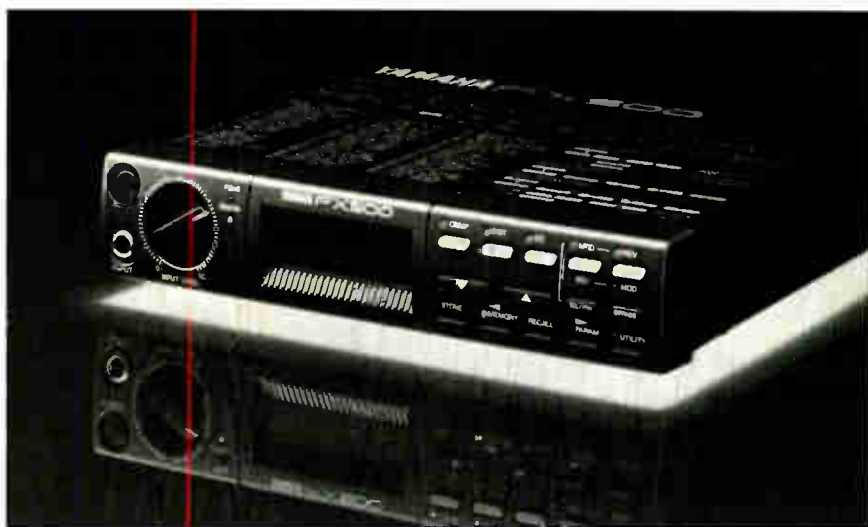
Peavey's UniVerb II offers 128 preset reverbs, ranging from small rooms to large, bright halls, along with gated and reverse effects. Digital resolution is 16-bit with a 12kHz bandwidth. The UniVerb II is priced at \$299.99.

The FX500 from Yamaha is a half-rack processor offering 60 factory presets, 30 user locations and the ability to chain up to five different effects, such as compression, distortion, 3-band EQ, modulation and a variety of reverbs/delays. The FX500 is based on the effects architecture of the Yamaha SPX900, and features a 20kHz bandwidth, headphone output, LCD display of program name and number, MIDI control of program change and up to two simultaneous

effects parameters in real time. The FX500 is priced at \$495, and rack-mounting adapters are optional.

Zoom's Model 9002 provides up to

Features include a 20kHz bandwidth, +4/-20dBm mono 1/4-inch input, alphanumeric LCD display, 40 factory presets, 24 user programs, stereo line



Yamaha FX500

six simultaneous effects (reverb, chorus, flange, distortion, delay, pitch shift, compression, phase, etc.) with additional sound available on ROM cards. The unit carries a price of \$479, but more remarkable is the fact that the 9002 is a palm-sized package that weighs only two-thirds of a pound.

output and two headphone outs. The 9002 is not rackable, but can be mounted on a guitar strap or belt. ■

George Petersen lives with his wife and two musical dogs in a 100-year-old Victorian house on an island in San Francisco Bay.

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World Radio History
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by Dan Daley

A CORPORATE THEME

INSIDE BRIELLE MUSIC'S NEW "B" ROOM



A view of Brielle's recently completed "B" room.

A project studio in Manhattan can run the gamut from a simple 8-track arrangement all the way up to a full-blown control and recording room with 24 tracks and high-end processing. This is because New York, like few other cities, can support such a wide range and scale of projects, and because, as a fountainhead of audio and video media outlets, New York is the *grande dame* electronic Medusa.

So the dichotomy that appears at first glance at Brielle Music's new Manhattan facility down in the island's trendy TriBeCa region isn't all that strange: a project studio like many others surrounded by a facility like few others.

"It's a shame to call it a 'B room,'" says owner and creative director/

producer Jonathan Brielle of, well, the B room at the new Brielle plant. A Sound Workshop Series 34 34-input console with ARMS automation faces onto a small, almost elegant iso booth with green acoustic paneling and neo-Victorian lighting fixtures. A Studer A80 sits in an alcove nearby. Jonathan Brielle's armory of MIDI gear includes an M1, D-50, Proteus, Emulator II and a Lynn Akai MPC 60 for sequencing.

It's hard to believe that just a few feet away, beneath the pine wood floor, is another, much larger studio, with floated concrete floor, state-of-the-art acoustic design by Francis Daniel and a centerpiece—the first Amek Mozart console on the East Coast.

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even a **pitch control** complete with digital read-out.

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* The analog recorder referenced is the Studer A-80 1/2" with 3-track head nest; the price comparison is based on option (A) below and an average of published rates of major audio rental companies for the Studer.

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* A simple one page application is all that's required. • Maximum 48 hour turnaround approval. • Two attractive payment schedules: (A) **\$199.70 per month, 60 months, first and last payments in advance; 10% purchase option.** (B) **\$287.20 per month, 36 months, first and last payments in advance; 10% purchase option.** • Please note that this lease with option to purchase is not offered through Fostex Corporation. All documents and associated paperwork will be completed by **Signet Lease Group**. Call them directly at **(215) 783-6666**. • High approval rating in the audio industry.

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STUDIO VIEW

eschew Studio B and gravitate immediately to Studio A? "The B room is really my primary place of production," Brielle says, who has another, even more compact MIDI setup in his piano-shaped office overlooking cobbled Vestry Street. "The A room is where we go to really soup things up."

Many project studios have to take their work to larger studios and bump up to more tracks and better gear at certain points for various projects depending upon the clients' needs. Brielle Music is no different, except that Brielle Music owns the larger studio as well.

What's the type of project that got Brielle Music out of its shared rental space on the grungy but quaint Lower East Side less than a year ago to these anything but Spartan digs? A little-known department of the industrial world sometimes referred to as corporate music production. It works on the principle that before the salesman can sell you a widget, he himself has to be sold on the widget. So major league corporations like Mobil, Ford, Mercedes-Benz and others throw these truly massive extravaganzas where the corporations' national and international sales forces are brought under one roof to be entertained as on a Saturday night in Vegas.

All stops are pulled out. For instance, there was the 160-foot model of the new Gillette Sensor razor, upon which a 25-piece orchestra played in sync with a 35-piece orchestra on a giant-screen video recorded earlier.

"That was definitely one of my favorites," recalls Brielle, who scored and produced the music for the show's producer, Caribiner, one of a handful of corporate meeting specialists. Jack Morton Productions and Cortez-Seidner are two other major producers Brielle Music does projects for regularly.

Jonathan Brielle has carved a niche for himself doing the music to these shows for Mobil, Ford, State Farm, Miller Beer, IBM and others, at the same time bringing a new sensibility to them. (Brielle Music has also made considerable inroads in the jingle area, with spots done for Wonder Bread, the *CBS Evening News*, Benjamin Moore and Hasbro.)

Brielle's background is as a songwriter, and he had an early success in writing and directing the score to the

1981 Broadway award-winner *Foxfire*, followed by scores for notable off-Broadway shows including *Florida Crackers* and Lanford Wilson's *Fifth of July*. This background in theater prepared him for an entry into the corporate music world several years ago, since up until fairly recently these shows had a very Broadway-like flavor to them.

But in a parallel evolution with the advertising world, these corporate events began to include the pop songs that the new generation of executive-level managers who now run them grew up on. Exit Rodgers & Hart, enter Beatles and Burt Bacharach. Jonathan

Brielle's well-honed pop songwriting skills completed his qualifications for this specialized aspect of industrial music.

Glitz is a big factor in these shows. "Corporate work is a live presentation," Brielle says. "It must involve a sense of action in the music. But these days the range is incredible; it can be anything from hip hop to *My Fair Lady*."

The B room is where all of the pre-production gets done, as well as much of the final productions. And the pre-production often centers around the pitches for projects that are a part of the bidding process of these shows

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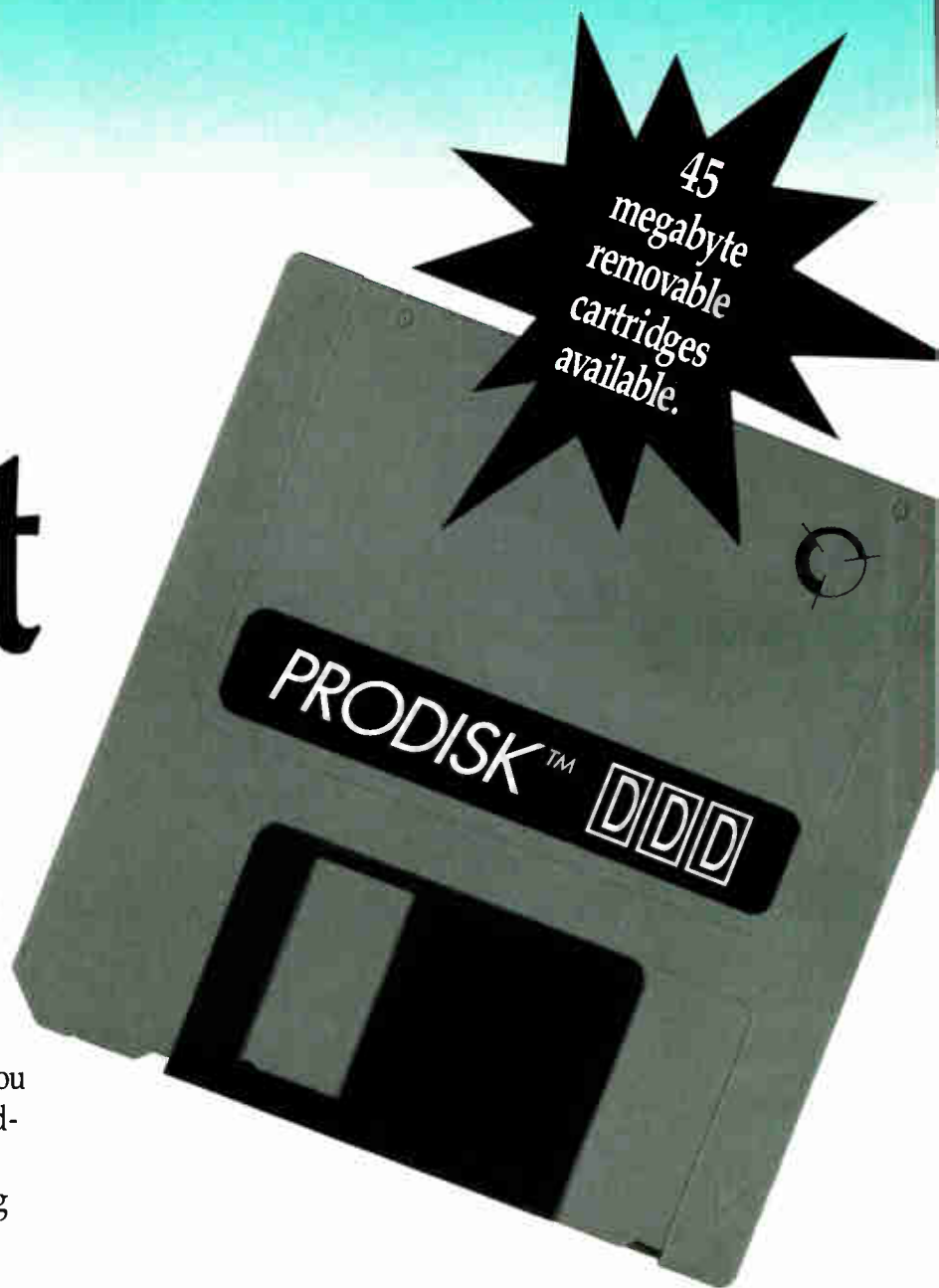
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(and most industrials, for that matter). The fact that it has a 24-track deck means it can interface not only with the larger room, but also with the rest of the world. "In the '90s the B room will let me offer what I call the 'B package,'" says Brielle, explaining that he'll be able to compete downwardly with other production/project houses that offer full MIDI and 8- or 16-track recording along with creative services.

"I can compete with the 8-track format and still offer all the bells and whistles that you expect from a 24-track room," he says. "You'd be amazed at what things on a budget can sound like in a room like this. But at the same time, when the budget calls for more elaborate production, the A room is right downstairs. In the B room, it's easier to play all the instruments yourself, and that lets you charge less, too."

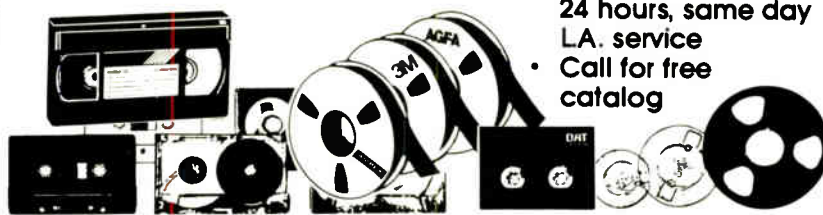
Brielle's business plan assured him that he could begin construction of the new facility with enough regular in-house production business to cover his nut. As to whether to open the facility to the paying public, Brielle is uncertain. "I never had two rooms before," he muses. "Before this I had one room 50 percent of the time; now I have two rooms 100 percent of the time." If time is available and an outside client wants either the A or the B room, then that's fine, but he doesn't anticipate actively soliciting through advertising for outside clients. "Word of mouth should be sufficient," he says.

With the corporate productions and presentations as a base that will support Brielle Music into the 1990s, Jonathan Brielle wants to make the facility available to producers for individual projects. Studio time not dedicated to in-house productions will be freed up for freelance producers who can either become part of the Brielle corporate operation in the future, or who can develop artist and song projects that interest Brielle. "I don't want to get bombarded with spec projects," he cautions, "but at the same time the project studio has a lot of potential as a song laboratory. This is a period of growth, and it's a really exciting time. There's a lot of room to grow into here." ■

Dan Daley is a Mix contributing editor. He's the guy on the far left, with the bulge under his sport coat.

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Operating a Community-Oriented Recording Studio

“I’m just an invisible link in the chain. I don’t get involved with content.” So goes the maxim describing an attitude common to many media-related professionals today—that production facilities have no obligation and presumably no responsibility for getting involved in the content of the products they help produce. Is a recording studio really an invisible player in the field of popular music?

With the issue of pop music’s impact on society in hot debate these days, perhaps it is appropriate to consider the studio’s role in the larger scheme of things and look at ways that studios can become more community-oriented, both locally and globally.

When I opened my studio about ten years ago, I got a call from our local Chamber of Commerce in Burlington, Vermont. They wanted to know if I was interested in becoming a business-member of the Chamber. They hadn’t the faintest idea of what the music business was about, much less that our community had a music business. And I couldn’t fathom what I would gain from an association with them. I really felt like my studio was an island, a unique business that created its own market. For me, Burlington was just a location.

In the years that followed, Burlington became a hotbed of original music. While I was wooing studio clientele from New York and Los Angeles, a substantial, grassroots music scene was developing right outside my window. Unfortunately, my studio is out of the league of most local artists, so I started looking for ways to make it worth the studio’s while to accommodate some of them. The answer was to start a local record label. It was our first step toward becoming a community-oriented studio.

Starting an in-house record label is one of the easiest ways a studio can get involved with local artists and

BY TODD LOCKWOOD

audiences, and thereby become an active part of a community. When a studio gets involved at this level, it is not to make a million dollars. The benefits come in other forms.

When dealing with local artists, we establish a formalized yet non-restrictive relationship by using a basic recording contract. The contract calls for little or no cash outlay by the artist; the studio's investment in services is gradually repaid through the studio's sales of finished records and cassettes to the artist and others, for about twice the manufacturing cost. This price structure leaves room for a retail markup, so the artist or retailer can make a profit, too.

There's always the possibility that a local project will find its way into a larger market, but that is not our primary objective. We are interested in stimulating a local music economy and in making the public and the artists aware that we exist. My studio was nearly seven years old before I realized the importance of public awareness. Today, our studio's name enjoys more regional public recognition than the name of the record label that we created for the public. This awareness has translated into a good amount of new business and positive connections. I now realize that we are anything but an island.

Our next step in becoming community-oriented was to invent some recording projects, to bring together the pieces of a musical puzzle in a way that otherwise never would have happened. For eight years, Burlington was home to an extraordinary city government, led by a charismatic, progressive mayor, Bernie Sanders. In the fall of 1987, I invited Mayor Sanders—who is not a particularly musical fellow (and is known for his heavy Brooklyn accent)—to visit the studio to record his favorite songs. We put together a seven-piece backup band and 20-voice chorus made up of pop vocalists from across Vermont. Staying true to form, the mayor chose to record a selection of social protest songs from the '30s, '40s and '50s. It was all a great deal of fun and earned us mentions in newspapers around the world, but most importantly, it helped validate our local music industry. One of the best things a studio can do for its community is to say to the public, "Yes, it can really happen here."

Since the mayor's project, we discovered other ways that a studio can

initiate recordings that would otherwise never come to life. If the music and the audience already exist, it is a simple matter for a studio to determine a cost/benefit ratio that makes good business sense.

Our most recent community-oriented project took us one step further—we created the song itself. I was moved to write lyrics about a corporate shopping-mall developer who was set on building a 500,000-square-foot mall near our fragile city, in spite of overwhelming public opposition. A local rock 'n' roll band wrote music to accompany my lyrics, and we headed for the studio.

To our surprise, a top-rated FM rock station in our region got behind the song and put it into regular rotation. The station even took an editorial stance against the mall, using our song as a springboard. A few weeks later, I received a call from Jerry Greenfield of Ben & Jerry's Ice Cream, who suggested that we produce a rock video of the song. I was flattered that he liked our song so much, but I didn't think we could find the resources to pull it off.

A few days later Greenfield called back. He had lined up a first-class video production company, a director from New York, actors, props, you name it—all for free. Now that's community spirit! It probably wasn't the first time that a protest song had been written about this shopping-mall company, but such projects usually have a homemade, less-than-professional quality about them. Not in this case. Our video recently took the "Best of Show" award at the Vermont Advertising Club's annual competition. It was pretty inspiring to see our state's entire advertising industry cheering on our three-minute piece of "anti-advertising." Copies of the video are available, for free rental, at local video stores. An FBI-style message at the beginning of the video encourages viewers to copy it.

Measuring the benefit of such endeavors may not always be as clear-cut as reading an income statement. A studio owner must consider the ongoing benefits of spreading good will. For example, when we call our local news media, they take us seriously. They perceive us quite differently than the average service business. When major artists come to use our facility, the mood we've created affects sessions in a very positive way. We're viewed as more than just a studio.

The decision to "not get involved" in certain projects is the flip side of the community-oriented issue. Does it make sense for a studio to back away from certain projects due to their content? This question eventually confronts every studio owner. When times are tight, the last thing you're going to do is start asking your prospective clients what their songs are about. But in its own way, the studio is a player—like the record company—in the dissemination of information to the masses. There is a point where we must ask ourselves, "Is this bad for the community, is this bad for the world? Is it worth the money?"

I know of a studio that once turned down a lucrative video project for a large defense contractor because it involved the promotion of weapons designed to kill people. It's a decision they never regretted. It established a sense of good will that has brought them a great deal of respect in return.

One day, a talented songwriter from our area dropped off a demo cassette for me to check out. At first I was blown away by his original material: It embodied the best of Dylan/Springsteen musicality with one of the strongest voices I've ever heard. I got so excited I was already planning arranging possibilities and roughing out a spec contract.

When I got around to really listening to his lyrics, I realized what a mistake I made: His message was a heavy-duty fascist rap. Shades of Germany, 1939. Deciding not to record his album was one of the most difficult decisions of my career. He was a model singer/composer, and technically, at least, a brilliant lyricist.

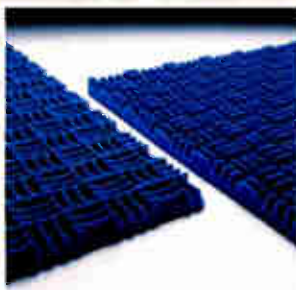
There is no "black and white" to these situations. Studio owners must consider these choices on a case-by-case basis. Certainly, the vast majority of work that passes through a studio will be neither a stellar contribution to humanity nor a dangerous satanic message. But there is an opportunity for studios to take a slightly more active role in the direction of popular music and its impact on our world. By acting locally, and thinking globally, studios can help make the world a better place. We are much more than an invisible link in the chain. ■

Todd Lockwood is the owner and chief engineer of White Crow Audio in Burlington, Vermont. Clients have ranged from Alice Cooper to Odetta.

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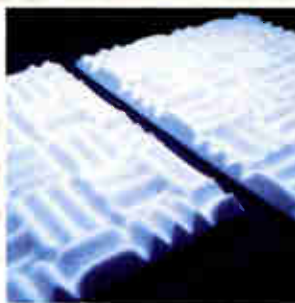


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by Robin Tolleson

CREED TAYLOR

PRIDE, CRAFTSMANSHIP AND ALL THAT JAZZ



He ranks with the greatest producers of the jazz era. As much or more than Blue Note's Alfred Lion, Milestone's Orrin Keepnews, ECM's Manfred Eicher or Columbia's Teo Macero, Creed Taylor's ideas about forming a band, shaping a sound and arranging a record date influenced countless musicians and music lovers.

Think of the watershed tracks he was responsible for—Ray Charles' *Genius & Soul Equals Jazz* (Grammy winner), Stan Getz' "Desafinado," the Getz-Gilberto "Girl from Ipanema" (another Producer of the Year award), Bill Evans' *Conversations With Myself*, Deodato's theme from *2001*, "Also Sprach Zarathustra," Grover Washington Jr.'s *Mister Magic*, Esther Phillips'

Grammy-winning, disco-pop ground-breaker "What a Difference a Day Makes" and Freddie Hubbard's jazz gold *Red Clay*. In an interview with Leonard Feather, Hubbard spoke of working with Taylor: "What I like about him, he's able to see how a real fusion can be made without sacrificing the music. He knows where people's heads are at, what tunes will click."

Taylor's hand helped shape memorable albums by John Coltrane (*Africa Brass*), Lambert, Hendricks & Ross (*Sing a Song of Basie*) and Quincy Jones with Mingus. "The first one Quincy did was called *This Is How I Feel About Jazz*," recalls Taylor, who is pushing the big six-o, but has lost none of his enthusiasm for music. "That one had Zoot, Milt Jackson, Mingus, just a whole truckload of fantastic players. Every Wes Montgomery session was an event, and the Brazilian stuff was all pretty exciting."

Looking at even a sketchy discography, the variety of music is startling—the subtle brilliance of Jim Hall's *Concierto*, with the rich tonal flavors of Paul Desmond and Chet Baker. There's Milt Jackson's graceful *Goodbye*, which captured the young flute talent Hubert Laws. After Wes Montgomery, George Benson came on the scene, and a Best Producer and Best R&B Single Grammy for "Theme from Good King Bad" followed. There were the days during the recording of *Out of the Cool* when he could watch Gil Evans create arrangements on the spot with a whisper to a trumpet player or a note scratched hastily on a matchbook. There were albums by new artists like guitarist Allan Holdsworth (*Velvet Darkness*) and keyboardist Bob James in the mid-'70s, and a whole Brazilian pipeline of musicians during those days, thanks to arranger/keyboardist Eumir Deodato and percus-

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PRODUCER'S DESK

sionist Airto Moreira.

CTI has formed and honed some fine rhythm sections—Billy Cobham and Ron Carter, Grady Tate and Ray Brown, Steve Gadd and Will Lee. The arranging talents of Don Sebesky, Eumir Deodato and Bob James were brought to the public ear through the label—indeed, arrangements were custom-tailored for each artist. George Benson not only sang for the first time on the CTI label, but began working with live string sections, a practice he enjoys to this day.

The last record CTI put out before a five-year break in 1981 was an all-star session called *Fuse One*, featuring Stanley Clarke, Ronnie Foster, John McLaughlin and an emerging Wynton Marsalis. CTI's newest project is an upcoming release called *Rhythmstick*, which features another divine assemblage including Dizzy Gillespie, Tito Puente, Phil Woods, Art Farmer, "Smitty" Smith, Bernard Purdie and Charlie Haden.

Mix: How did you get involved in the record business?

Taylor: I was a jazz lover from way back. I used to buy Blue Note and Prestige Records in 1945, when I was in high school in Virginia, and I listened to live broadcasts from Birdland. I went all over the place trying to find jazz records. You couldn't find them down South. But there was Symphony Sid every night from Birdland on the radio, so I heard all these great players, like Bird and Lester Young, everybody. I came up whenever I got the chance to go to Birdland and 52nd Street and that whole scene. And I played in high school and college. I went to Duke and played trumpet, and had a pretty good jazz band there. We played in practically every town in North Carolina around the Durham-Chapel Hill area. I got out of college and came to New York with plans to play. I ran into somebody who had just started a record company, and they weren't doing so well. They let me produce a couple albums, and they were both hits. One was Kai Winding and JJ Johnson; the other was Chris Connor. That started the whole thing.

Mix: Had you spent time in the studio learning the tricks before you got your first producing gig?

Taylor: Really, I was just lucky. I fell into it, and I have pretty good ears.

Having listened to records with such concentration, I just knew what I could do that wasn't being done, hadn't been done, even though that Blue Note stuff was quite good. Rudy Van Gelder was the engineer even on those albums I was buying in high school. They were just a little too much—I would call them "non-productions." And I saw ways to make that kind of music more appealing, I thought. So it really was a seat-of-the-pants situation.

Mix: And by "non-production," you mean they'd just have the band show up and throw up a mic.

Taylor: Exactly. What they caught—if they had a good day, you'd get a good record. If they had a bad day, they'd put it out anyway. Prestige would do that. Not so much Blue Note. I think they had a little more integrity. But generally speaking, most of the jazz of that era was pretty unproduced and not well-recorded either.

Mix: Was that the state of the industry at that time, or was it more that way in jazz recordings?

Taylor: Well, I think jazz was such a step-child art form at that point that the players were pretty much relegated to second-rate studios, and they weren't paid. And, of course, when Norman Granz came along with Jazz at the Philharmonic, he gave really good players a lot of work. And they were better off economically, but I don't believe artistically. Because he didn't believe in *producing* records per se, either. His philosophy was to give them as much freedom as possible. That never has been my approach, and the players who record with me or for me know at the offset that I'm an *active* producer. If there's a disagreement over a song or something like that, or somebody wants a D-minor 7th in a certain place and he's not comfortable with it the way it is, I don't argue with that kind of thing. But I like a relatively controlled audio environment. Certain bass players play well with certain drummers, and the same with keyboard players or horn players, and I just like to mix and match and be very actively involved.

Mix: Would you have suggestions on the personnel on the record?

Taylor: Oh sure, the personnel and/or arranger. Or if it's going to be a head, who's really going to sketch the head out. And my sessions always have rehearsals *before* the studio, and then studio rehearsal also. And if we have a bad day, that bad day never sees the

light of day. [Laughs] It remains on the cutting room floor, unless somebody comes along years later and happens to buy the company that owned the masters in the first place. That's a different situation.

Mix: Did you call artists that you personally liked?

Taylor: Yeah. I would say that's the case just about 100 percent of the time, whether it's Wes Montgomery, George Benson, Quincy Jones, Ray Charles or Basie. I liked their music before I approached any of them about recording. And some of them I grew up with in the studio, like Quincy. He came to New York about the same time I did.

Mix: Did you find any musicians who rebelled against your way of working? Some might want more freedom in the studio.

Taylor: Well, generally, I wouldn't get involved with someone who felt any kind of reticence about going that route—the more controlled environment. Ornette Coleman and I would not get along very well, because he has a definite approach to music and recording that I'm not comfortable with. And actually Charlie Mingus would fall into the same category. Maybe Archie Shepp. I guess they were

called "avant-garde."

Mix: I loved some of the young talent who developed out of the company. One of the first times I heard Steve Gadd play drums was on a CTI Milt Jackson record. And then the first time

"I've never subscribed to that 'one microphone and let's get a natural mix' kind of stuff. The more technology the better, if it does something."

I heard Patti Austin was on your label.

Taylor: She had made some single records, but had never completed an album before. That was her first.

Mix: Did you enjoy working with the young talent?

Taylor: Oh, absolutely. The thing about staying in the studio on a regular basis is these new guys keep coming in to fill a chair. You hear them once and say, "Oh, that guy sounds pretty good." And then you think, "Maybe I should call him for this other type of date and see how he does on that." That's sort of the way it went with Grover Washington. He was a sideman for many CTI dates. When I got familiar with his playing and he was comfortable in the CTI environment, he started recording as a leader. The same thing with Bob James.

As far as the Brazilian artists were concerned, we had a conduit. Deodato had a big hit, and he started out strictly as an arranger for some of the Brazilian artists, like Astrud Gilberto. And he brought me Milton Nascimento. It was either Eumir Deodato who would bring in a Milton Nascimento, or Airtio who would bring in different guitar players or keyboard players. So the musicians who were recording for CTI or whoever I was working with would say, "Why don't you come do this date? I think you might find it interesting recording with Creed." So it was a constant flow of new talent coming in via the studio recordings. And then for

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PRODUCER'S DESK

several years we promoted our own CTI All-Star concerts. That gave everybody under contract an opportunity to play live with other CTI artists. There was a camaraderie among all the players, not only in the studio, but live. **Mix:** Did you depend on your engineer a lot?

Taylor: Yes. The bulk of the recordings were with Rudy Van Gelder. It's almost like I don't have to say anything to him, and he doesn't have to say anything to me. We would just nod. You know, sign language if things were right. Over the years of working with somebody like that, you just think like each other.

Mix: And you always knew going in that Rudy would be able to get the basic sounds you wanted.

Taylor: Yes. And over the years he's constantly updated his outboard equipment. He stays pretty much on top of whatever's happening with the new technology. And there was another engineer I worked with a lot over the years—Phil Ramone. Phil did a lot of Brazilian stuff. He did a Jobim album and the Astrud Gilberto-Stan Getz "Girl from Ipanema," and other good stuff at the Midtown Studios before they tore the building down. I did most of my work either there or at Rudy Van Gelder's in Englewood Cliffs, New Jersey.

Mix: You and Rudy worked together on your latest project, didn't you?

Taylor: We just finished the date in New Jersey with Dizzy, Tito, Phil Woods, Art Farmer, Charlie Haden, Bernard Purdie, Smitty Smith, Anthony Jackson, Airta, Flora and a new tenor player, Bob Berg. We also filmed it in high-definition. It was recorded on 24-track digital Sony, and on Sony's high-definition cameras. So they're going to get the absolute state-of-the-art technology available to them, and they'll be able to see and hear Dizzy and Tito and all these guys in glowing clarity. It's almost like looking at a holograph. The color saturation is what you would see if you projected on a really top-quality 35mm projector, because there are no lines.

Mix: Your records not only sounded better than most of the other jazz releases in the '70s—you could hear each instrument—but they were also more accessible to the general public. Were those both goals of yours?

Taylor: Oh, sure. Going in, I was

making records I would like. And if I liked them, it would follow that people would like them. I avoided making records radio would like to program. Early on I did make some of those mistakes, because there is a certain predictable programming format you could follow to get on the air.

Mix: I enjoyed the *Chicago Theme* record you did with Hubert Laws.

Taylor: Yeah. That was a deliberate attempt to make it good, but accessible. And it did quite well.

Mix: It had its challenging tracks and others that were still high-quality, but accessible. A very good blend.

Taylor: I think you'll find this new album very interesting. It's like three generations of jazz players, with new guys like Bob Berg on tenor, and then Phil Woods and Dizzy, the senior statesman. They're all playing together and playing well. It's a mixture of the acoustic players and the electronic stuff, with lots of percussion.

Mix: You worked with George Benson before he was a superstar.

Taylor: When I first started recording George, he was playing in the shadow of Wes [Montgomery]. Wes had just passed away, and George could play stuff like that. He didn't use his thumb like Wes did, but he could play octaves just as fast. But he wouldn't play them because Wes did that. After working with him about a year he loosened up and started playing anything he felt like playing. But he was so afraid he would be doing what the master did in the beginning.

Mix: He wasn't singing much at the time, was he?

Taylor: No, the first time he really sang was at a CTI concert at Carnegie Hall. He sang "Summertime," and I think that was the first time he did the vocal thing with the scat in the middle, and the audience loved it. But I never did feel like recording George as a vocalist. He was such a phenomenal guitar player. Now, oddly enough, he's having a problem. He was so big as a singer he lost a real core of guitar fans, or jazz fans. Now he's trying to get back into that idiom, so at least he has a base to work from.

Mix: You had a big success with a fellow trumpet player, Freddie Hubbard. Had you wanted to work with him?

Taylor: I idolized Freddie. I recorded him on Impulse, something called *Blues and the Abstract Truth*. That was with Eric Dolphy, Oliver Nelson and

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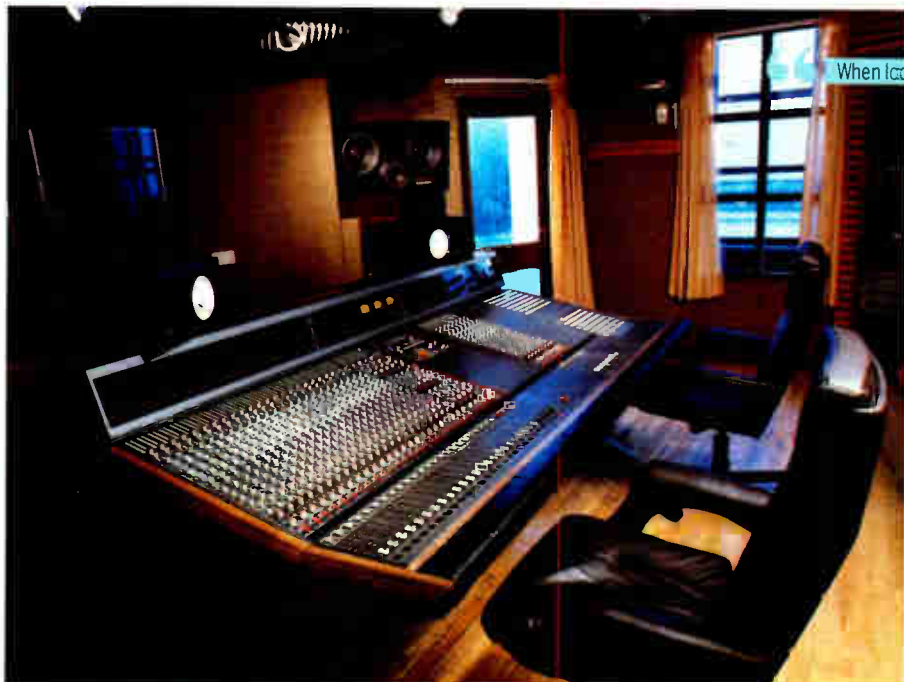


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PRODUCER'S DESK

Freddie Hubbard. And to me that's one of the most interesting examples of Freddie's harmonic style. Of course, Oliver Nelson was an absolute genius. **Mix:** What about working with Eric Dolphy? Did he fall into your scheme of thinking as far as making records? **Taylor:** I know what you're thinking on the outside, but even though he played that way, I loved it. He was flexible.

Mix: What do you think of the jazz records today, sound-wise?

Taylor: Technically, they're better. But are we talking on acoustic bass or synthesized bass? Or combination drum machine and live drummer? It really comes down to "Is the music good?" If the music's good, it's sounding better today than ever before. I've never subscribed to that "one microphone and let's get a natural mix" kind of stuff. The more technology the better, if it does something. The only problem is when the computer or the synthesizer starts taking over, the tail is wagging the dog. Sometimes that does happen. I've seen guys who really know the various synthesizers, but they get so wrapped up inside that they forget to come out again.

Mix: Are you a digital fan?

Taylor: Die-hard digital. And I'd better be, because I wouldn't get along with Rudy at all. He has absolutely slammed the door on analog. And he's a staunch supporter of DAT. He's absolutely right, because the technology is there. I mean, it sounds better than anything. The only time that digital is a problem, when a consumer might say an LP sounded better than a CD, is when the record company didn't make a transfer correctly. I would never take a 2-track analog mix of the stuff I have at Rudy's on 24-track analog and transfer it to digital. We would go back to the original 24-track and mix it through a PCM down to a new digital mix. Because, obviously, you've got a different set of problems. If it's digital you have no worries about compression, no tracking worries, nothing. You just open the thing up and make it sound good, and that's the way it's going to be.

Mix: The other way sounds like cheating.

Taylor: It is. It's an expedient, economical way to just send it through the system and wind up with a nice-looking little CD. On *Blues and the*

Abstract Truth, that transfer should have been mixed down from the original 16-track analog to 2-track digital, and then mastered. It's not bad, but they just took the straight 2-track analog and made the transfer. The same thing happened with the Jim Hall *Concierto* record transfer. CBS took the original 2-track analog and transferred it, and the 24-track was available. That's one of those uncontrollable, terrible things that happens in this business, you know.

Mix: I understood the title of the new CD is *Rhythmstick*. That's sort of the band name, too.

Taylor: Actually, it's based around this stick that Dizzy has carried with him for years. It's made of old bottle caps, a broomstick sort of thing. And the players on the date, without having talked with each other, all came up with the same thematic premise: Dizzy Gillespie is the master of rhythm. People associate him with the bebop and the Charlie Parker thing, but actually he can solve any rhythmic problem under the sun. Until this date I didn't realize what a natural rhythm analyst Dizzy is. Tito Puente and Smitty were having trouble on a new Afro-pop tune called "Wamba," and Airtio was trying to help solve the thing. The time signature is 6/4, but it sounds like 3/4. Tito had something going that sounded like 9/8. We filmed all of this. Dizzy's standing in front of the drum booth explaining to Smitty, if you do this little thing on the hi-hat and then kick the bass drum to get it right into the next bar—it's just unbelievable. It sounded so simple the way he was explaining it, and once he did it we got a take. He plays great conga, and he can pick up anything and make it swing.

Dizzy was telling us that the calypso didn't come from the West Indies, it came from Africa. He went to hear this group there, and one of the players asked him how he liked the music, and Dizzy says, "Well, to tell you truth it sounded a lot like calypso." And the guy said, "Well, we were here first." Dizzy liked that.

Mix: I understand you've started back up on the trumpet.

Taylor: I'm really enjoying it. I did some recording in the past, but who knows what lies in the future. It's feeling very good. ■

Robin Tolleson is a freelance writer living and working in the Bay Area.

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World Radio History

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by Paul Potyen

INTELLIGENT MUSIC'S UPBEAT 2.0

THE BEAT OF A DIFFERENT DRUMMER

Intelligent Music is an Albany, N.Y.-based music software company that has always had an unusual approach to software design. One of its first applications, M, was an interactive MIDI sequencer for the Macintosh that could be described as having more in common with paint programs than more traditionally conceived sequencer products. My initial response to M and similar products from Intelligent Music was lukewarm. From what I knew of the program, I had a difficult time understanding how I could

come up with anything other than semirandom repeating motifs *a la* Terry Riley. All right, maybe I was also a little threatened by an application that could give *me* musical suggestions, rather than vice versa.

Then at the January NAMM show I saw a demo of a complex new IM program called Max, described in last month's column. It made me want to take another look at this company and its products.

Version 2.0 of UpBeat is a powerful, interactive rhythm composing tool

Creating a song in UpBeat is done by dragging segments from the window at right to the active song window. The Fill window displays note events for each track in graphic form.

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that makes extensive use of a concept familiar to anyone who has used drum machines—looping patterns and assembling them into songs. It's not meant to be used as a full-featured sequencer; its real value is as an adjunct to another sequencer.

Besides making use of patterns and songs, UpBeat allows you to create your own "devices" that correspond to your drum machine, sampler or multitimbral instrument. For example, I set up my Roland D-110 drum sounds so that the device recognized C1 as "bass drum A," C#1 as "rim shot," etc. Then, while in record, I could build all the drum parts in real time, allowing the program to cycle over a specified number of measures at a specified tempo, with the result being separate tracks for each drum sound.

UpBeat does real-time recording a little differently from a conventional sequencer. Instead of creating a track before recording into it, you simply choose a MIDI channel or device. Then UpBeat takes care of creating the track (or tracks) for you. For a given pattern, you can define tempo, time signature and loop length; patterns (as well as other songs) can be dragged from an edit list to make up a song.

Once you've recorded the patterns, cutting and pasting can effortlessly replace one snare drum sound with another, or a hi-hat with a tambourine, or an entire set of drum sounds. Once you have defined all your devices, UpBeat takes care of the mapping details.

Recording and editing can be done in step time using either of two methods, as well as in real time. And a generous, imaginative toolbox (like the Audible Wrench) allows for some potent editing options.

While it is possible to record non-rhythm sounds, UpBeat doesn't offer some options you may have come to expect. There is no method for recording continuous controller information. But you *can* import a Format 0 MIDI file (with all the data, including continuous controller info merged together on one track, but with separate MIDI channels) into the program. You can then use the MIDI file as a tempo map or as a sequence.

I successfully imported a MIDI file created in Performer 3.3, muted the percussion tracks and assembled a

— CONTINUED ON NEXT PAGE



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new set of drum tracks in Upbeat by creating, editing and pasting together patterns that ran in sync with the imported file. Capture mode then permitted me to save the resulting data as a MIDI file, for playing or further editing using another sequencer.

UpBeat's interactive editing features include its ability to define random variables. Here are a few examples: Define a range of randomly generated strike velocities (volumes) for a region; define variables to create different random drum fill patterns and/or drum sounds; define a range of random time deviation from specific quantized note events. Intelligent use of these features could go a long way toward producing a sophisticated-sounding rhythm track.

About two hours into this program, I started getting option anxiety. I can import a MIDI file either as a MIDI file or as a pattern, with or without program changes, including some or all MIDI channels, with or without a tempo map, and then I can loop it, mute tracks and so forth. Which brings me to Potyen's axiom #12: Frustration level increases geometrically with the complexity of the interface.

Perhaps the biggest challenge that software developers in our industry (and others) face is to find the right balance between power and ease-of-use. Is it better to have a "tape recorder" interface or something completely unique that may or may not be ultimately easier to use? Is it better to have event list editing or graphic editing with an Audible Wrench? Damned if I know, but I do know there was a steep learning curve on this for me.

I also suspect that once the interface becomes familiar, users (particularly drummers and those who can relate to drum machine techniques) will find UpBeat a valuable addition to their bag of software tools.

It seems to be a solid package. In my cursory evaluation I encountered no bugs. It's copy-protected, with a well-written manual, and it's available for a suggested retail price of \$249.

E-mu Remote Controller/Librarian

E-mu Systems has come up with its own software package for controlling its flagship sampling unit, the Emulator III. The Macintosh program uses MIDI technology to communicate with

the E-III, and does the job well. You can do everything from the Mac screen that you can do from the E-III front panel—and more by using the mouse as well as Mac keyboard shortcuts.

One of the most useful features is a macro function that works with MacroMaker, QuickKeys or other macro desk accessories. If, for example, you want to convert a set of samples to a different sample rate, you can set up a macro to do this time-consuming job while you go out to lunch.

The librarian is another handy item. As the name implies, it allows you to keep track of your entire E-III library, including data residing on removable media. You can browse, search and load sounds, and even print out lists of sounds for hard copy reference.

Users who run other software along with their E-III will find this a helpful program to include under MultiFinder. It retails for \$249.

Chip Shots

Phoenix Systems Limited (Potomac, Md.) has introduced a Mac program called Studio Management Software, an integrated package of software tools designed to automate office tasks for teleproduction and sound recording studios. Requiring 2MB of memory, it's priced at \$249.

A joint promotional effort involving Commodore and Dr. T's Music Software (Chestnut Hill, Mass.) is designed to attract the professional music recording market. Specially priced Amiga 2000 HD computers are being packaged with Dr. T's KCS 3.0 Sequencer, Copyist Apprentice scoring and transcription software, and a coupon for a synthesizer editor/librarian of the customer's choice. A MIDI interface from ECE R&D is also bundled in the package.

Other news from Dr. T's includes release of the Phantom SMPTE reader/generator hardware/software package for the Amiga. Suggested retail price is \$250.

Your questions, suggestions and comments are welcome. Anyone interested in corresponding with me may do so electronically via PAN (POTYEN). ■

Mix associate editor Paul Potyen hates it when computers tell him what to do. That right is reserved only for his editor and, occasionally, his lovely wife, Cate.

Critics Praise The Shure Beta Series



Mix

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by Mr. Bonzai

DAVID LINDLEY

TUGGIN' AT THE ARTSTRINGS



flipped the train of thought, and I found myself talking with a dreadlocked Jamaican giving me the gospel "bout Babylon, mon."

David Lindley has been surprising audiences ever since he won the prestigious Topanga Canyon Banjo and Fiddle competition at the age of 18. A master of many strings, he stretched the definition of "progressive" with his group Kaleidoscope through the late '60s. The '70s began with his global touring alongside Terry Reid, followed by a pivotal role in the records and performances of Jackson Browne. He has contributed unmistakable touches to the work of James Taylor, Linda Ronstadt, Rod Stewart, David Crosby, Graham Nash, Ry Cooder and Lonnie Mack, and he continues to lick his chops with his band, the "very greasy" El Rayo-X.

With Lindley, the subject matter may roam far and wide, but it never hurries. He's a man who pays attention to detail, chooses his words thoughtfully and speaks in many voices. To capture this colorful lunch more realistically, I've noted a few of the times when he was possessed by assorted strangers.

When I phoned David Lindley, I got Jimmy Stewart on the answering machine. The ersatz Jimmy mumbled on for a minute or so and was cut off by the beep. I called a number of times, leaving messages, and a week later a live human picked up the phone.

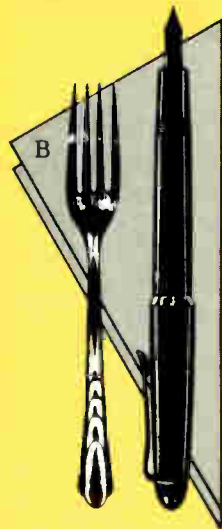
"Mr. Lindley?" I asked. An Asian man spoke to me. "Ahh, Mr. Rindry not home. He out chasing cats." I introduced myself, and as we chatted the voice slid into a slow-moving, baritone freight train. Assuming I had the real Mr. Lindley on the line, I offered to trek out to his home east of L.A., but he wanted to visit my workstation in Hollywood. "I'm in town almost every day, so pick one." We arranged a time and then something

Bonzai: The music business has been very good to you. You've been all over the world...

Lindley: It's not the music business that's been good to me, it's the people I play for who've been very good to me.

Bonzai: Is there one place that stands out?

Lindley: I've noticed that if you play well, no matter where you are, you get the same response. You know when you hit that magical point. I had an acoustic, solo performance in Stockholm, Sweden, once and they had me do six encores. That stands out in my mind. Also, there have been a couple of times at the Belly Up club in Solana Beach where you could feel



the air change—the people would feed the band and we would play better and better. It goes back and forth, like sex. That's the big exchange, the one that really matters. And then you pay your rent.

Bonzai: I've heard that when you show up for session work you bring quite a carload of instruments.

Lindley: I only do that when people say bring *everything*, all that I can get in my truck, all the way to the roof.

Bonzai: Could you name a few of them?

Lindley: Well, I play some Middle Eastern instruments—all four sizes of the Turkish saz. They work really well in film soundtracks, because you can't really place what they sound like. I have a Swedish chord zither called a harpolik that I bring when they ask for everything. Mandolins, baglama, cura-saz, divan-saz, medan-saz—a great huge one.

Bonzai: How many strings?

Lindley: It depends on how you tune it and what style you play in. I like six strings, two-two-and-two. Tambour-saz is another with a slightly different tuning. Then there's the bazoukis and the hardanger, a Norwegian fiddle

with sympathetic strings. Four on the top, four underneath—gorgeous, silvery sound. You tune it a whole step above the regular violin.

When I bring these instruments to a session, I have to go through a process. "This is what I have—you should hear them before you decide what should go on what. After all, you did ask that I bring *everything*. Now you gotta listen to 'em all." [Laughs] Sometimes I bring all the stuff and they tell me, "No, we want you to play slide." So I charge them big cartage, which I do myself. I don't trust anyone with my instruments.

Bonzai: You're also known for "cheapo" guitars. What does that mean?

Lindley: Well, there are several different reasons for using inexpensive, cheap guitars that didn't cost much to manufacture. The design is strange and they sound unique. There is more variation in those kinds of guitars than in *all* the good guitars. All the good guitars sound the same. You have your humbucking pickup, and you put that on anything and it sounds like a

humbucking pickup and that's it, the Gibson double-coil pickup. And then there's the Strat single-coil pickup and a few other familiar ones.

There's a *world* of other pickups you can find. The lipstick tube pickup from Danelectro. The old National pickups. Supro, a very strange setup with magnets and coils, and very cheaply done, which makes it sound more interesting. It's a more complex sound. For example, the National pickups were wound on paper bobbins and not dipped in wax, but painted over in varnish. These things are very microphonic, which means they pick up certain harmonics of the slide. The bridge is attached to the pickup itself, so you get the resonance directly from the bridge. The metallic sound of the bridge itself is built into the pickup so you get this silvery, slinky sound. These instruments are more interesting to me than the high-tech instruments I used to play. When I was in Kaleidoscope, I had a Les Paul custom, a Gretsch semisolid body like Chuck Berry played, and a Stratocaster, Telecaster, Broadcaster—all of 'em. Good-sounding guitars, but narrow in sound.



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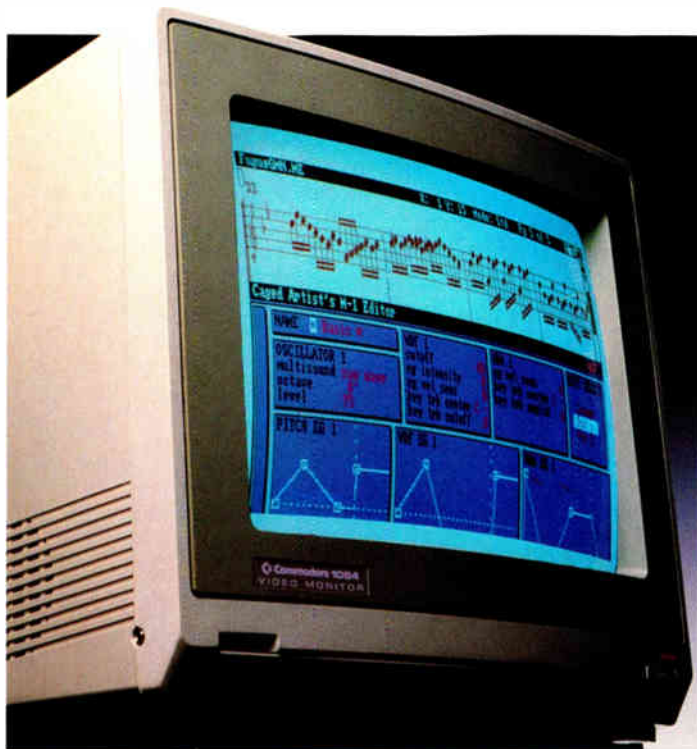
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World Radio History

Bonzai: Kaleidoscope goes back to 1966?

Lindley: [In a grandfatherly voice] "Wayyyy back, sonny." That was school. We were doing things that no one else would do. No one played in nine, and seven, five—in Balkan and Eastern times. No one was doing that except maybe Don Ellis, with the quarter-tone trumpet he invented, the one with the fourth valve. And he was a fan of ours. It was a great era, because everything was open. People were more open-minded about what a musician could do.

Bonzai: Haven't we come back to that lately?

Lindley: We have a little, just a little bit. But down different runways. Peter Gabriel has done it and gone several steps farther. David Byrne and Paul Simon have done things where you actually get to hear musicians from the place where the music originated.

It has come a little bit further, but we still open *Billboard* and we see "Album-Oriented," "Black Music," "Latin Music," "Country." It's really unfortunate. It's marketing that really determines a lot of it. [In an executive voice] "You shouldn't do that kind of thing on this album." Some people are doing it anyway, which is real good.

Bonzai: And you continue to do it, regardless.

Lindley: I'm in it for the *duration*.

Bonzai: Lately you've been working with Ry Cooder.

Lindley: Yeah, we're getting ready for a tour of the West Coast, Japan and Europe.

Bonzai: Do you find you get more respect when you go abroad?

Lindley: No, not at all. Especially lately. I've been playing with my band El Rayo-X in Canada, the States, and the response is the same. People come to see me and the band because they are fans. And if they're not fans when they come in, they are when they leave. Unless we play like *pigs*, which we do sometimes. [Laughs] It's kind of a cult thing—especially in Northern California.

Bonzai: Do you try to give them a surprise each time you return?

Lindley: Yes, you've got to. I like to do different things for myself, too, and to stretch things. You have to stretch your mind—always. It's like a green animal skin. If you don't learn new things, and you don't play all the time,

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it contracts, gets hard and inflexible.

Bonzai: What is the first music you remember as a child?

Lindley: Cowboy music. I liked it very much. Gene Autry, Roy Rogers. I loved the beautiful harmonies. And one of my first memories is of my uncle, Howard Wells, a world-class concert pianist. I used to go to my grandmother's house, where he would be rehearsing alone or with the Griller String Quartet. I would sit under the piano, a 9-foot Steinway. I was very short and could walk right under the piano and put my hands on the soundboard and mess with the peddles. I used to sit right behind the cello. I heard everything.

Bonzai: Who was your first music teacher?

Lindley: My Uncle Howard. He showed me how to put my hands on the keyboard. And the violinist in the quartet helped me pick out a violin when I was 4 years old. It was a Silvertone, made by Sears. It was put together well—I still have it. I couldn't put it under my chin because I was so small, so I played it like a Viola da Gamba. The bridge broke and never

got fixed. If it wasn't for that, I might be a violinist today. I was so hungry for it, I was ravenous. I would see strings, and I would go insane. I had



PHOTO: MR. BONZAI

to climb into the piano and see how the windings on the strings were put together.

Anyway, when the bridge broke I took up painting and drawing. My mother was a painter, a good one. She showed me the techniques. During school, I remember my first-grade teacher, Miss Pavelco, had a Martin guitar and I got the feeling again. I would look at instruments in pawn shops. I loved lute music, and when

I saw a mandolin I knew I could play it. In music class they said they needed a string bass player for the school orchestra. I told them I could play it, but they told me I was too small. That was one of my first run-ins with prejudice. I decided to wait until I was big.

Actually, my first real instrument was a four-string baritone ukulele with a small neck. I was 14. I had seen this guy on Balboa Island playing guitar, and all the girls were around him. I said, [evangelist voice] "Yea-ah! Now I am *enlightened* to this fact!" And hormones being what they are, I started. I jumped on it. My parents preferred that I become an architect, or a commercial artist, or maybe a painter. But I told them I was going to play the banjo and the guitar, and maybe even the fiddle.

I would play in my closet so you couldn't hear me. Literally, I was a closet musician. After school, I would practice banjo for a solid eight hours. I was obsessed with it. My brother, Patrick, was learning piano, and we had a *fine ol' time*.

Bonzai: When did you first get out in front of an audience?

Lindley: I played in school when I was 15, 16. And then I heard about this banjo and fiddle contest in Topanga Canyon. I was determined and worked hard at it, and I said, "I'll win that."

Bonzai: Did you?

Lindley: The first year I went with traditional banjo instead of three-fingered or fiddle. The following year, I knew what it took to win, so I went for the contest part. I knew who the judges were, and I knew what would blow them away. I studied and was very calculating, and I won.

Bonzai: Good story for the kids out there.

Lindley: Yes, I was *treacherous*.

Bonzai: How did that lead to music as a career?

Lindley: I started playing at places like Disneyland with my high school bluegrass bands, The Mad Mountain Ramblers and the Dry City Scat Band. I also played flamenco with a friend of mine, Lenny Reed. I was about 18 when I started working clubs around town. It was lots of fun.

Bonzai: What brought you into the limelight on an international level?

Lindley: Working with Terry Reid, who was going to be the original singer in Led Zeppelin. He could sing a hundred times better than *anyone* else. He had this voice that never

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stopped. I was with him for two-and-a-half years.

Bonzai: You traveled together?

Lindley: Yes, all over the place. It was my first time to go to Europe. We played Jagger's wedding to Bianca, with the Greyhounds, the reggae band. A high point was the Isle of Wight festival with The Who, Kristoferson...

Bonzai: Hangin' out with a top crowd...

Lindley: With the *folks*, yeah.

Bonzai: How did you meet Jackson Browne?

Lindley: Jackson and I met in Los Angeles at a CBS convention. A mutual friend of ours, Chesley Millikan, introduced him to me and said this guy is really good, writes good songs. And he was real young at the time. [In an old wino voice] "Hey, kid! Goddamn kid." I gave him a ride home. I had heard about him from several people, mainly from the guys in The Hourglass, which later became the Allman Brothers. They were doing some of his songs, and I was thinking of putting a band together. Jackson played guitar and sang, and I made a mental note of this guy. And then later on, we got together at The Troubadour. He was opening for Linda Ronstadt, and I went down to see Chris Darrow, who was playing in her band. I borrowed Chris' fiddle and sat in with Jackson and Ned Doheny. Ned's also the kind of person who can play off the top of his head without hearing a song before. We just got up and played and figured out the progressions. It worked out real well, so we sat down and talked about a band.

I went to England with Terry Reid after that, and during that time Jackson got together with David Geffen. He made his first, *first* album in England, and I played on it with Leon Russell and Jim Keltner. They finished it, and Geffen said do it again. Then Jackson recorded *Saturate Before Using*, but there is an album before that. [Pirate voice] "I'd love to get my hands on that, arrrgghh."

Bonzai: Hard to find?

Lindley: Just a tape in some vault. Interesting stuff, different arrangements. "Jackson, why don't you find that tape?" Can you imagine the stuff that's stashed away, the fabulous stuff that wasn't quite up to [businessman voice] "commercial-level potential." Some of the Kaleidoscope stuff was hair-raising.

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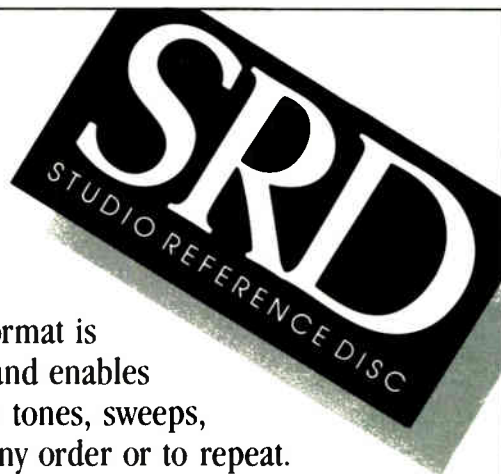
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Bonzai: Do you own those tapes?

Lindley: Of course not. Are you kidding? [Laughs] "Babylon own that, mon!"

Bonzai: Are you more conscious of keeping hold of your work now?

Lindley: Yes, I am. I've learned a few things after so many years in the music business—what to stay away from. And I recognize certain things cropping up again under different names. There is so much money connected with the music business that it turns people's heads, and they do things they wouldn't normally do.

Bonzai: Any words of caution for those kids whose hearts are in the music?

Lindley: There is a tradition in the music industry perpetuated by certain people who say, "You just play the music, and we'll take care of everything else." And they try to convince musicians that if you go into the business area and publishing it will take away from your music. It does *not* take away from your music—it makes it better, because it stretches your mind in an area that is musical, too. It's a myth that if you get into the

business side of things, or if you learn to work a computer, it will screw your music up. It doesn't do that. They say, "Leave all that to us. Concentrate on the playing and have fun." [Jamaican voice] "No, mon, don't believe it. That's Babylon talkin', mon."

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

Lindley: Turkish Mevlevi music.

Bonzai: What were you in your previous life?

Lindley: A dog. Dogs know me. They always come up to me. I really identify with dogs. I also have an affinity for weapons, especially edge weapons, for some reason. I don't know why. I have several Filipino long knives. I have a few Japanese swords. The first time I picked one up, I knew what it was. I held it correctly.

Bonzai: I don't think most people would associate you with weapons. I wonder if there might be a connection between the bowed instruments and the edged sword.

Lindley: Maybe there is. Because I started playing the violin like a cello when I was 4 years old. Maybe there is. That's a good connection—I never made that before. HmMMM. Good for you. That's *interesting*.

Bonzai: If you were to become any woman in history, who would it be?

Lindley: Eleanor of Aquitaine. She was a distant relative and one of the first feminists. She had a lot to do with politics and the running of the kingdom, and she was very fair with the people. She was the mother of Richard I. A regal lady, and she took no shit. If the conditions were bad, she changed them.

Bonzai: Why do you wear such ghastly polyester clothes?

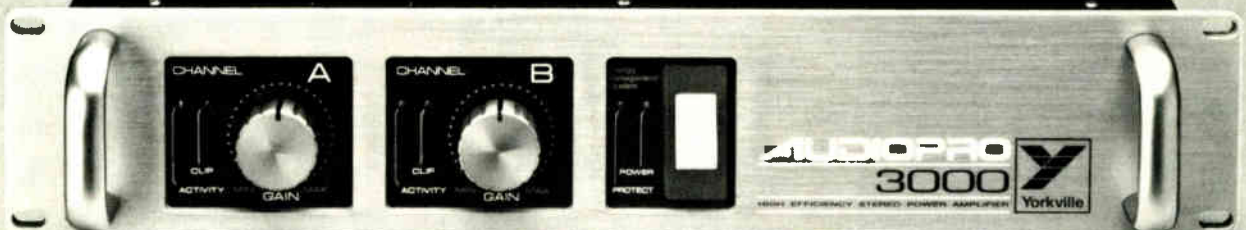
Lindley: It's not ghastly. It's really beautiful.

Bonzai: No one else is wearing this kind of stuff.

Lindley: No one else wears it because they are afraid of getting cancer from the polyester. Another myth that must be dispelled. Polyester is actually good for you. It makes you sweat; it's like a sauna. You put it on, you sweat, you lose weight and you lose a lot of the toxins in your system. And you lose it all over your body. You must wear pants that are polyester, and shirts, and button them up to the neck.

It's also art. A lot of it is very beautiful and people don't know it. They pass it off as *Saturday Night Fever*, disco kind of bullshit. It isn't at

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all. Some of it is so insane. The people who design these things are mad. I have over 200 shirts. Some of them will take your breath away. Pants are hard to find.

Bonzai: Let's talk more about music. Do you have any special preferences in amplifiers?

Lindley: Yes, the ones made by Alex Dumble. He makes guitar amplifiers, the best ever. He makes them one at a time. His amplifiers are the best I've heard in ages. He's in Highland Park, if you want to find him. It takes him a long time to make them, because he uses gold and silver wire and all kinds of handcrafted stuff. He makes sure they don't break down. They always sound good, and you can play them anywhere in the world.

Bonzai: Is there something magical about the handcrafting, the thoughtfulness?

Lindley: Absolutely. It's what we fear the most. The material, all the workmanship, has something to do with the sound. Everything matters. The condition of your strings, the composition of the bridge.

Bonzai: Do you have any favorite microphones?

Lindley: Well, there's a guy named Stephen Paul who takes old Neumanns and AKGs and reworks them into *monsters*. What he does to these microphones is incredible. My favorites are the AKG C-12, with his capsule and his preamp. Also, I have a U67 that I use for vocals and for close-miking my Hawaiian guitar. I have a Neuman KM54 for saz and electric guitar.

And in the chain of sound, you put one of those mics into a Deane Jensen preamp, and through one of George Massenburg's parametric equalizers and then direct into the machine. Then you have *a whole world of hurt*.

I discovered a long time ago that you have to be into every aspect of the recording process if you are going to get a good sound. You have to know all about what you are doing and what is related to it. Otherwise, you can't get the results you want. I use a certain type of tape. I have to have the right voltage out of the wall when I play live. That's why I got into a variac, which regulates the voltage out of the wall. Instead of running your amp at 117, or 114 when the air conditioners go on, you jack up to 120 and it *sounds* better. Radio Shack sells

— CONTINUED ON PAGE 194

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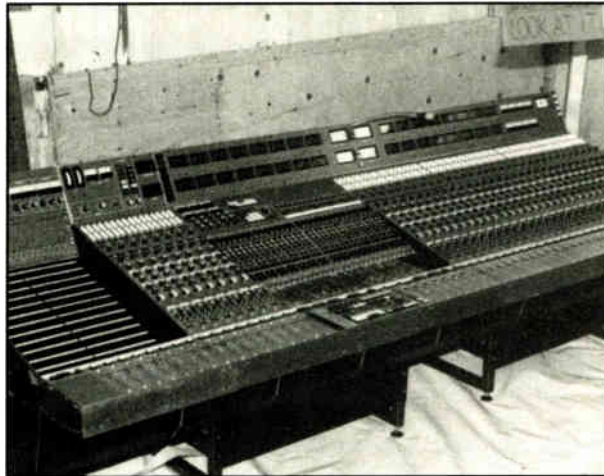
NEWS

FROM AROUND THE WORLD

PASS: Bringing New Life To Old Neves

Steven Butterworth's enthusiasm for rebuilding classic Neve consoles rivals the avid restoration procedures automobile fanatics apply to classic '57 Chevys. He formed Professional Audio System Services (based in Haverhill, England, near Suffolk) in 1986 after working as a project leader for Neve. The company's focus is restoring and customizing recording consoles, while Professional Audio System Technology (PAST), another arm of the firm, markets a single-rackspace equalizer based on the technology used in Neve's 80 Series.

Neve 80 Series console during the rebuild process. Note new patch bay fitted into left-hand side.



A recent rebuild of a Neve 80 Series console typifies the PASS approach: using original specification components and suppliers, but employing higher specs and closer tolerance components when necessary. In this model, GML automation can interface directly with several functions of new logic control.

Dual, automated, switchable inputs were installed in the original 32-track mixdown section, which provides 104 inputs. The unit also includes 14 aux sends, seven stereo returns and independent 2-track buses from both channel and mixdown sections, for

monitoring or for large mixdown sessions.

Butterworth and his associates preserve the Neve sound by implementing original Neve amplifiers and technology as the basis for the audio path design. Butterworth states, "There are no ICs or FETs in the audio path; switching is accomplished with logic-controlled relays. All monitoring, metering and solo functions have been redesigned, creating a hybrid between modern control and vintage audio technologies."

Testing, custom modifications, troubleshooting and follow-up care is provided, too. "I found that

there are a lot of studios in the USA needing advice and parts for the older Neve consoles but do not have any idea where to go," Butterworth says. "Now that we have bought the old Neve 80 Series stock [when Neve moved and automated its production stores], we are in a position to aid the survival of the much-loved but endangered species,

the classic Neve console."

PASS is in the process of moving to larger facilities; you can contact the company by phone: (011) 44-836-620959 or by fax: (011) 44-440-61342.

Agfa Expands Magnetic Tape Factory in the USSR

In the Soviet Union, the demand for consumer video products has risen dramatically. The Shostka magnetic tape factory has responded to this change by shifting its production priorities from professional to consumer. Agfa-Gevaert, based in Munich, supplied and installed manufacturing

facilities for video magnetic tape-coating materials. The company provided 35 engineers and technicians to work on the Shostka project, which was finished at the end of 1989.

Japanese Studio Buys Magna-Tech ADR and Dubbing Units

Toho Studios, located in Tokyo, Japan, has equipped its three new post-production sound studios with Magna-Tech equipment. Two rooms are for high-speed dubbing; the third is an ADR studio—the first of its kind in that country.

The facility is fitted with Magna-Tech's EL II electronic looping system for dialog and Foley. The system stores 200 loops online for playback and recording. Toho Studios produces film and video features for national and international distribution.

British News Company Purchases SSL Consoles

ITN plans to install two SL 5000 M Series consoles (SL 5456 and 5444) to complete its relocation and renovations for the upcoming year. The boards will be put to work in two new studios for live news broadcasts. The company produces daily news for Channel 3 (ITV) and Channel 4. *World News* also originates at the facility, before satellite distribution to Japan, the U.S. and other countries. Richard Stokes, project engineer for ITN, says, "We found the SSLs to be tailor-made to meet our specific on-air needs." The company will move to Gray's Inn Road, after headquarters are designed by architects Fosters and Associates.

BBC Buys SoundStation for Training Purposes

Woodnorton, British Broadcasting Corp.'s primary training center for

radio, TV and transmission engineers, is now home to a 2-channel DAR SoundStation II disk-based editing system. This marks the first BBC purchase of disk-based systems for its students at Woodnorton (located near Evesham, Worcester, UK).

Shannon O'Shea Forms New Producer/Management Firm

The London-based producer/management company Siller-O'Shea has dissolved. Shannon O'Shea now manages under her own name, with an artist division as well as a producer/management side. The first band on the roster is Pretty Things; they're mixing their newest album with producer Mark St. John. Jimmy Miller also joined the company—his producing credits include 12 Rolling Stones albums and projects with Traffic, Motorhead, The Plasmatics and many more. Steven Forward (Robert Palmer, Paul McCartney) and Julian Standen (Siouxsie & the Banshees) are also available through Shannon O'Shea Management. New clients/customers can locate the company at 145 Wardour St., London, W1V 3TB, UK. For more information, call (011) 441-734-1012 or fax (011) 441-494-3801.

International Bits & Pieces

British producer **Rupert Hine** (Howard Jones, Stevie Nicks, Rush) purchased a Soundtracs IL 3632 console for his private studio...**Contact Distribution Ltd.**, Scarborough, Ontario, Canada, is the exclusive rep for Rane's pro audio line in that country...**Master Rock Studios** of London has installed an Audio Kinetics ES.Lock system (two synchronizers) for use with the facility's

Studer A800 multitrack machines...In Camden, UK, voice-over/post-production studio **M2 Audio** purchased an Audio Kinetics ES.Lock as well as Reflex automation, which was put in an Amek Mozart console...**Abbey Road** also installed ES.Lock in its recently rebuilt Studio Three...Some rock stars found digital bliss with Japanese company Mitsubishi: Irish vocalist **Enya** bought an X-880, **Bryan Ferry**, an X-400 and **Peter Gabriel**, an X-850 (for more info on Gabriel's studio, see March 1990 *Mix*)...Amek announced sales of Mozart to studios scattered across the globe: Hong Kong's **APA Studios**, **Brielle Music** in Manhattan, Taiwan's **Post Production Ltd.**, **Creator Studios**, **Prisme Audio** in Switzerland, and many more...BBC's **Radio 5** (London) will go on air this summer with two new Solid State Logic 5000 M Series consoles. Radio 5 is the first new radio network in the UK in 21 years...New England Digital's European subsidiary, **New England Digital UK Ltd.**, moved to larger quarters in London's West Hammersmith neighborhood. **Mark Terry's** promotion to VP of international sales resulted in a move to company headquarters in White River Junction, VT...London's pro audio rental company **Hilton Sound** hired **Ian Silvester** as an R&D technician. He'll join the "digital audio think tank," providing support, advice and technical solutions to manufacturers...**Tecniche Del Suono**, of Milan, Italy, is currently designing a new studio for **Avant-Guarde Co.** The facility will feature a Westec LT 3000 board...Apple Computer recently promoted **Soren Olsson** to president, Apple Computer Europe, Inc. His range of responsibilities extends throughout Europe, Africa and the Middle East. ■



Bronese Recording Studios

Bronese Recording Studios, located on the island of St. Maarten in the Netherlands Antilles, is one of the most luxurious facilities in the Caribbean. A Sony 36-channel fader-automated console is configured to operate with Bronese's PCM-3324 digital and APR-24 analog recorders, making it a premier recording environment.

Also available are residential facilities with private bedrooms, baths, kitchens, lounges, cable TV and all the attractions a Caribbean island has to offer. Pictured at left are studio manager Alfonso Brooks (left) and Richard Dysinger, the studio's first recording engineer, who helped launch this newly expanded facility in 1987.

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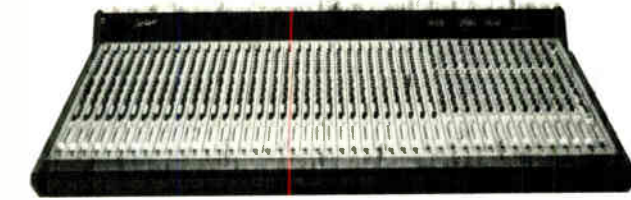
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NEW PRODUCTS

Aries Artemus

New from Aries (Torrance, CA) is the Artemus console, offering 24, 32 or 40 inputs with 12 group outputs and 24-track monitoring. Inputs include 4-band EQ, eight effects sends, electronically balanced XLR mic inputs, switchable phantom power, mic/line/remix switching, phase reverse and long-throw fader. The Artemus also features master control of the console mute bus, PFL metering, control room level control with mono switching and -20dB "dim," 1kHz and 10kHz oscillator, XLR talkback jack and long-throw stereo master fader. Prices start at \$18,950 for a 24 x 12 x 14 configuration.

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and a security lock function for permanent installations.

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Fairlight ESP Post System

Unveiled at last month's NAB show in Atlanta, the Fairlight MFX.DR from Electric Sound & Picture, New South Wales, Australia, is a random access, digital recording and

editing system, providing up to 16 simultaneous audio sources dynamically assignable to 24 outputs. Other features include: the MFX user interface, with push-button editing and transport controls for on-screen, non-destructive editing; fade/crossfade capability; and simultaneous alignment and edit trimming on multiple tracks. System memory is expandable to 32MB, hard disk storage to 7 gigabytes (up to 22 hours of audio), and backup/archiving on optical media. Among the available options are an integrated synchronizer package and the ability to provide all Series III CMI functions.

Circle #003 on Reader Service Card

Loftech TS-2 Impedance Meter

Gold Line (West Redding, CT) debuts the TS-2, a new impedance meter that incorporates all the features of the popular Loftech TS-1—including an audio oscillator, frequency counter and decibel meter—along with the ability to read both simple and complex impedances from 1 to 10k ohms. The TS-2 simplifies the measurement of input and output impedances of preamps, amps, mixers, crossovers and speakers, as well as distributed and coupled 70-volt and 100-volt speaker systems.

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Eltekon Optical Disks

Designed for use with samplers, computers and disk-based recording systems is the MX-2, a writable optical disk system from Eltekon Technologies of Livonia, MI. The system is available in capabilities of 650MB to 1 gigabyte, on

removable 5.25-inch cartridges, and can be fitted with an additional fixed hard drive (600MB to 1.2GB). Access time ranges from 30 to 95 ms for the optical drives to 16.5 ms for the fixed drives, and the system is compatible with the Akai S1000, Roland 770, Mac SE/IIcx and IBM 286/386. The 650MB is \$6,429; the 1GB version is \$8,749.

Circle #005 on Reader Service Card

Kawai 8-Channel Parametric

The EQ-8 from Kawai Digital Products (Compton, CA) offers eight channels of parametric equalization in a single-rackspace unit. A separate input and output is provided for each channel, along with 50 to 15k Hz frequency adjust, ± 15 dB of cut/boost, and three Q (bandwidth) settings. The EQ-8 can be configured as four 2-band equalizers or eight 1-band units. It is priced at \$299.

Circle #006 on Reader Service Card

ARX DI-6

The DI-6 from ARX Systems of Silverado, CA, is a single-rack package that combines six active direct boxes and a 6-channel line mixer. Features include multiple balanced outputs, individual ground lifts, clipping indicators and a headphone output. The DI-6 is priced at \$549.

Circle #007 on Reader Service Card





Carver PM/PT Amplifiers ▲

Carver Professional of Lynnwood, WA, has unveiled six new power amplifiers for pro studio, broadcast and live sound applications. All of these stereo amps are mono-bridgeable, ranging from 120 to 1,250 watts mono into a 4-ohm load, and feature XLR/TRS/barrier-strip inputs, 5-way binding post outputs and

detented level controls. The PM-120 (\$495) and PM-300 (\$650) are single-rackspace designs offering 60 and 150 watts/channel into 4 ohms; the two-space PM-600 (\$795), PM-900 (\$980) and PM-1200 (\$1,250) provide 300, 450 and 600 watts per side into a 4-ohm load. At \$1,500, the flagship PT-1250 "Professional Touring" model is Carver's successor to the PM-2.0, employing a high-efficiency,

pulse width-modulated power supply to deliver 625 W/ch (or 1,250 watts mono into 4 ohms) from a 12-pound package.

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and three-note harmonies from a single note. Using 24-bit VLSI processing, the \$899.95 unit generates user-defined harmonies in 59 scales, from natural minors and chromatics to dorian and mixolydian. The rack-mounted IPS-33B also includes a stereo pitch detune chorus and up to 1,500 ms of digital delay, which can be used simultaneously, and all programs and parameters can be MIDI-controlled.

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DigiTech Super Harmony Machine

The DigiTech IPS-33B Super Harmony Machine from DOD Electronics (Salt Lake City) is an intelligent pitch shifter capable of creating two-



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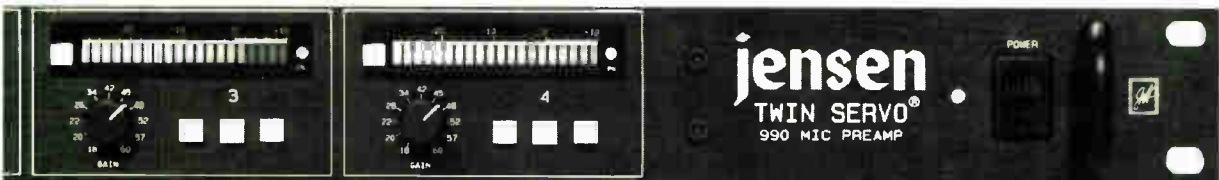
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by Bob Hodas

STUDER EDITECH DYAXIS DIGITAL AUDIO PRODUCTION SYSTEM

I recently recorded the Modern Mandolin Quartet live-to-DAT for Windham Hill Records. In the typical classical music fashion, several takes of each tune were recorded, and the best pieces were selected and edited together to form a complete take. We wanted to keep the entire project in the digital domain from start to finish to avoid conversion problems and

maintain sonic excellence. For the editing and sequencing tasks, I decided to check out the Dyaxis system from Studer Editech.

The Dyaxis has uses that cover all the varied audio fields of recording, broadcast, video and film production/post-production, and CD premastering. It is a powerful tool with sophisticated time code capabilities, high-quality audio and ergonomic screens that make the operating process simple and quick to learn.

The hardware control brain is a Macintosh running custom-developed MacMix software. An SE will work, but a II or faster models will speed things up. Dyaxis took a modular design approach, allowing users to select the building blocks necessary to fit their needs and growth.

Space limitations restrict an in-depth hardware description, but we'll cover the importance of the different components for a clear, overall picture.

The Audio Processor rack, a single-rackspace unit that is the heart of the Dyaxis, interfaces between the Macintosh and other Dyaxis hardware. It can be configured with only analog inputs/outputs, or with both analog and digital I/O (format detail in Fig. 1). Two Processors may be combined to make the 2+2 system, which allows up to 4-channel recording and playback, overdubbing and punch-ins in real time.

The MIDI time code



interface adds a SMPTE/EBU reader to the Macintosh for locking to video, film or automation systems. This unit is also a MIDI-to-serial converter and a SMPTE/EBU time code (24/25/29.97 fps drop and non-drop/30 fps color) to MIDI time code translator. MIDI

during play, it simulates the extra center-channel time code track without eating up track space.

Digitized audio is stored in the Mass Storage System modules on hard

disk for up to six hours of 16-bit stereo program. These modules can be supplied with 105MB or 320MB drives; up to six drives can be connected to a single Audio Processor.

The 16-bit audio sampling can be set to 32 kHz, 44.056 kHz (F1 format), 44.1 kHz, 48 kHz or any of 100 other user-selectable frequencies. The analog I/

with well thought-out software control. An interesting point is that the diversity of the Dyaxis allows different users to edit with varied styles. I found myself developing an operating style that fit my logic set and a key-stroke pattern that quickly became second nature. This pattern was different from the editing style of the fellow who first showed me how to use the machine, yet we both got the job done efficiently.

First we loaded in the pieces of the tune we wanted to edit and selected the proper rates and format before beginning the recording process. The recording screen (Fig. 2) emulates a tape machine, gives a wealth of information, allows recording to be triggered by time code, and even automatically allows multiple takes to be recorded as overdubs in the 2+2 mode. The best take can then be selected for editing or mixing. A SMPTE-style EDL and graphic EDL can be generated for multichannel work.

The desired pieces of the take were

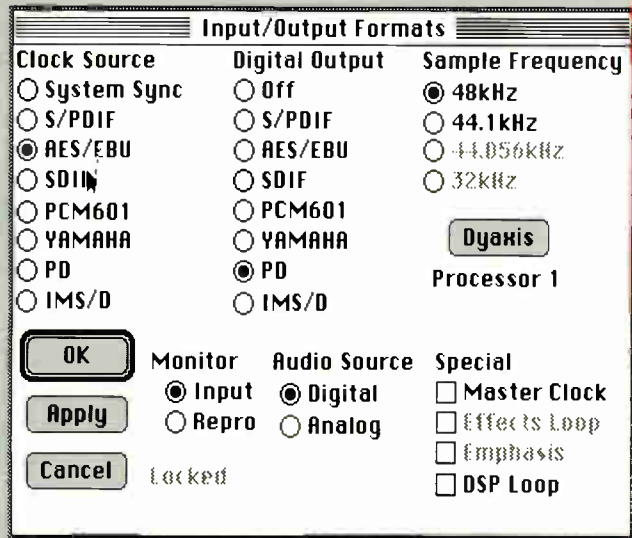


Figure 1: I/O Formats

time code information is used by the Mac to control synchronization of the digital audio tracks against time code-based edit decision lists (EDL).

The System Synchronizer adds full-feature time code read/write capabilities, including VITC, LTC, jam sync and film tach. It provides sample-accurate absolute lock for video (PAL or NTSC), film tach or LTC, lock to external sources (with $\pm 5\%$ VSO capability), as well as enhanced MIDI capabilities. It can be set up to automatically switch between LTC and VITC and do synchronous time code generation (MIDI time code while generating LTC and VITC). Since Dyaxis runs time code

will accept -10 to +8 dBm, spanning the range of semi-pro to pro. Digital formats accepted are SPDIF, AES/EBU, SDIF-2, PCM-601, Yamaha Stereo, PD (ProDigi) and DASH.

My main concern for this album was editing and sequencing, so I'll describe that general procedure before delving into the

Figure 3: Waveform View

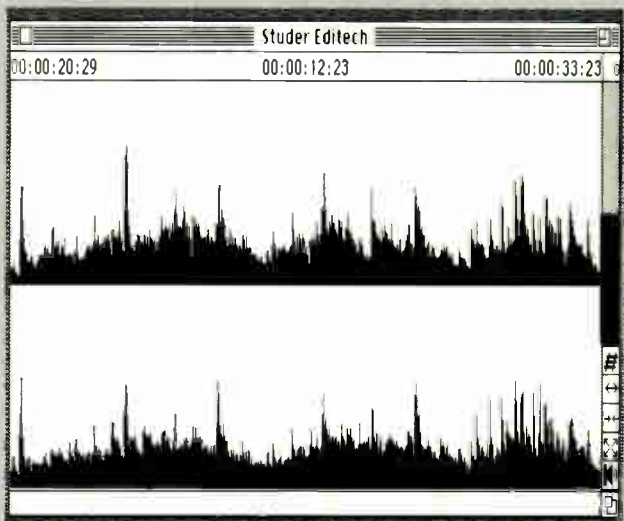
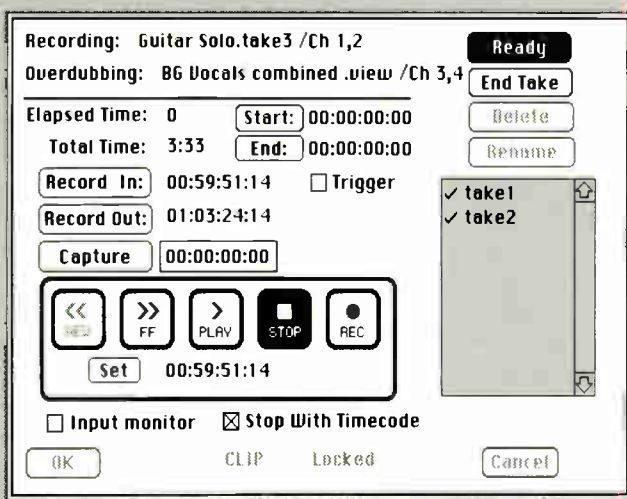


Figure 2: The Record Window



post-production capabilities. First, I would like to say that I learned all functions of the Dyaxis quickly. I was amazed that my first workstation experience would develop so smoothly. Within a few hours I was on my own and working at an efficient speed. This is definitely a user-friendly machine

all loaded onto the Dyaxis hard disk in the order they were to be assembled. By making an ordered D-D transfer of the pieces at home, we were able to save considerable studio time during loading. On the 2+2 system you can do background load/unload for maximum efficiency.

When the recording is finished, the sound file is displayed in a view window showing the entire take ready for editing. First, we listened through the take, marking edit points (called log ticks) in real time by clicking the mouse as the music played. The ticks show up at the bottom of the view file.

All edits are done using view files

by Mark Herman

SOUND REINFORCEMENT NEWS

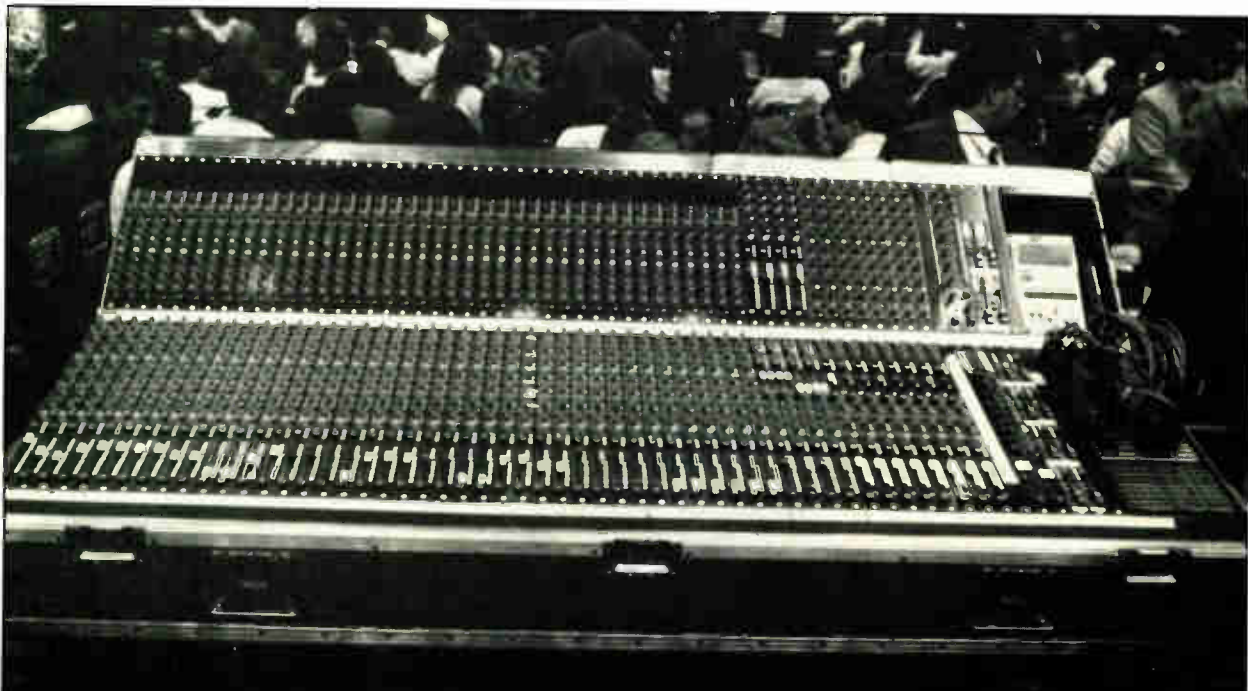
Sun Sound Audio is one of New England's premier sound reinforcement companies. Located in western Massachusetts, this company has a strong regional base and has already entered the national touring scene. Sun is one of the biggest users of the heavy-duty Eastern Acoustic Works KF850 Virtual Array concert loudspeaker system. The EAW system features 3-way trapezoidal enclosures matched with the MX800 CCEP electronic processor, providing time and phase correction, distortion protection, asymmetrically equalized crossover slopes and low-frequency subwoofer enhance-

ment. The matching EAW SB850 subwoofer is loaded with a pair of RCF 18-inch speakers front-mounted in a vented cabinet.

President **Herb Mayer** says, "We work throughout New Jersey, New York and all of New England. We expect to be very busy in April and May with local work. April is full of spring concerts for local colleges, and May shows a lot of college commencements." Recently Sun Sound opened a Boston office manned by **Dave Francis**. Mayer says the new office is already bringing in a considerable amount of hotel, industrial and corporate work.

Sun Sound provided audio equipment support for sound reinforcement company **Tasco's** recent North American tour with **The Cult**. Sub-rented gear included the entire Crest-powered 44-box KF850 and 16-box SB850 main P.A. monitors, and Yamaha PM3000 and Ramsa consoles. **Stephanie Mills** (see "On the Road") also went out for seven weeks (February through April) with a 16-box KF850 system, Ramsa WR-S840 monitor console and a Yamaha PM3000 house console.

Sun Sound is a big supporter of the **Virtual Array Technology Association**, which was



Audio Analysts, of Plattsburgh, N.Y., has added the CADD house mixing console to its touring equipment inventory, shown here on Billy Joel's Storm Front tour. The result of over two years R&D by the Audio Analysts staff, the 64-input mixer features 4-band, fully parametric EQ, eight mono and four stereo aux sends on each input, eight matrix outputs (with 3-band EQ) and a 420-point TT patch bay.

formed last year for owners of EAW KF850, 600 and 300 Virtual Array systems. The association's purpose is to provide communication, promote standardization of ancillary components and share technical information. Standardization is important so that members can easily sub-rent speakers, amp racks and power distro equipment from each other. Future cooperative advertising is planned. Herb Mayer says, "As the demand for EAW systems increases, we believe the Virtual Array Technology Association can be very helpful to its members."

Sun has developed several KF850-type user's products. One is a modification for the stereo 4-way EAW MX800 processor. Sun's **Mark Frink** explains, "Basically, it hot-rods the processor. We put in faster chips and more-expensive capacitors and resistors. This mod is justified for large concert systems." EAW is now working on its own Concert Series version. Other products are standardized, amplifier rack panels and special, compact flying hardware. Frink says, "We are trying to standardize all the racks and back panels for all EAW KF850 users. We have a great deal of hard-earned knowledge from working so long with the 850s. We are the first company to deal with the special problems particular to the KF850 system. We are willing to share our knowledge with the other people using our same speaker technology because we will eventually end up sharing the equipment."

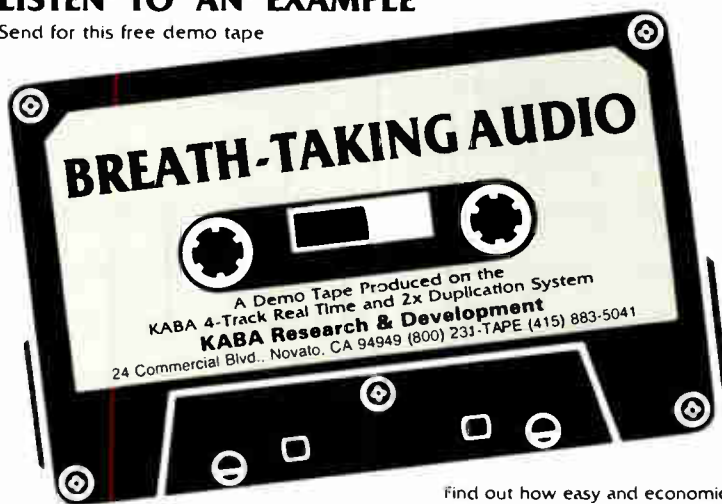
Power for the KF850 main system is composed entirely of Crest 8001 amplifiers. Frink states, "It is great having just one type of amplifier throughout the system. The Crest 8001 has a lot of headroom toward the top, and you never clip the highs." Other equipment includes Klark-Teknik graphic EQs, multipin (Wireworks standard) AMP G4 latch-quick connectors, and an Automatic Switching Matrix that controls 16 different channels from the mixing console and

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sends them to any of eight effects. The ASM, made by Real World, was first used on the recent 10,000 Maniacs tour.

Audio Analysts finally debuted its CADD house mixing console on the **Billy Joel** Storm Front tour. It has 40 mic inputs with 4-band, full parametric EQ; eight stereo inputs; eight line inputs; eight stereo subgroups; and two stereo mixing buses.

Maryland Sound Industries' North Hollywood outpost reports several tours, additional permanent sound system installations and an assortment of L.A.-area one-offs. **Steve Zelenka** explains that MSI/West is more than just an office. "We have several complete sound systems, warehouse facilities and local clientele as well as the na-

tional touring that we share with MSI/East Coast."

Business has been excellent for MSI East and West. Its client list saw the addition of former Clair accounts **David Bowie** (tour starts March 4 in Quebec City, Canada), **Debbie Gibson** and **Tears for Fears**. After attending **Pink Floyd's** last tour, Bowie hired house mixer **Buford Jones** and other Pink Floyd tour engineers. MSI provided audio support for Floyd's last couple of tours. Zelenka says MSI's bicoastal arrangement is working well: "It helps having systems on both coasts. The clients can easily get extra equipment when needed, and costs are reduced for us as well as for acts that perform on both coasts."

Among the company's other

work, Audio Technique P.A. systems from MSI are now being installed into the **Universal Amphitheatre** and the **Greek Theatre** for the summer concert season... **Miami Sound Machine** started a new tour March 3 with a MS8 JBL 4-way P.A. system... **Tears for Fears** toured the U.S. before heading to Europe... **Kenny G's** West Coast tour was out... **Chicago** toured in Europe... **Whitney Houston** was using the recently purchased Crest Gamble Series EX 56 house console... **A Roy Orbison** memorial show at the Universal Amphitheatre donated proceeds to the homeless in late February... **Dionne Warwick** was at the Century Plaza on March 1.

MSI is constantly upgrading its systems. New equipment purchases include Crest power am-

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 House Crossover	Main Speakers Main Speakers Subwoofers Monitor Speakers Monitor Speakers	Main Amplifiers Main Amplifiers Sub Amplifiers Monitor Amplifiers Monitor Amplifiers	Engineers: (B) = band (H) = house (M) = monitor (T) = tech (a) = assistant
David Bowie Maryland Sound Ind. March-Aug. Canada, Europe, Australia, U.S.	Gamble Series EX 56x16x2 — Ramsa WR-S840 40x18 — MSI Custom HS 301	(48) MS-12, (44) MS-12B (6) MS-10, (6) MS-10B (12) MS-18 Sub MSI 2x12 & 2x15 Meyer UM-1 & UPA-1	Ramsa 9220, SAE250 & 500 Crest 7001 & 8001 Crest 8001 Crest 7001, SAE P50 Crest 7001, SAE P50	Buford Jones (B,H) Seth Goldman (B,M) Steve Guest (aH,T) Paul Giansante (C) Jeff Scornavacca (aM) Chuck Wells
Phil Collins Showco February-October World Tour	TAC SR9000 42x16x2 (with 24-ch. extender) Harrison SM-5 32x16 (with 16-ch. extender) Showco 1040 Digital Series	(72) Prism — (16) Prism Sub Bass Showco BFM 600	Crown MA1200 & PSA-2 — Crown PSA-2 Crown MA1200	Rob "Cubby" Colby (H) Phil Christensen (M) Jeff McGinnis (C) Paul Kalenak Peter Greenlund
Expose Turn Of The Century January-August North America	Yamaha PM3000 40x8x2 — TAC Scorpion 40x12 — BSS FDS 360	(12) Overture TC2 — — R&R 4115 Overture TC3	Crest 8001 & 4001 — — QSC 3500 & 3800 QSC 3500 & 3800	Gary Robert (H) Joey Willinger (M) Bill Cramer
Paul McCartney Showco February-October World Tour	Harrison HM-5 32x16x2 (with 16-ch. extender) Harrison SM-5 32x16 (with 16-ch. extender) Showco 1040 Digital Series	(184) Prism — (48) Prism Sub Bass Showco BFM 600	Crown MA1200 & PSA-2 — Crown PSA-2 Crown MA1200	Mike Ponczek (H) John Rhoden (M) Leon Hopkins (C) Jeff Cohen (recording) Bernie Bernil Tyler Garrett
Stephanie Mills Sun Sound Audio February-April U.S.	Yamaha PM3000 40x8x2 Soundcraft 400 Ramsa WR-S840 — EAW MX800 Sun Modified	(16) EAW KF850 — (8) EAW SB850 Sun Sound Custom Wedge	Crest 8001 — Crest 8001 Carver 1.5	Bob Bloomfield (B,H) Vish Wady (B,M) Bob Humphreys (C) John McQuiggan (aH) Steve Schrems (aM)
The The Delicate Productions January-March North America	Yamaha PM3000 40x8x2 — Soundcraft Series 4 40x16 — Martin MX4	(24) Martin F2 — (6) Delicate 218 Martin LE600	Crest 8001 & 6001 Carver 1.5 Crest 8001 Carver 1.5, 350	Steve Venezia (H) Kevin Farrant (M,B) Tracy Kunstmann

plifiers, three AMS signal processors for Bowie, various limiters, and a Crest Gamble Series EX 56-channel house console.

Check It Out... Canadian amplifier manufacturer **Bryston** announced a new warranty policy. Bryston has instituted a 20-year parts and labor warranty program that includes all products previously sold under the Bryston name. The company will pay shipping one-way and cover all parts and labor. The warranty is fully transferable from first owner to subsequent owners.

Brad Snow is owner of **Snow Sound**, located between Hartford and New Haven in Middlefield, Conn. According to Snow, 1989 was the company's best year ever. "We capitalized a tremendous amount of equipment. Some of the new equipment included a great Adamson main P.A. speaker system, Crest 8001 amps and a Yamaha PM3000 console. College activity has kept us constantly working, and we've been landing more installations. Our pro audio sales division has significantly expanded with the addition of several more respected audio manufacturers to our product line."

Snow comments on his choice of the Canadian-built Adamson loudspeakers, "We have had absolutely no problems with the Adamson speakers; they always sound excellent. We are very pleased." Snow Sound's other main P.A. system, a recently completed custom "Eagle" system, has been seeing work in good-sized venues. "It's been well-received for arena concert use," Snow says.

Snow Sound's recent audio work included Hartford's First Night civic celebration, the local Mayor's Inaugural Ball, a two-week run with the sold-out Broadway play *Nunsense*, various national one-off dates and sporadic events with the Connecticut state senate.

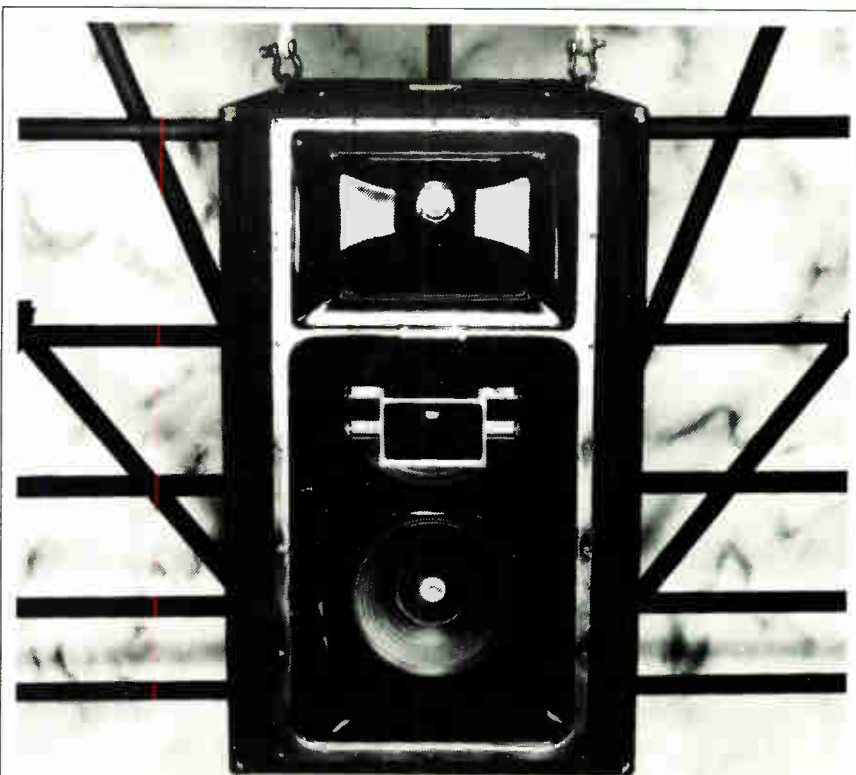
Snow completed installation of a four-zone system at the Charter Oak Cultural Center in Hartford that used JBL, Crest and Klark-Teknik products. Plans

and preparations are already underway for the upcoming July 4th Riverfest Celebration that will have four busy stages for Snow to handle. Snow's most recent equipment purchase is a current order for seven Crest 8001 amplifiers.

Good Job... San Francisco pro audio dealer Audio Images has begun sponsoring free seminars and product demos for sound reinforcement companies, consultants and engineers from the Northern California area. The first seminar featured products

from Eastern Acoustic Works, Bose, Crown and MicroAudio. Attendees got valuable one-on-one access to each manufacturer's products and personnel. Owner **Ron Timmons** expects to sponsor more of these informative and casual gatherings on a regular basis with a changing cast of manufacturers. This type of relaxed but highly informative product demo is perfect for those who are unable to attend the large trade shows.

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LIVE SOUND

MicroAudio EQ PODs, the Bose Acoustic Wave Cannon, Bose 802 Series II speakers for mains, Bose 102s under the balcony, and Crown amplifiers for Boston's 4,400-seat Wang Center for the Performing Arts... Universal Studios Florida also announced the installation of 82 MicroAudio EQ PODs.

Long Island's **Eastern Stage Productions** (West Babylon, N.Y.) was formed in early '89 by owners **Phillip Alfieri**, **Bill Danilczyk** and **Peter Camp-**

bell. Recent purchases of a Crest Gamble Series EX console and a 16-box EAW concert KF850 main speaker system has gotten the industry's attention. Phil Alfieri says, "The majority of our work is with regular corporate/industrial clients centered around Washington, D.C., and Manhattan. We do concert work whenever possible; a regular client is the popular rap group **Boogie Down Productions**. We also seem to work a lot of '50s-type acts that come through our area. We are also on file with the

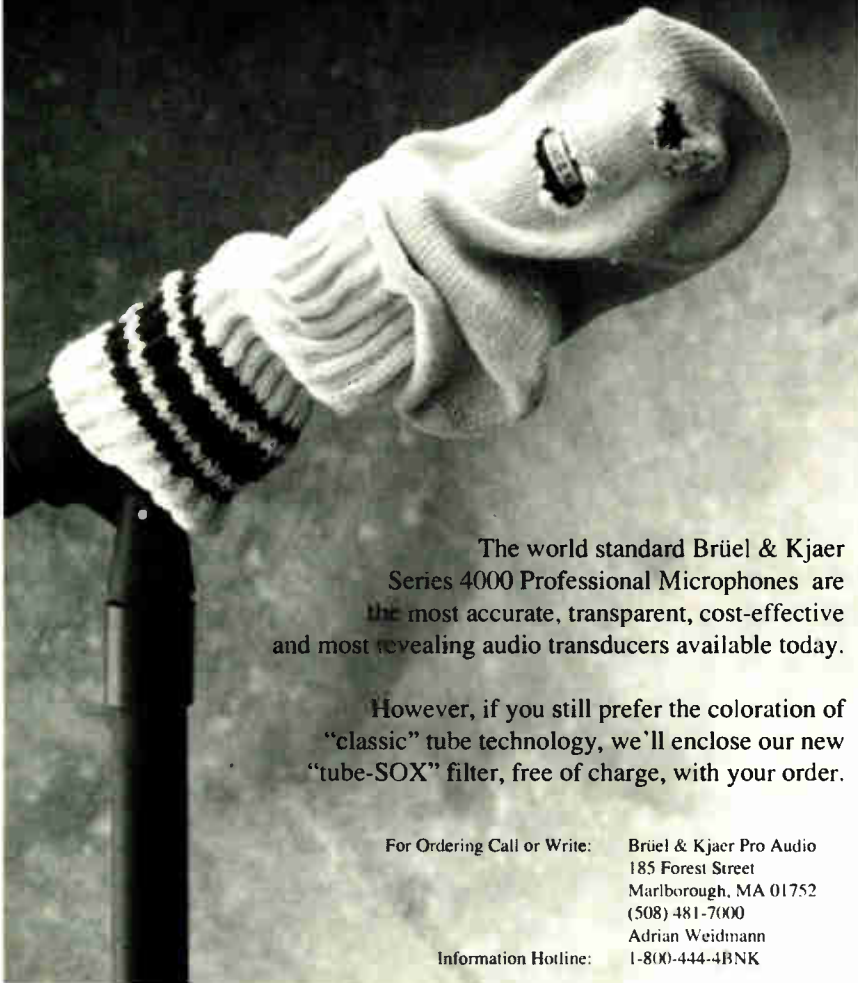
White House for sound, and are often called upon when the president gives speeches."

Eastern Stage Productions' main system has 16 EAW KF850s and eight SB850 subs powered by Crown MA2400 and MT1200 amps. Stage monitors are EAW M222 wedges. Alfieri says, "Our EAW setup uses Sun Sound Audio's flying system. We use Crown amps exclusively because we like the Crown's high-end sound. Graphic EQs on the monitors are all from Klark-Teknik." ESP also has a smaller main system that includes 12 EAW BH800s, 12 M102 mids, a dozen JBL 2445 horns, Brooke-Siren crossovers and Crown amps. A dozen Electro-Voice SH1512s used for corporate vocal sound reinforcement complete the company's inventory.

Alfieri is very enthusiastic about the new 40-channel Crest Gamble Series EX house console. "The EQ is like nothing else—it is incredible. The patch bay is great, also. Anything an engineer desires in routing can be handled by the Series EX's built-in patch bay. And the metering is great—meters on every channel make life a lot easier when mixing."

Renkus-Heinz Contracting News... From Albuquerque, N.M., **Chris Romero** of **Hi-Que Audio** reports The Lariat, Top Deck Lounge, Bentley's and Midnight Rodeo have all installed Renkus-Heinz FRS-121s and Sub-152s sound systems... **Enter-tech** (Minneapolis, Minn.) installed Renkus-Heinz LFS-151s and Sub-152s in the large All-Stars sports bar and another system in Lynn Dickey's of Kansas City... **Frontier Audio** (Riverside, Calif.) installed a small COAX system at the Gardener Springs Auditorium (Ontario, Calif.)... **Gulf Coast Sound** installed Renkus-Heinz COAX cabinets for Grace Community Church (Houston, Texas)... **Audio Electronics** (Minneapolis, Minn.) installed Renkus-Heinz COAX and LFS-152s, and CBH-250 horns in the National Sports Center (Blaine, Minn.). The new outdoor facility will

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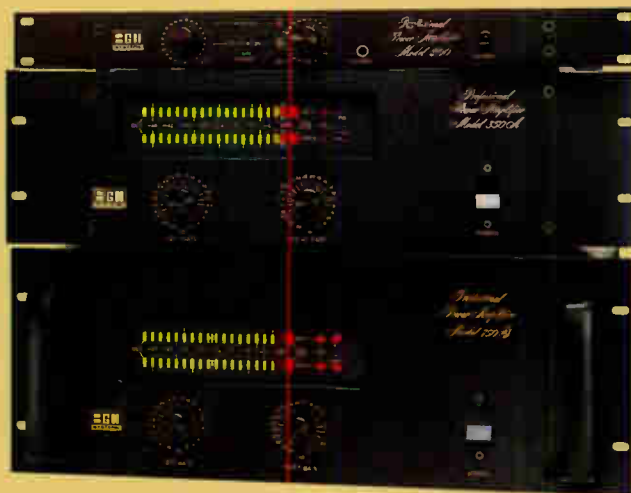
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LIVE SOUND

host many Olympic-related events, the U.S. Soccer Team and the '91 International Special Olympics.

Theatre Technology rents, sells and operates pro audio equipment in the New York City area. The company supplied the Mabou Mines theater company at the Triplex Theatre with a Yamaha PM3000, Apogee AE5 speakers, Crest amps and HME wireless mics for a production of *King Lear*. Another system with Bose speakers and HME wireless mics was provided for sound designer Mac Kerr in the famous NYC theatre club La MaMa.

Right in the middle of Pennsylvania you'll find **Galaxy Audio & Entertainment Services** (Altoona) serving the local region and the surrounding states. Galaxy was formed in 1986 by **Steve Koehle** and **Mike Riling**. Most of its business occurs in the summer shed season when it works county fairs. "August, September and October is when we really start hopping," Koehle says. "We pick up most of the concerts that need P.A. support in our area, and the local area colleges really keep us alive throughout the year. Pennsylvania State University supplies a lot of work, including the summer concert series. We also work with industrial clients, local clubs and installations."

Galaxy's main P.A. system uses McCauley 815, 840 and 850

cabinets powered by Crown MA2400 and MT1200 amplifiers. Future plans call for expanding into a new flying system by next fall. McCauley monitor wedges are powered by Crest FA800s. Soundtracs 32-channel M Series matched house and stage consoles handle mixing duties. Smaller 24-, 16- and 8-channel mixers and a small 60-can lighting rig are available, too.

"We just purchased a custom truck designed for on-site service for installations and events," Koehle continues. "It's useful as a rolling workshop—complete with generator—and stocked with cabling, hardware, parts, rigging and tools. We use two-way radios, cellular phones and pocket pagers for internal communication. We are looking into the Electro-Voice AcoustaCad computer program for in-house sound system installation designing for use in clubs and churches."

[Note: Some of the data in this column and in "On the Road" is based on information provided by the companies. Address all correspondence and photos to Mix Publications, Sound Reinforcement Editor, 6400 Hollis Street, Suite 12, Emeryville, CA 94608.] ■

Mix sound reinforcement editor Mark Herman also operates a company specializing in console rentals for live sound and touring applications.



With less than a day's notice, Prosound (the sole distributor of Electro-Voice equipment in South Africa) put together a system for a crowd of 150,000 at Soweto's Soccer City stadium, to welcome the return of Nelson Mandela. The system included JP6040 horns and TL4025 LF boxes, in a low-profile array to insure clear sightlines.

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TROUBLESHOOTING

SAFE RIGGING

BASIC PRINCIPLES FOR SUSPENDING
LOUDSPEAKER SYSTEMS

PART 2

(Editor's Note: The following article is adapted from JBL Technical Notes, Volume 1, Number 14, and used with the permission of JBL Professional. This material is intended for informational purposes, and none of the enclosed information should be used without first obtaining competent advice with respect to its applicability to a given situation. None of the material is intended as a representation or warranty on the part of JBL, and anyone making use of this information assumes all liability arising from such use.)

Load Angle Efficiency

Load angle is the angle between the load (horizontal surface) and the sling. Fig. 1 illustrates the effects of load angle efficiency using a two-leg sling to hang one JBL 4846 low-frequency system. The load angle affects the sling tension inversely. As the load angle is reduced from 90° to 0° , the sling tension increases from the sling's share of the load to an infinite value.

The sine of the load angle is the load angle efficiency, numerically (e.g., a 30° sling angle will have a load angle efficiency of 50% [$\sin 30 = 0.5$]). A load angle efficiency of 50% means the sling tension will be twice that of the sling's share of the actual load. The JBL 4846 weighs approximately 110 lbs. Using two independent slings, each will be tensioned to 55 lbs. If we were to bridle the two sling legs such that each leg was to form a 30° angle with the horizontal surface of the cabinet, each leg would be tensioned to 110 lbs. As the angle between

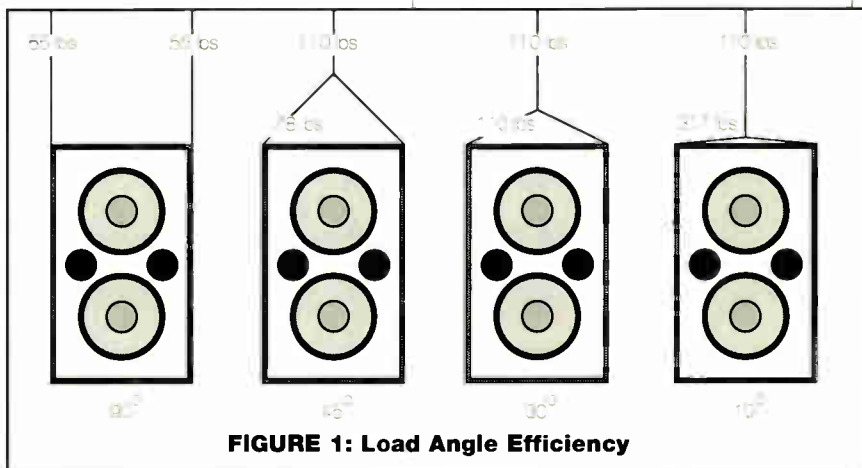
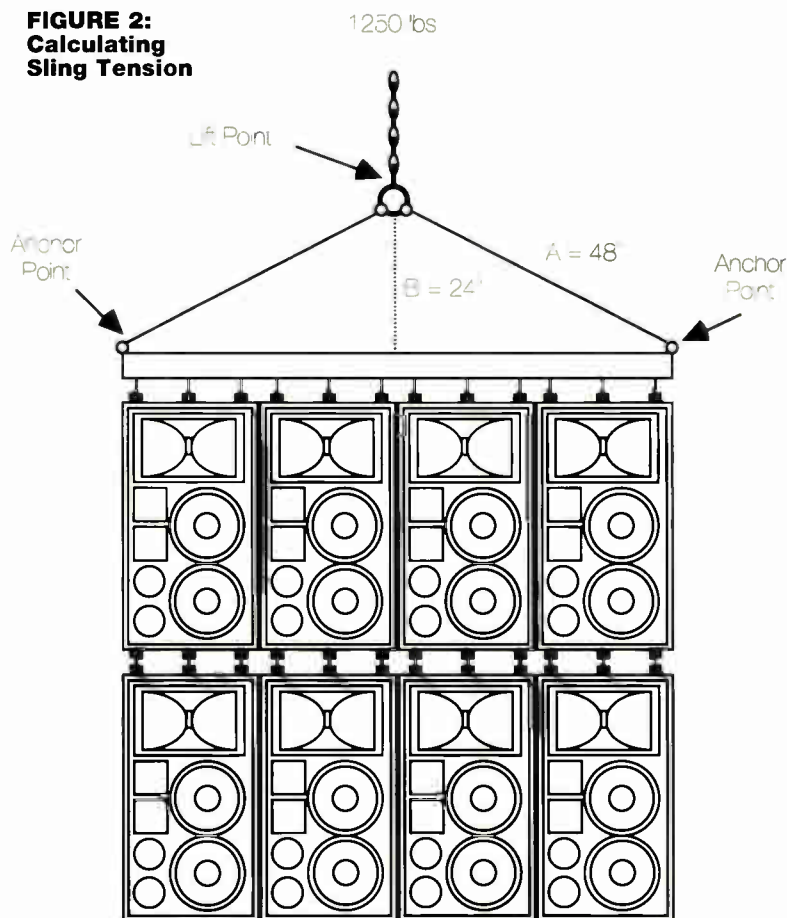


FIGURE 1: Load Angle Efficiency

FIGURE 2:
Calculating
Sling Tension

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Phil, George and Dan Zeo — of Zeo Brothers' Productions in Hatboro, Pennsylvania — their livelihoods depend on component performance.

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"We think EVX woofers are the finest low-frequency reproducers in the world. Nothing moves air like an EVX."

If your curiosity has been piqued, and you would like to arrange an EVX demo, please contact Ivan Schwartz, Electro-Voice concert sound marketing manager — 616/695-6831. Additionally, we would be happy to provide free technical assistance for box design. EVX woofers — a sound investment guaranteed to play reliable dividends.



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Zeo Brothers' Productions — providing sound reinforcement for concerts and events with acts ranging from the Outlaws to Harry Connick Jr.

Eye Bolts

Eye-bolt fasteners come in several varieties (Fig. 5):

Lag-screw eyes cut threads into wood and rely on the strength of the wooden threads to carry the load. Wood or wood fiber make untrustworthy threads and should *never* be used to support overhead loads.

Formed eye bolts consist of steel rod bent into an eye with a machine-screw threaded shank. Widely available at hardware

counters, these products come from a variety of domestic and offshore sources, are unmarked and may be soft or brittle. The eyes have a nasty habit of pulling straight or snapping where the curvature of the formed eye meets the shank, even under modest loads. Formed eye bolts are considered untrustworthy and should *not* be used for rigging purposes.

Eye bolts are often welded closed to prevent opening under load. This practice can damage the metallurgical structure of an

already suspect fitting, which causes the bolt to lose resistance to breakage under stress and results in an even more untrustworthy part.

Plain pattern forged eye bolts

The eyes

have a nasty habit

of pulling straight

or snapping where

the curvature of

the formed eye

meets the

shank.

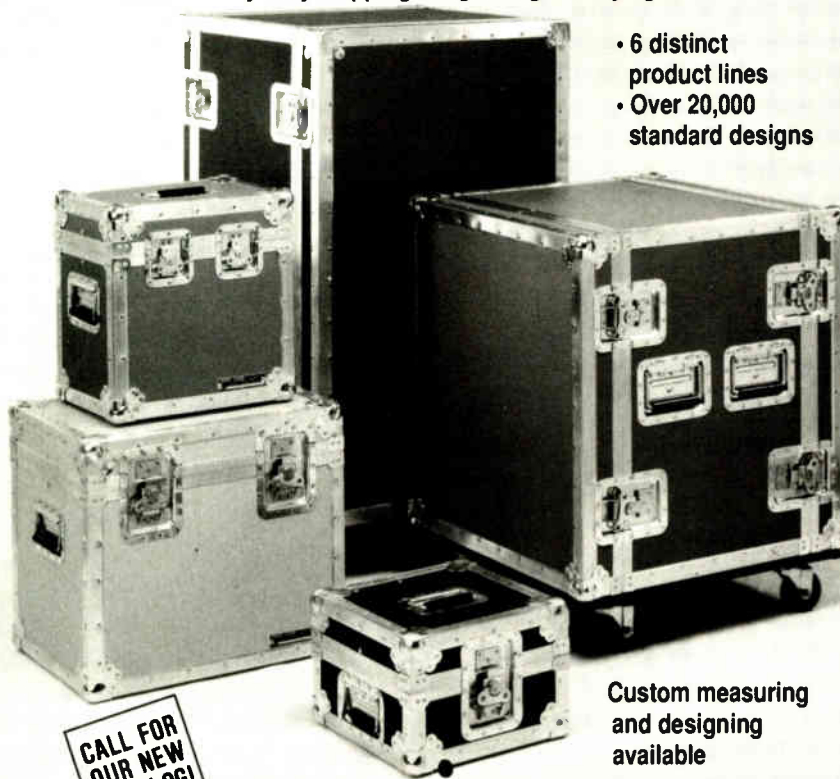
are designed for straight pulls only and are trustworthy to support vertical loads. Plain pattern eye bolts should never be used for angle pulls. Rated capacities for plain pattern eye bolts will be the same as for shoulder bolts under vertical load.

Forged shoulder eye bolts are preferred for all applications, especially those in which angle pulls are likely to be encountered. The rated capacity for shoulder eye bolts is reduced substantially for angle pulls. Note also the correct orientation of the bolt for angle pulls (Fig. 6). Loading at angles greater than 45° from the vertical axis is not recommended.

This series concludes next month with an in-depth look at guidelines for system hanging and installation. ■

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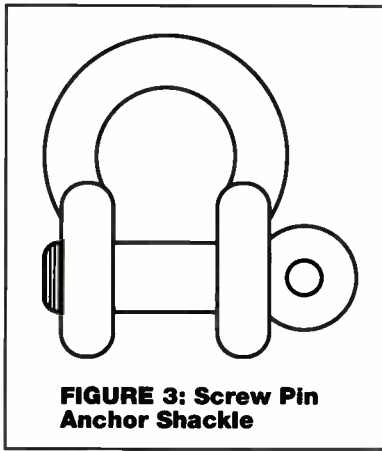


FIGURE 3: Screw Pin Anchor Shackle

the sling and the horizontal surface is diminished, the sling tension will increase in inverse proportion to the sine of the load angle.

It is important to recognize that the sling tension affects all the hardware that makes up the sling assembly, including the attachment points. This may result in excessive loading of hardware, especially at the point of attachment to the loudspeaker cabinets. *All the components attached to the sling will be subjected to a tensile loading equal to that of each sling leg and must be sized accordingly.*

Sling tensions may be directly calculated from physical measurements (Fig. 2). A loudspeaker cluster weighs 1,250 lbs. Using a two-leg sling, the distance (A) from the lift point to each anchor point is 48 inches. The distance (B) from the lift point to the horizontal surface is 24 inches. The tension on each leg of the sling will be A (48 inches) divided by B (24 inches) times half the load (two legs) = 1,250 lbs. This represents a load angle efficiency of 50%. These calcula-

tions should be performed for each load to be lifted in order to prevent overloading of hardware or a reduction of design factors.

Since the cluster is being lifted from a single point, guy lines will be required to stabilize the assembly from rotating.

Hardware

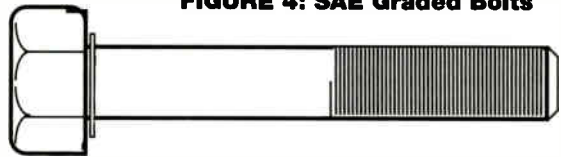
There are as many different sources and quality levels of hardware as there are potential vendors for sound systems, perhaps even more. Note, however, that the consequences of poor judgment when selecting hardware for rigging are not qualitative. In spite of this fact, purchase decisions with respect to hardware are often last-minute items left to installers and technicians having little or no knowledge of safe rigging practices.

To the uninitiated, many similar hardware items appear identical, yet may be orders of magnitude different in terms of their load capacities. The highly competitive nature of the retail hardware and building supply business in the U.S. has generated a nearly endless supply of fasteners of unknown (and suspect)

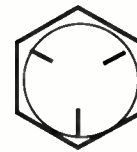
quality and strength. This is less a matter of expense than good planning, as using load-rated hardware will make an insignificant difference in the total cost of an installation.

Almost without exception, load ratings for hardware are for

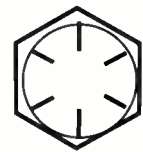
FIGURE 4: SAE Graded Bolts



SAE Grade Unknown



SAE Grade 5



SAE Grade 8

Diameter (inches)	Area at Throat Root (sq. inches)	Grade 5 Rated Capacity (lbs.)	Grade 8 Rated Capacity (lbs.)
1/2	126	2,160	2,700
5/8	202	3,460	4,300
3/4	302	5,170	6,470
7/8	419	6,880	8,970
1	551	9,050	11,800

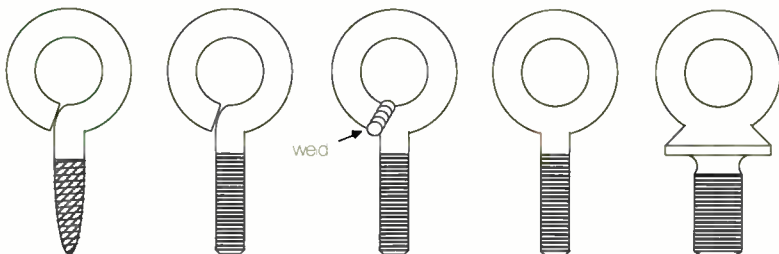
axial loading only—a straight pull along the axis of the fitting. Failure to use a device correctly can seriously weaken the part and render an installation unsafe. It is the responsibility of designers and installers to make proper use of hardware and hardware systems.

Shackles

Different types of shackles are available for a variety of applications. The screw pin anchor shackle (Fig. 3) is the type most commonly used in sound system rigging. These parts are most often used to join SpanSets or slings to eye bolts or additional slings.

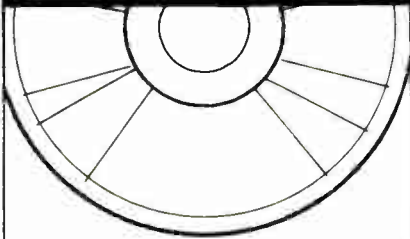
Only load-rated, forged, carbon-steel shackles should be used for rigging. The load rating will be stamped on the body of the shackle. Screw pin shackles should be snugly finger-tight-

FIGURE 5: Eye-bolt Fasteners



Lag-Screw Eye Formed Eye Bolt Formed Eye Bolt Welded Closed Plain Pattern Eye Bolt Shoulder Eye Bolt

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ened only. If tools are required to seat the shackle pin, it means that the threads are damaged and the part should be discarded. Shackles should always be loaded pin-to-end, never on their sides. The pin end of the shackle should not be allowed to straddle a moving rope, as friction could loosen the pin. Do not substitute bolts for shackle pins, as the pins are forged and considerably stronger than machine bolts. Always use packing washers to center narrow loads on the pin. This will prevent the shackle from

being pulled at an angle that will weaken and possibly damage the fitting.

Bolts

There is a wide latitude for specific alloys and the consequential tensile strength and hardness that may be encountered in a steel bolt. Ungraded bolts used in rigging can result in a fastener that may be unreliable under stress.

Fortunately, graded bolts are easily identifiable. Fig. 4 shows the identifying marks for SAE grade 5 and SAE grade 8 bolts, and lists rated capacities for SAE grades 5 and 8 bolts using an assumed design factor of 7 on the area at the root of thread.

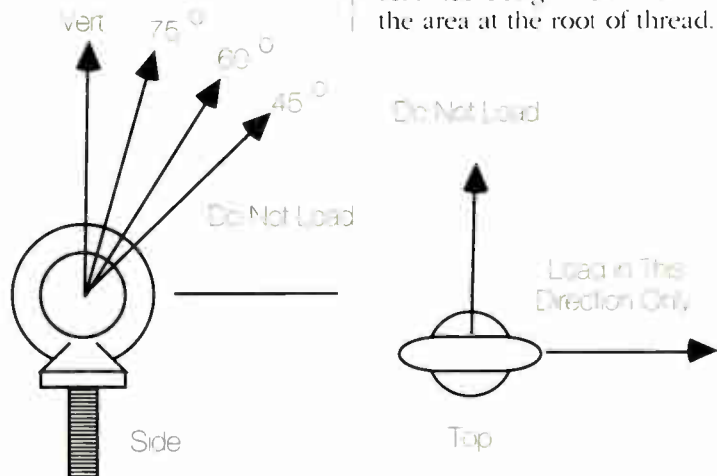
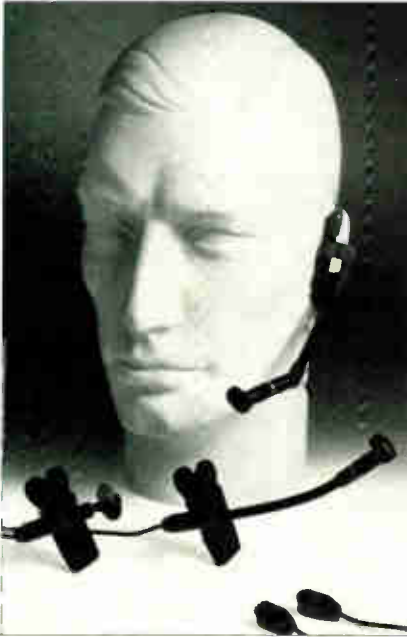


FIGURE 6: Correct Orientation of the Bolt for Angle Pulls

Size (inches)	Vertical Pull (lbs)	75 Degree Load Angle	60 Degree Load Angle	45 Degree Load Angle
1/4	500	275	175	125
5/16	800	440	280	200
3/8	1,200	660	420	300
1/2	2,200	1,200	770	550
5/8	3,500	1,900	1,200	875
3/4	5,200	2,850	1,800	1,300
1	10,000	5,500	3,500	2,500
1-1/4	15,200	8,350	5,300	3,800
1-1/2	21,400	11,750	7,500	5,350

SOUND REINFORCEMENT NEW PRODUCTS



AKG MICROMICS

AKG Acoustics of San Francisco has introduced Micromics, a new line of miniature electret condenser microphones designed to increase stage mobility and miking convenience for performers. The series includes: the C-401 contact mic and C-402 cardioid models (these easily attach to acoustic instruments with a reusable, non-mar, rubberized compound); the hypercardioid C-408 for drums and percussion handles up to 131dB SPL and offers a ratcheted, clip-on mount; another hypercardioid, the C-409 for wind instruments, has a short gooseneck mount for precise positioning; and the C-410, a cardioid vocal headset microphone.

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ALPHATON FEEDBACK ELIMINATOR

About the size of a direct box is the Alphaton FC-100 Feedback Eliminator, distributed by Acoustic Technology of Roanoke, Texas. The phantom-powered TC-100 connects in-line between console and microphone, and is designed to detect a feedback condition before it becomes audible, while a high-speed microprocessor circuit reacts instantly to correct the problem. The FC-100 features transformer-balanced, XLR mic connections; specs include 12dB-15dB of feedback cancellation and a frequency response of 20-20k Hz (± 1.5 dB).

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KSI 81-2

Karibu Sound (Baltimore, Md.) announces the Model 81-2, a 2-way system with two 8-inch, mineral-filled, polyolefin-cone bass/mid-drivers, two 1 1/2-inch dome tweeters and a 12-inch passive radiator. The trapezoidal 81-2s are designed for foreground playback systems (as well as area fills for live sound); each includes flying hardware and recessed handles. These 4 Ω speakers are sold in left/right pairs (packaged individually for UPS shipment); stated specs include a 42 to 25k Hz (± 3 dB) frequency response and a sensitivity of 96 dB (1W/1m).

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FISHER SAS MONITORS

The Stage and Studio monitors (SAS) from Fisher Communications, Bellevue, Wash., feature top- and front-firing speakers and a stainless steel speaker grille, allowing performers to stand on the monitors and use them as a 1-foot stage riser. SAS monitors are available in a variety of cabinet configurations for guitar, bass, keyboard, vocal and drum monitor applications, and the boxes can be loaded with speakers from different manufacturers (including bi-ampable 15-inch coaxials). Options include onboard, shock-mounted mic and mic stand adapters for a clean stage appearance.

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YAMAHA ACTIVE MONITORS

The MS60S from Yamaha Pro Audio (Buena Park, Calif.) is a ported, 2-way monitor with an 8-inch LF driver and a bullet-type, high-frequency unit in a rugged, thermoplastic enclosure. Featuring Yamaha's Active Servo Technology (YST), the monitor provides an internal 60-watt amp (maximum SPL: 108 dB), along with 2-band EQ controls, master volume control and inputs for handling mic- or line-level signals. The MS60S speakers are magnetic-shielded for A/V applications, and options include rack-mount adapters, tilt adapter for floor monitoring, and wall/ceiling mount brackets for permanent installations.

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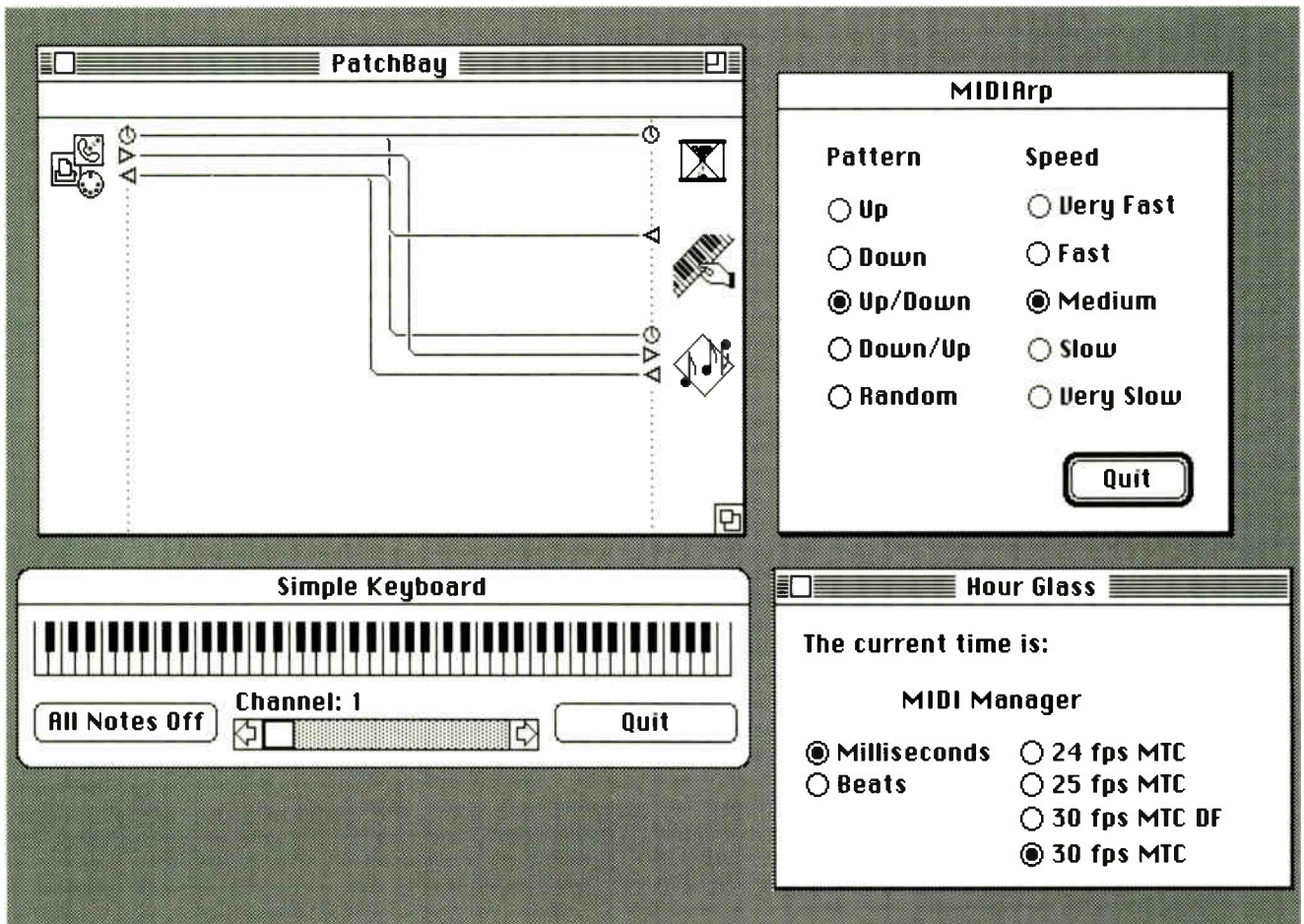


by Craig Anderton

MONDO MACS & MIDI MANAGER

When the Macintosh appeared, musicians who had once been scared of computers found that they could easily navigate their way around the Mac's point-and-click graphic interface. Before too long, software developers

for the rest of us" have come and gone. The hobbyists have moved on to other things, and the people who prospered from the use of modest Macs are now graduating to Apple's next generation of 68020- and 68030-based machines.



obliged this new market with music-related titles. Opcode, Digidesign, Blank Software and others became strong proponents of the Mac. Musicians were buying Macs not necessarily because of the computer, but because of the software you could run on it.

However, the days of 128K of RAM, 20MB hard disks and "the computer

And as you might expect, all that extra power and RAM, coupled with a fairly dependable MultiFinder environment and hard disk cost reductions, have again inspired the software houses to do more. The name of the game in the '90s is integration, with the goal of compatible programs running happily under MultiFinder and exchanging data

as easily as you can say "cut and paste." Which brings us to...

MIDI Manager

MIDI Management Tools, commonly called "MIDI Manager," represents the first inkling of the InterApplications Communications (IAC) architecture Apple has made part of System 7.0. This system revision consists of much more than bug fixes and cosmetic changes; it, as much as the new 68030-based Macs, signals a fundamental change in the Macintosh. Although the price of admission to System 7.0 is 2 megabytes of RAM (and page memory management if you want to do it right), the rewards are considerable: virtual memory that uses a hard disk to extend RAM, 32-bit addressing that accommodates up to 4 gigabytes of RAM, better font handling, and a complete rewrite of the Finder.

IAC, which requires a MultiFinder environment, lets a variety of applications talk to each other. On the simplest level, this manifests itself in Live Copy/Paste, where a document can reflect changes made in another document if needed—you don't have to specifically cut and paste (however, the standard clipboard will still be

supported). A more complex example is the development of links between multiple programs. For example, a link might be established between a word processing program, sequencer and notation program so that changes in lyrics written on the word processor would show up in the notation program, as would any changes you made to a sequence.

The basic premise behind MIDI Manager is simple. Until now, when running several MIDI programs under MultiFinder, each one would "grab" the serial ports in turn as needed, thus locking out other programs from accessing the ports simultaneously. MIDI Manager provides a standard set of driver routines for the serial ports, along with a PatchBay application that routes MIDI and timing data between applications as well as between those applications and the serial ports.

The PatchBay also lets you merge data, or split one output off to several inputs. As a simple example, a sequencer output could go directly to the modem output port and to the input of a MIDI delay program. The delay output could go to the modem

port, or to the printer port if you wanted to drive a different set of MIDI instruments from the delayed data.

The PatchBay itself is anything but complicated. It graphically displays all available MIDI input, output and clock connections. You connect software "patch cords" as required between these points and cut the "cords" when they are no longer needed.

MIDI Manager also takes care of timing. In the previous example, the MIDI delay program's delay time could be synched to the sequencer tempo; or you could sync multiple devices to a master clock, all within the computer. When it comes to sync interaction with the outside world, you can configure the MIDI drivers for MIDI clocks, one of the four favorite SMPTE flavors, or disable the time code output completely if the ports will follow an external source. MIDI Manager is "the great equalizer" for timing data. You want to sync to 30 frame drop? Sure. Going to Europe and you want to sync to 25 frames? Sure. Want to sync all your timing-sensitive MIDI gear to an outboard, external MIDI sequencer? No problem.

The result is that a Macintosh running MIDI Manager becomes, for

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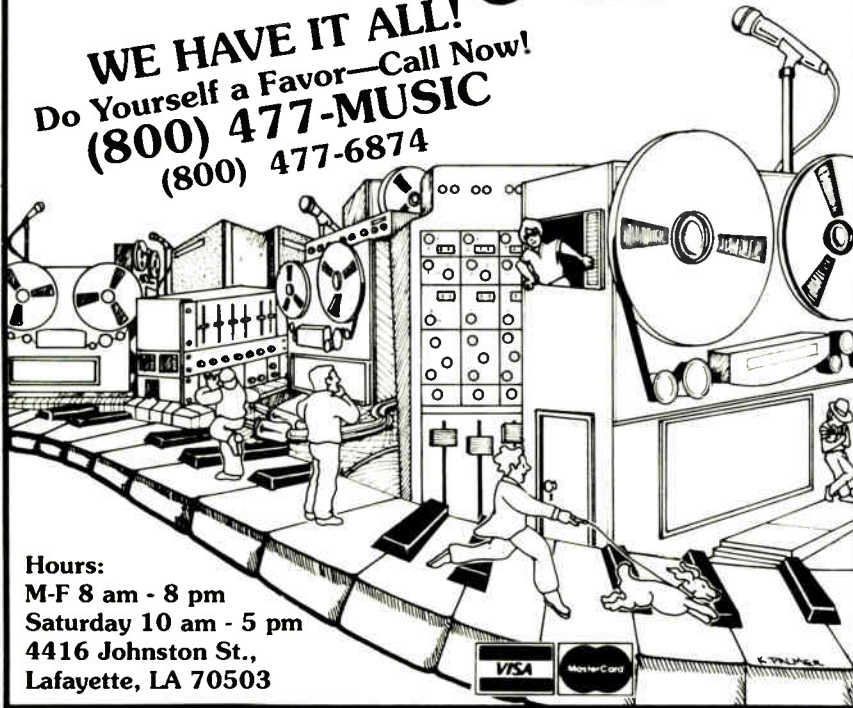
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all practical musical purposes, a multi-tasking machine. The downside, of course, is the hardware that's required. MIDI Manager hogs a lot of processor time (although it is currently undergoing a streamlining process), and 68000-based machines will probably have a hard time keeping up the pace, if in fact they can keep up at all. I suspect that Mac Plus and standard SE owners may find MIDI Manager too slow to merit serious consideration on those systems (my, how soon top of the line becomes the bottom of the heap). Although Apple keeps dropping hints about a lower-priced Mac that can handle System 7.0, we won't know for sure until the hardware hits the streets, nor will we know what Apple means by "lower-priced" (it's not very hard to be lower-priced than a IICI, for example).

MIDI Manager also requires that programs be rewritten for compatibility. While not an arduous task—I've heard stories of programs being made MIDI Manager-compatible in an afternoon—I don't relish upgrading every piece of MIDI software I have. This gets filed under "such is the price of progress"; all we can hope is that upgrades will be forthcoming, and reasonably priced.

Looked at on balance, though, System 7.0 and MIDI Manager send out a strong signal about where the Macintosh is going. It's interesting that musicians are the first to benefit from the new system; the formal introduction of the complete system upgrade is, according to rumor, still some time away. Yet MIDI Manager is here today, as are MIDI Manager-compatible products.

MIDI delivered on the promise of ironing out differences between hardware made by different companies. Continuing in that spirit, MIDI Manager serves as a common ground for Macintosh software programs. In a world of competing formats, we can all be grateful that musicians have found at least somewhat of a safe haven in the spirit of cooperation that MIDI established way back in the early '80s. ■

Craig Anderton currently divides his time between writing books, recording, consulting to musical equipment manufacturers, and giving seminars in the U.S. and Europe.

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ANGELA WINBUSH

A Success on Both Sides of the Board

A glance at Angela Winbush and that stereotypical image of record producers being white men, dressed in leather jackets and sporting designer sunglasses goes sailing out the window. At 34, Winbush is a living example that rules are made to be broken.

In an industry dominated by males, Winbush has successfully risen to the top of the list of in-demand pop music producers. In the past two-and-a-half years, she has produced a remarkable series of chart-topping hits for a wide spectrum of artists, including Sheena Easton, Janet Jackson, the Isley Brothers and Stephanie Mills. In addition,

she completed production chores for two new acts: Body and Layla Hathaway, daughter of the late Donny Hathaway. And if all that isn't enough, she has also found time to write, arrange, record and produce her second solo album, *The Real Thing*, a skilled blend of tough, funky rhythms and beautiful, soaring ballads.

Winbush is a remarkable vocalist with a four-octave range, and the album—already a great success—could well put her in the league of black female singers that includes Aretha Franklin, Gladys Knight and Whitney Houston.

"I think I nailed stuff down better than on the first album," she says. "The first time I think I tried to play it safe. This time I tried to stretch out. With my first album, I think I was under pressure to prove what I could do. This time I had another point to prove: that

I had matured and grown creatively."

Raised in a strict family that insisted she spend a good share of her time singing in the church choir, Winbush says that her interest in music came late in her young adult life. "I had no intention of going into music," she says. "I wanted a career in the business world. I liked entertainment, but I thought it was too flaky and my family thought it was flaky. So I never pursued it."

Winbush enrolled at Howard University (Washington, D.C.) as an architecture major with a concentration in city planning. To help pay for school books and meet expenses, she began singing as a session vocalist in studios nearby. Eventually, the music bug caught her, and 18 months before her graduation, she changed her major to music education.

Although her success as a producer (and solo artist) is relatively recent, Winbush is no stranger to life behind the mixing board. As a longtime member of Stevie Wonder's backing group, Wonderlove, Winbush got a hands-on education in writing and recording from the Master Blaster himself—something she says could not be purchased for any price. "I learned from Stevie Wonder," she says, smiling. "It was a perfect opportunity for me." How she ended up as part of the Wonder team to begin with is a story worth telling:

"After I graduated in 1977, I had a demo tape that I sent to Gary Byrd, a DJ in New York. He played it over the phone to Stevie Wonder, who was a friend of his. Stevie called me the same day he heard it, because he's very spontaneous. He just said, 'Can you come out to L.A. right now?' And I said, 'Yes.' I was very calm when I was talking to him, but when I hung up, me and all my girlfriends started screaming!"

Winbush made the journey to Los Angeles and has lived there ever since. Wonder was so impressed with her vocal and keyboard ability that he immediately made her a member of his band.

"I spent a lot of time in the studio," she says. "He could tell I wanted to do a lot more than just hang around. He would be in the studio behind the

board, and I would just watch him work for hours. Sometimes we'd be in there for 30 or 40 hours, almost straight, day-in and day-out. You know, Stevie Wonder has no disposition about time," she laughs. "Stevie's ear is really sharp. And being blind, he obviously has to have people that help him work the knobs. However, once they show him how to use the stuff, he takes control. If you could ever watch him work this equipment, you would be in shock."

While still a recording and touring member of Wonderlove, Winbush began writing and recording her own material. In 1980 she became part of a duo with singer Rene Moore, called Rene & Angela. By 1982 they had broken through with a series of hit singles from their album *Street Called Desire*, but a few years later they had a falling out as tensions between them exploded and they split up.

Over the next couple of years she honed her writing chops, and in 1987 she got her first real chance to produce. She had written a song for the Isley Brothers, and that led to producing their album *Smooth Sailing*, which became one of their biggest records ever. From that point on her producing, writing and singing careers have been smooth sailing.

"I'm more of a musician's producer because I'm very musical," she says of her role in the studio. "I take the technological side of things and use it to update a sound or whatever, but all in all, I'm more performance-oriented."

Winbush thinks her analytical college background in architecture has helped her grasp the complicated world of recording technology. "My nature is to be precise. I do pay attention to detail and organization, and that all helps." She used to do the majority of her work at Westlake Studio in L.A., but says she now prefers Soundcastle and its SSL board.

In general, she says most of her sessions are very quick. "I usually have an engineer work the board, because I'm very impatient," she says. "I need to get the idea down before I lose it."

Winbush has beaten long odds to become one of the few successful female producers, and she hopes others will follow in her footsteps. "The

thing that I would tell somebody else, whether they're black, white or green, is that when you're a female, you're gonna have to step up and stand up for what it is that you do. You can't be afraid and feel you have to hide behind a male and have to put someone else's name on your work.

"Do your work and be good at your craft, and you're going to have to pay attention to the finer details of production. Don't get lazy. I find that many women are lazy—they just want to come in and sing and have everything set up for them already.

"I didn't have the technical background, but I did have the feel and I learned how to work the board by watching the guys. They would complain and say, 'Hey, don't touch that,' but I told them, 'Hey, I'm paying for the session, I'm allowed to touch that. If I break it, I'll pay for it!'"

She hasn't shelled out a buck yet.
—Bruce Pilato

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John Weider was 19 when, as a member of the second incarnation of The Animals, he co-wrote the song "When I Was Young" with Eric Burdon. Now, with more than 20 years of anecdotes, he could write a *book* with that title.

The years in The Animals alone carry a colorful legacy of madness and mayhem, not to mention the 1966 tour with The Who.

"We were all in the San Francisco airport when Keith Moon went to pat our other guitar player on the head and accidentally pulled off the wig he wore, and a fight started," Weider remembers. "TV crews came and here we were, fighting it out with The Who—there were about 30 of us on the floor. It was pretty serious," he laughs.

"Then there was the infamous time I was sitting in a Rolls Royce with Keith Moon. He drove the Rolls through the doors of the hotel lobby into the swimming pool, and when we got out, Keith said, 'Park the car, please,' and threw the keys to the bellboy."

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Not to mention the time he and The Animals' bass player hung Roger Daltrey on a coat hook on the back of a door while the rest of The Who took their positions onstage.

But pop stardom has its down side, too. "One time I was held out a window in New York by the Mafia," Weider recounts. "Nobody in his right mind would open up the door of a New York hotel room when somebody says, 'We've come to fix your Venetian blinds,' at 3:00 in the morning, but like a stupid idiot, I got up, opened the door and these four guys hung me out a 20-story window by my feet. All of a sudden, one guy said, 'Hey Joe, I think we've got the wrong guy,' and they pulled me back in.

"And then there was the time in Japan where we were only contracted to do one gig a day, but after the first week, the promoter wanted us to do two gigs a day for the same price. We said no way, and he cornered us in the elevator of the hotel with about ten of his bodyguards who had these samurai swords and he said, 'If you don't do two gigs a day, we'll chop your fingers off.' By this time, all our



John Weider

equipment was on its way to Hiroshima. I had, like, four Les Pauls, three Strats and four violins, but we flew to L.A. the next morning. At 7:00 we all piled into a cab and as we were going to the airport, we saw two cars with the promoter and his bodyguards following us, all waving their swords. We rushed into the airport, got to the ticket counter and rushed to the boarding area. They actually ran through the boarding area, following us, and the police stopped them. We arrived back in L.A. the next day, but we lost all

that equipment, thousands and thousands of dollars' worth."

Somehow, though, the music always meant more than the trappings to Weider, and his composition of instrumental music emerged during that time and continued throughout his five albums of work with Family. Due to his early classical training on violin and guitar at the Royal College of Music, that side of him became his passion and his pride, even though his professional career began on the "Not Fade Away" session for the Rolling Stones, and he co-wrote such songs as "Monterey," "Sky Pilot," "San Franciscan Nights" and five albums' worth of pop material with Burdon. He also had an instrumental piece on every Animals album where he had a contribution.

After working with Family and Spud, an instrumental fusion band, he came to live in L.A. in 1976. A band called Gulliver came to an abrupt end when the lead singer died of a brain hemorrhage. Weider went on tour with Greg Sutton and then became road-weary.

"In '81 I got off the road and realized it was time for me to really explore my inner self," he says, "and find out

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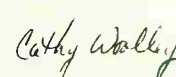
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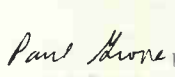
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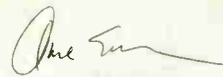
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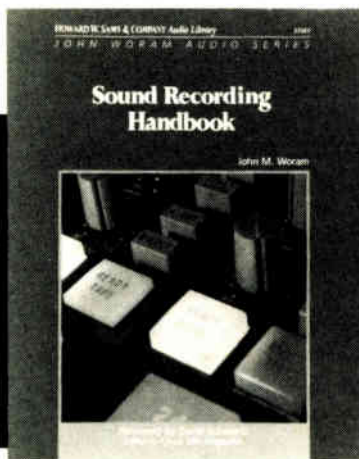
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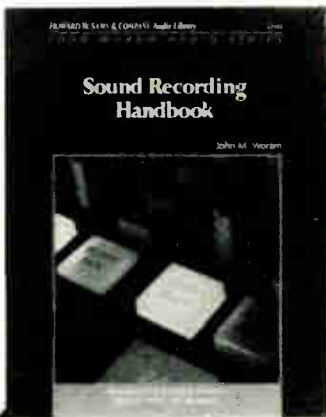
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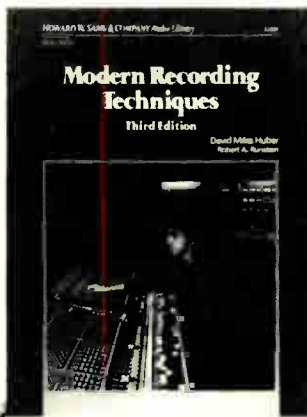
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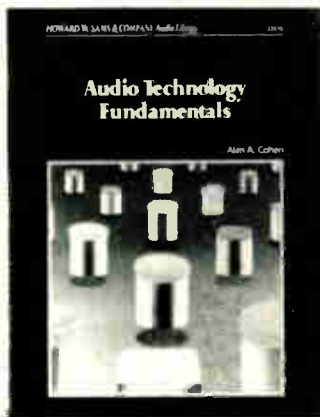
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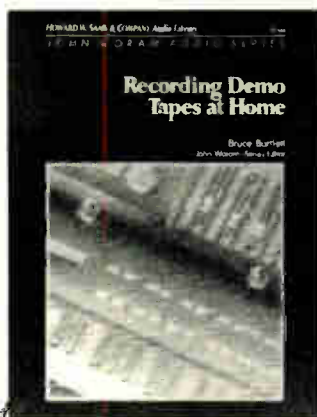
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Mix's databases and other credible sources. Reveals important trends in revenue sources and features details on studio operations, past acquisitions, equipment in studios and purchase plans. 25-page supplement to November 1989 *Mix* magazine. *Bookshelf Special Offer: \$5.00*

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✓ **1009C) MASTER COURSE FOR THE RECORDING ENGINEER** *Audio Institute of America, Peter Miller, ed.* • A well-rounded music industry curriculum that doesn't just stop at the final mix and does much to duplicate and augment the hands-on experience students need. The series of 25 big lessons are rich in detail, but presented in a gradual style so you don't get overwhelmed by the technology. The text is supplemented by audio examples on cassette, plus suggestions for related practical experiments and research projects.

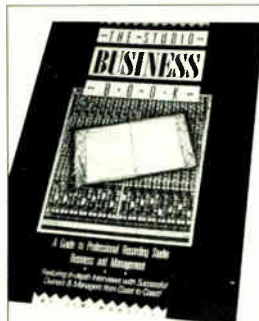
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✓ **1019-44) Shaping Your Sound with Mixers & Mixing (with workbook) Pro Edition**, VHS or Beta, \$119.00 ①

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- Experience the elements that make up reverb and learn to choose the ones that enhance your sound.
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- Tom builds a song, step by step, taking you through the recording and overdubbing process. Every nuance is carefully explained and demonstrated, putting you in charge of your recorder.
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on mic technique, console operations, tape recorder alignment and building your own studio. The expansive scope also includes lessons on the nature of sound, fundamentals of music theory, job hunting in the recording industry, the mastering and manufacturing process for LP and CD, and the business realities of releasing records.

Students can send the five completed examinations to the Audio Institute of America for grading; the Institute (established 1972) grants diplomas upon successful completion of the course. Includes console training poster, track sheets, session calendars, glossary of recording terminology, a reel of 1/4" tape, leader and splicing kit, six 60-minute audio cassettes and a 500-page manual in a 3-ring binder. ©1988, \$358.00

4

1010D) PRACTICAL TECHNIQUES FOR THE RECORDING ENGINEER *Sherman Keene* • This classic text on the art and science of recording is the cornerstone of an excellent correspondence course (see tapes and workbook below) and also can stand on its own as a down-to-earth reference book for the working engineer. The accent is on practical techniques for real-life situations. A required text for recording arts programs around the world, along with the Sound Engineer Self-Study Course, listed below. Revised edition scheduled for autumn release. ©1981, 248 pp. (P) \$28.95

1011D) PRACTICAL TECHNIQUES FOR THE RECORDING ENGINEER, Workbook/Supplement *Sherman Keene* • Provides additional reading, covering more conventional knowledge, and features probing review questions to expand the

student's understanding. Available only when ordering self-study courses (1012D, 1013D or 1014D). ©1985, 164 pp. (P) \$16.50

SOUND ENGINEER SELF-STUDY COURSE *Sherman Keene* • This instructional audio tape series is based on the Sherman Keene sound engineer curriculum and materials (items 1010D and 1011D), as used in his correspondence course and internationally respected seminars. The complete course has three levels (basic, intermediate and advanced), and each includes 12 60-minute cassettes (eight are lectures and four discuss review questions and answers from the Workbook/Supplement).

1012D) BASIC LESSONS • Operating Procedures 1, Microphones 1, Instruments 1, Console Parts and Functions, Basic Audio Theory, Basic Types of Console Operation, Operating Procedures 2, Tape Machines 1. 12 60-minute cassettes. ©1987, \$99.99 4

1013D) INTERMEDIATE LESSONS • Acoustics 1, Console Symbols for Diagrams, Operating Procedures 3, Musical Terminology, Intermediate Audio Theory, Tape Machines 2, Operating Procedures 4, Acoustics 2. 12 60-minute cassettes. ©1987, \$99.99 4

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Takes you through the mathematics, construction, and trial-and-error stages of acoustical room design. Presents 12 tested plans for budget studios suited for efficient multitrack audio, radio, TV and film sound production. Features new information on RPG diffusers, tube traps, sound absorption coefficients of building materials, comprehensive listing of acoustical material manufacturers and complete index. ©1988, 295 pp. (P) \$14.95

1340C) MASTER HANDBOOK OF ACOUSTICS, 2nd Ed. *F. Alton Everest* • The new version of this excellent sourcebook is an up-to-date exploration of acoustics, sound reproduction, transmission and reception. Includes detail on hearing, room-testing, speaker-balancing, and setting up a home listening room or a studio control room. Features new material on diffraction-gratings, the Tecron TEF® analyzer and digital recording. ©1989, 366 pp. (P) \$18.95

1330C) ACOUSTIC TECHNIQUES FOR HOME AND STUDIO, 2nd Ed. *F. Alton Everest* • A good resource for soundproofing projects! Approaches environmental acoustic design from a practical, rather than mathematical, viewpoint, with emphasis on the fidelity of sound reproduction and the design of small recording studios. Includes vital info on principles of acoustics, human hearing, room resonance, diffusion of sound and absorption properties of acoustical materials. ©1984, 344 pp. (P) \$18.95

1300C) BUILDING A RECORDING STUDIO, 4th Ed. *Jeff Cooper* • A step-by-step guide to recording studio construction for small or large budgets, by one of the most respected experts in the business. Plenty of soundproofing coverage, plus chapters on design considerations for the studio and control room. With a glossary of the 100 most misunderstood terms in acoustics. ©1984, 209 pp. (P) \$30.00

✓ **1335E) DETAILING FOR ACOUSTICS, 2nd Ed.** *Lord & Templeton* • This unique book for architects and studio designers is a compendium of construction details, drawn to scale and complete with specs, showing materials and construction procedures for sound separation, isolation and ambience. ©1986, 205 pp. (P) \$29.95

✓ **1337E) ACOUSTIC DESIGN** *Templeton & Saunders* • Provides an analytical look at the properties of sound, how sound behaves in buildings, noise control and design considerations. Includes all the basic acoustic formulas, a detailed chart of absorption coefficients for various building materials and a table of sound reduction indices for different elements of structure. Excellent resource for architects and interior designers. ©1987, 152 pp. (H) \$36.95

✓ **1336E) THE ARCHITECTURE OF SOUND Designing Places of Assembly** *Lord & Templeton* • An architect's look at the acoustic demands of designing concert halls, theaters and other buildings. Methodically examines design considerations for 18 types of buildings, then provides 35 detailed case studies on some of the best-sounding rooms in the world. The emphasis is on the acoustics of auditoriums; includes dozens of photos, blueprints and diagrams, plus glossary and index. ©1986, 300 pp. (H) \$68.95

✓ **1338C) THE MUSICIAN'S GUIDE TO ACOUSTICS** *Campbell & Greated* • Excellent introductory chapters on the human ear, the characteristics of musical note events and the evolution of tuning systems pave the way to the heart of the book: detailed analysis of the physical characteristics and sound-generating properties of every instrument in the orchestra, including the human voice. A little elementary math and the ability to understand music notation are presumed in this exciting exploration of the physics of music. ©1987, 613 pp. (H) \$24.95

✓ **1339E) ACOUSTICS SOURCE BOOK** *Sybil Parker, ed.* • A far-reaching scientific reference covering the whole world of sound, from the physiology of human speech and hearing to fields like acoustical holography and quantum acoustics. Diverse, encyclopedic and provocative, this handbook imparts vital theory and for-

mulas, while staying comprehensible to casual readers. Features sections on transducers, reproduction, acoustic control and the physics of sound. ©1987, 333 pp. (H) \$35.00 ■

HOME RECORDING

✓ **1080C) RECORDING DEMO TAPES AT HOME** *Bruce Bartlett* • Our newest title on home recording takes you shopping for gear, helps you set it up, teaches miking, recording and mixing, and advises on judging sound quality. Bartlett systematically shows you how to do everything the simplest and cheapest way possible, then clearly explains each increasing level of complexity. Includes 23-page glossary, list of reference sources, index. ©1989, 287 pp. (P) \$19.95

1059C) THE MUSICIAN'S GUIDE TO HOME RECORDING *Mclan & Wichman* • Our recommendation for a contemporary, comprehensive home studio textbook. Specific techniques for tracking drums, guitars, keyboards and vocals are discussed in the context of current gear and today's sound. Features a special chapter on Portastudios. Includes glossary and index. ©1988, 313 pp. (P) \$19.95

⇨ **GO TO** item 5111D, Demo Production seminar, for recording tips from Peter Mclan, page 24.

1064C) MULTI-TRACK RECORDING FOR MUSICIANS *Brent Hurtig* • Outlines the fundamentals of audio production in a clear manner aimed at helping musicians come to grips with studio technology. Emphasis here is on the basics—features and operation of common studio gear—along with proper session procedures. Concise, user-friendly and profusely illustrated. ©1988, 135 pp. (P) \$17.95

1090C) INTRODUCTION TO PROFESSIONAL RECORDING TECHNIQUES *Bruce Bartlett* • This excellent general guide is geared toward the audio hobbyist or aspir-

ing professional who would like a detailed description of studio and location production techniques. It includes special coverage of microphone applications, sampling, sequencing and MIDI. Features practical discussions on monitoring, special effects, hum prevention and spoken-word recording, as well as special sections on recognition and troubleshooting of poor sound. ©1987, 397 pp. (P) \$24.95

1060C) HOME RECORDING FOR MUSICIANS *Craig Anderton* • Simply the classic text on the subject—both educational and inspiring! It emphasizes practical knowledge, techniques and tips for making clean, quality demos at home. Also includes information on audio theory, acoustics and equipment. Features complete plans and instructions for building your own mixing board. ©1978, 182 pp. (P) \$15.95

1062C) PERSONAL RECORDING *Yamaha Music Foundation* • Both a general introduction to multitrack recording and a guide to the use of Yamaha equipment, with a focus on the MT1X and MT2X multitrack recorders. ©1987, 70 pp. (P) \$10.95

✓ **1439E) CREATIVE RECORDING Effects and Processors** *Paul White* • This new, condensed guide to knob-tweaking looks at the sound-shaping potential of consoles and outboard gear. Covers mixers, enhancers, compressors and limiters, gates and expanders, delay,

reverb and pitch shift, with an eye toward applications and results. ©1989, 100 pp. (P) \$17.95

PA391D) RECORDING, SYNCHING AND SYNTHS For Home and Studio Recording *Goldfield, Griffey & Ryebner* • Recording, with an emphasis on electronic music, approached in sections. The authors discuss mixers, tape machines, outboard gear, hookups and session procedures. A tone sync tutorial leads to a discussion of recording problems related to various categories of electronic instruments. ©1988, 87 pp. (Spiral) \$17.95

⇨ **GO TO** our listing of MIDI Books, page 14, for information on setting up and using a MIDI home studio.

PA341D) HOW TO DO A DEMO-QUALITY RECORDING IN YOUR BEDROOM *Paul Goldfield* • Shows you, step by step, how to set up and use tape decks, mixers, mics, outboard gear and monitors. Includes chapters on studio design and recording and mixing techniques. ©1988, 119 pp. (Spiral) \$19.95

✓ **1069C) HOW TO SURVIVE YOUR FIRST RECORDING SESSION What Every Performer Should Know Before Booking Studio Time** *T.J. Wilkins* • Ready for the next step? Learn how to hire a professional studio and use the time to your advantage. Know what to expect, how to select a studio, and ways to prepare for sessions. ©1989, 74 pp. (P) \$8.95

✓ **1005C) NEW EARS: A Guide to Education in Audio and the Recording Sciences** *Mark Drews* • More than 80 profiles of schools and programs for audio engineering. Also includes lists of audio publishers and dealers, industry associations and journals. Especially recommended for high school seniors and guidance counselors. ©1989, 208 pp. (P) \$9.95

✓ **4002B) HOW TO SET UP YOUR OWN HOME RECORDING STUDIO** *John Foley* • Planning a home studio? This video shows the kind of equipment you'll need, what it's going to cost, how to set it up, and how to keep the budget down and still get a decent sound. Covers multitrack recorders, mixers, stereo mastering recorders, digital delays, patch bays, microphones, headphone systems, layout and design. Despite its limited production values, this video is a great investment before you plunk down serious money. VHS only, 120 minutes, \$49.95 V

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⇨ **GO TO** our Guitar listings for *GIG's* tape on *Effective Effects*, 5375D, page 21.

✓ **5376D) HOME RECORDING TIPS** • For anybody with a 4-track to a 24-track. Covers mic placement, equalization, compression, acoustic drums, drum machines, guitars and vocals. 60 minutes, \$10.95 A

✓ **5377D) DIGITAL REVERB** • Whether you have an Alesis Microverb or a Lexicon PCM70, this cassette will lead you through the various parameters found on reverb units and show you how to vary them for stage and studio use. 60 minutes, \$10.95 A

✓ **5378D) MULTI-TRACK MIX-DOWN** • Topics: laying down the drums, placing instruments in the stereo spectrum, making room for lead and background vocals, layering reverbs and the final touches. 60 minutes, \$10.95 A ■

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5170D) FINDING THE RIGHT RHYTHM SETTING FOR YOUR SONG *David Cohen* • Professional writer/arranger/teacher David "Cat" Cohen shows how to build effective rhythm tracks with drum machines and synthesizers. ©1986, 90 minutes, \$10.00 A

5350D) RECORD PRODUCTION *Peter Bunetta* • Hear a Grammy Award-winning producer give advice on how to create a working environment, how to use keys, tempos and arrangement to achieve a certain "texture," and how to build from a demo to a master. ©1987, 90 minutes, \$10.00 A

LIVE SOUND

✓ **1405C) SOUND REINFORCEMENT HANDBOOK, 2nd Ed.** *Davis & Jones* • The definitive guide to live sound is back in a new, enlarged, second edition. Systematically examines every aspect involved in reinforcement work, from current and cables to speaker placement and room equalization. Features safety tips, troubleshooting and repair hints, extensive discussion of applications, and plenty of pointers on getting the best sound. Plain-English explanations, practical examples and thorough illustrations and diagrams make this manual comprehensible to laymen, yet it has enough depth to satisfy the most seasoned reinforcement workers. ©1989, 417 pp. (P) \$34.95

1400C) SOUND SYSTEM ENGINEERING, 2nd Ed. *Don & Carolyn Davis* • This scholarly text focuses on the problems that may occur in a sound system as it evolves through design, installation, equalization, operation and maintenance. The authors cover the functional parameters of loudspeaker arrays, design of the power amplifier system, component testing for individual and system operation, and functional constraints and acoustic requirements. ©1987, 665 pp. (H) \$49.95

1410C) PRACTICAL GUIDE FOR CONCERT SOUND *Bob Heil* • Covers the fundamentals of pro sound reinforcement, efficient speaker enclosures, mixers and equalizers, digital delays, compressors, limiters, microphones, hardware and construction tips. A classic beginner's guide. ©1985, 128 pp. (P) \$10.00

1415C) SUCCESSFUL SOUND SYSTEM OPERATION *F. Alton Everest* • Provides background information on the physical nature of sound, electricity and electronics. With tips on troubleshooting and repairing audio equipment, detailed information on noise reduction, room acoustics and sound equalization, and more. ©1985, 321 pp. (P) \$18.95

1422D) SOUND SHOP SEMINAR PACKAGE *Jim McCandliss* • This manual and cassette course

guides the non-technician through the maze of audio equipment and applications. Originally developed for the "church sound" market, the series stresses the basics of sound system design, installation, operation and troubleshooting. Six 90-minute cassettes and 3-ring manual. ©1984, \$89.95 **A**

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1417D) CONCERT SOUND AND LIGHTING SYSTEMS *John Vasey* • The first comprehensive guide to procedure for touring concert systems. Details setup, maintenance and operation of sound and light systems, with descriptions of all components and how they work together. Makes an excellent road manager's reference and is the perfect tool for training a new road crew. ©1989, 178 pp. (H) \$24.95

1997B) 3M MODEL 6300 EAR PROTECTORS • Can provide up to 45 dB of attenuation. They are packaged in pairs and sealed in sanitary polybags for one-time use only. 10 pairs/\$6.00
1998B) 20 pairs/\$10.00

✓ **4379D) SUCCESSFUL SOUND REINFORCEMENT: How to Run Your P.A. Systems; Setup, Sound Check, Live Mix** *from GIG magazine* • This video, currently in production, is sure to be the answer for many sound technicians who want to augment their own experience by watching a professional set up and operate his equipment. 60 minutes, \$39.95 **V**

➔ **GO TO** page 23 for item 3007C, *Note By Note*, a guide to producing and promoting concerts.

➔ **GO TO** *Sound Recording Practice*, item 1051D, page 4, for details on mobile recording procedure. ■

AUDIO FOR VIDEO & FILM

✓ **2018D) SOUND TECHNIQUES FOR VIDEO & TV, 2nd Ed.** *Glyn Alkin* • Excellent new title covers both the fundamentals and the cutting-edge in audio-for-video production. Includes up-to-date discussion of signal processing, noise reduction, digital audio and PCM adapters, but it's the thorough explanation of mic techniques (including ways to mike each instrument of an orchestra, big band or rock group) that makes this reference so valuable. Includes glossary. ©1989, 240 pp. (P) \$19.95

✓ **1537D) AUDIO CONTROL HANDBOOK, 6th Ed.** *Robert Oringel* • This popular guide to sound operations for broadcast is back in a new, updated edition. The emphasis is on hardware, with thorough discussions of boards, mics, processors and tape decks, covering features and functions of low-end to high-end gear. Includes chapters on control room and field production procedures; abundantly illustrated. ©1989, 294 pp. (P) \$24.95

1533C) AUDIO PRODUCTION TECHNIQUES FOR VIDEO *David Miles Huber* • Outlines modern audio production and post-production techniques for video. Covers the use of time code, electronic editing, digital audio, multitrack audio and live stereo broadcast. The text is not obscured by technical jargon and is recommended for the professional without a strong technical background. ©1987, 356 pp. (P) \$29.95

2183D) TIME CODE HANDBOOK *Cipher Digital, Inc.* • This excellent manual defines and demonstrates the applications of SMPTE/EBU time code. Excellent bit-by-bit explanation of the information conveyed by time code. Covers uses for production and post-production. Includes appendices and 11 illustrations. ©1987, 128 pp. (P) \$12.95

✓ **1555D) STEREO SOUND FOR TELEVISION** *Francis Rumsey* • Get a clear understanding of the technical and aesthetic aspects of this advancing technology with Rumsey's concise, new manual. The

discussion of perception and psychoacoustics, mic techniques, broadcast equipment, distribution systems and transmission systems places strong emphasis on digital technology. Includes glossary and index. ©1989, 103 pp. (P) \$24.95

1550C) AM STEREO AND TV STEREO—NEW SOUND DIMENSIONS *Stan Prentiss* • This book provides an in-depth look at the new sound in AM radio and TV broadcasting, with much-needed advice on equipment availability and operation. Provides insight into FCC legal and electrical regulations and new equipment specifications for broadcasters and consumers. ©1985, 184 pp. (P) \$12.95

✓ **3190D) SCORING FOR FILMS** *Updated Ed. Earle Hagen* • The newest revision of this classic text provides an excellent orientation to the problems and possibilities of composing for films. Specifically addresses mechanics and vocabulary of scoring, psychology of creating music for this medium, and the split responsibilities of the composer and the editor. Includes a compact disc containing musical examples from the book. ©1989, 254 pp. (P) \$39.95

✓ **3196C) ON THE TRACK: A GUIDE TO CONTEMPORARY FILM SCORING** *Karlin & Wright* • A comprehensive and practical manual detailing the prevailing techniques in the art and craft of film scoring. Dozens of interviews and more than 150 films (filmography included) exemplify all aspects of the working environments. Additional review questions, budget worksheets and a complete click book make this text indispensable to film composers or anyone involved in filmmaking. Glossary included. ©1989, 880 pp. (H) \$49.95

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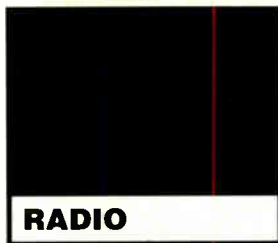
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AUDIO REFERENCES

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HL17C) CASIO FZ-1/FZ-10M SET-UPS Terry Fryer • ©1988, 38 pp. (Spiral) \$9.95

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HL18C) ROLAND S-50 SET-UPS *Terry Fryer* • ©1989, 31 pp. (Spiral) \$9.95

➔ **GO TO** item 3616C *A Synthesist's Guide To Acoustic Instruments*, on page 16 for details on sampling 25 instruments. ■

DRUMS & PERCUSSION

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✓ **3690C) THE ELECTRONIC DRUMMER** *Norman Weinberg* • A friendly guide to the future, for drummers only. Learn to creatively program any drum machine, explore the options for adding electronic pads or triggers to your present kit, and discover what synths, MIDI and computers can do for percussionists. Features complete plans for six drum-based MIDI studios, with plenty of budget-minded advice. ©1989, 76 pp. (P) \$9.95

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➔ **GO TO** the Synthesizer section to find *Drum Pattern Handbooks* for the percussion voices on the Ensoniq SQ-80, Korg M1 and Roland D-10/20. ■

GUITARS & BASS

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➔ **GO TO** the Casio Synthesizers Section for item 3622C, *Power Play VZ1*, for coverage of Casio's PG-380 synth guitar, page 16.

✓ **PA414D) KORG A-3 PATCH-BOOK** *Mattland Ward* • Patch sheets for 52 new sounds, with tips on plugging them in and tweaking them. ©1989, 105 pp. (Spiral) \$18.95

✓ **3569C) MIDI FOR GUITARISTS** *Ward & Cutler* • This new guide to the guitar-MIDI connection is a great "quick reference." Features sections on MIDI modes, faster

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guide to electronic guitar gadgets shows how to buy, fix and get the most out of them. It teaches how to thoroughly evaluate all effects on a mechanical, electronic and sonic basis. ©1983, 192 pp. (P) \$14.95

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➔ **GO TO** the Private Lessons section to find Carol Kaye's excellent videotape on bass playing and other tapes of guitar instruction from the pros.

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—continued on page 25

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SONGWRITER SUPPORT ON AUDIO CASSETTE

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✓ **5101D) JINGLES: Making Music That Sells** • Major jingle writers Jeff Koz and Richard Leiter give you a valuable look at the world of ad execs, deadlines and the high stakes of creating music for commercials, and they tell you how it's done. Their clients include Ford, CBS and Disney. 45 minutes, \$12.50 **A**

✓ **5102D) THE GROOVE THAT MAKES YOU MOVE** • Learn how to build a groove for any style, from writer/arranger/producer John Wilson. From soft ballads to up-tempo dance tunes, involving the listener's body in your music gives it a definite communication advantage. 90 minutes, \$12.50 **A**

✓ **5103D) A CONTEMPORARY APPROACH TO CAREER ADVANCEMENT** • Michael Dolan, publisher/executive editor of *Music Connection* magazine, conducts an in-depth investigation into what it takes to move ahead in your music-business career. The primary focus is on the areas of making connections, advanced communication skills and taking critical career action. 60 minutes, \$12.50 **A**

✓ **5105D) EFFECTIVE MELODY WRITING** • What makes the difference between an ordinary melody and one that is fresh, exciting and magical? Songwriter/producer Jai Josefs, author of the book *Writing Music for Hit Songs* (item 3210C), explores this question, using both current hits and pop classics as examples. 45 minutes, \$12.50 **A**

✓ **5106D) MARKETING YOURSELF AND YOUR SONGS** • John Braheny, author of *The Craft and Business of Songwriting* (item 3301C), tells you what you need to know about publishers, producers and A&R reps, researching recording projects, getting through the doors, query letters, presenting your demo tape and much more. 90 minutes, \$12.50 **A**

✓ **5107D) SELLING YOUR BEST PRODUCT: YOURSELF** • On your first call to a music business contact, do you freeze up? Are you intimidated? If you need improvement in the art of selling yourself, check this one out. Jay Sargeant is a leader in developing new technologies in the art and science of persuasion. He's taught hundreds of groups, from real estate agents to actors. 60 minutes, \$12.50 **A**

✓ **5108D) PROTECT YOURSELF AND YOUR SONGS** • Get a protective armor of basic legal information every songwriter should know from entertainment attorney Kent Klavins, former board chairman of the National Academy of Songwriters. He covers copyright questions, collaboration problems and basic points of single-song contracts. 45 minutes, \$12.50 **A**

✓ **5109D) NARAS PRESENTS: FINDING AND NEGOTIATING A RECORD DEAL** • How to shop tapes, who to shop to, what terms to negotiate, what the record company wants. These subjects and more are discussed by this prominent panel of L.A. heavyweights. 90 minutes, \$12.50 **A**

✓ **5111D) DEMO PRODUCTION** • Hit producer (Men at Work, Mr. Mister) and author of *The Musician's Guide To Home Recording* (item 1059C) Peter McLean gives you a full session of great production tips. 90 minutes, \$12.50 **A**

✓ **5112D) PUBLISHERS: HOW THEY CAN HELP YOUR CAREER** • Music publishers provide a variety of services that are valuable to you at any point in your career. What are those services? How do you know when you need them? What do publishers look for in writers? The head of Michael Jackson's ATV Music, the director of publishing at Geffen Music and two other directors give great examples and advice for the aspiring songwriter. 60 minutes, \$12.50 **A**

5110D) NEGOTIATING SINGLE SONG CONTRACTS • Entertainment attorney Neville Johnson covers performance and mechanical income, "free goods" clauses, "controlled composition" clauses, synchronization income, print income, advances, reversion, administration fees, division of royalties between co-writers and more. 45 minutes, \$12.50 **A**

5120D) RAISING MONEY FOR MUSIC PROJECTS • Musician, personal manager and financial consultant Roger North covers many topics: knowing yourself and the project, confirming validity of a project, setting goals, budgets, getting investors, your requirements from partners, and the actual deal. 90 minutes, \$12.50 **A**

5130D) A&R: WHAT IT IS—WHAT IT ISN'T • Neil Portnow, VP of A&R for EMI/America Records, provides an in-depth study of how record company A&R departments operate, getting your foot in the door, the importance of a video, what he looks for in a tape, getting songs to an artist on the label, the artist/producer hookup, the importance of a club following, getting started in A&R and more. 45 minutes, \$12.50 **A**

5140D) LEGAL FREE FOR ALL • Prominent entertainment attorney Al Schlesinger discusses copyright renewal, collection of mechanical royalties, translation of hit songs into foreign languages, reversion of copyrights, publishing rights, when not to sue, how to choose a lawyer, copyrighting your songs, how to prove ownership of your songs, and infringement. 50 minutes, \$12.50 **A**

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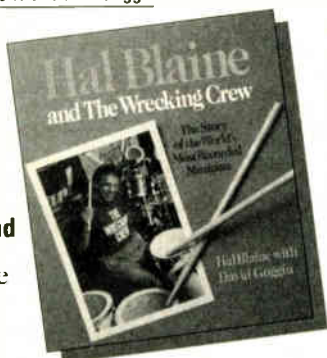
by Hal Blaine with David Goggin

"Hal Blaine set the standard for creative and inventive drum sounds in the '60s."
Herb Alpert

"Hal Blaine is an original."
Neil Diamond

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Ringo Starr

"In the formative years of the L.A. music scene, Hal Blaine and hits were synonymous."
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chicken pickin', false harmonics, double-note bends, rapid-fire picking, rockabilly, "claw" style, volume swells and other techniques. 60 minutes, \$49.95 ①

4202D) SLIDE GUITAR *Arlen Roth* • Learn proper slide technique, "box" patterns, blues, country and rock styles in open E and G tunings, standard-tuning slide, crucial right- and left-hand damping, slide-tilting, hammer-ons, pull-offs, harmonics, vibrato and the styles of Duane Allman, Elmore James, Robert Johnson and Muddy Waters. This is the definitive study on slide guitar. 60 minutes, \$49.95 ①

4204D) CHICAGO BLUES GUITAR *Arlen Roth* • Excellent tape for the intermediate to advanced player covers blues string-bending, vibrato, improvisational skills, rhythm work, ninth-chord licks, the styles of B.B. King, Buddy Guy, Otis Rush, Eric Clapton and Mike Bloomfield, and countless blues licks and scales. 60 minutes, \$49.95 ①

4203D) ADVANCED ROCK AND LEAD GUITAR *Arlen Roth* • Shows with pinpoint accuracy and detail how to play chromatic-style rock leads, volume control effects, advanced single- and double-note bends, Roth's unique harmonic hammer-ons, advanced scales, tricks and countless licks. 60 minutes, \$49.95 ①

4126D) VINNIE MOORE, Speed, Accuracy and Articulation • Learn incredible left-hand hammer-on and pull-off exercises, chromatic runs, advanced triplet-picking on all strings, three-string licks and explorative classical triplets. A section is devoted to the various modes and their uses in improvisation. 60 minutes, \$49.95 ①

4210D) VINNIE MOORE ADVANCED LEAD GUITAR TECHNIQUES • Moore teaches left- and right-hand exercises for speed and accuracy, substitution scales, theory, playing scales in seconds, thirds, etc. Also includes advanced "pivoting" licks and exercises, the classical violin-like technique and arpeggio "sweeps." You'll learn to build triplet patterns, advanced chromatic exercises and much more. 60 minutes, \$49.95 ①

4124D) FRANK GAMBALE, Monster Licks and Speed Picking • The title says it all, as Gambale demonstrates his incredible technique and shows you how to use it in various scales and modes. He explains how to create shapes and picking patterns to get around the fretboard with lightning speed. For the intermediate/advanced player. 60 minutes, \$39.95 ①

4107D) ADRIAN BELEW, ELECTRONIC GUITAR • Learn to make your guitar sound like seagulls, rhinos or a big electric cat, with just a few common stomp boxes. The former King Crimson and Frank Zappa guitarist also covers alternate tunings and creative solo techniques. Unique, practical and recommended for the adventurous. 60 minutes, \$39.95 ①

4305D) ALBERT LEE, COUNTRY SUPER PICKER • Lee has been a session player for such stars as Eric Clapton, Emmylou Harris, Willie Nelson, Jerry Lee Lewis and Ricky Skaggs. He leads the student step-by-step through an assortment of his hottest licks, leads and techniques. Learn, flowing double-stops, speedy scale runs, slick chicken pickin' and much more. 40 minutes, \$44.95 ①

4301D) STEVE LUKATHER • This premier session player takes you through an assortment of his hottest licks and solos from such hits as "Rosanna," "Carmen," "Hold the Line," "Lovers in the Night," "Break Down Dead Ahead" and many more. Also gives valuable tips on equipment, soloing, effects, etc. 35 minutes, \$44.95 ①

4309D) RICK EMMETT • Addresses the basics of guitar, including tuning methods, simple fingerpicking, open and barre chords, rhythm patterns, scale forms and fingering. Emmett then goes on to a more detailed analysis of hard rock techniques, pull-off arpeggios, double-hand techniques, vibrato bar phrasing and legato scales. Highly recommended for beginning to intermediate players. 120 minutes, \$44.95 ①

4302D) LARRY CARLTON, SURE-FINGERED GUITARIST • Voted NARAS' "Most Valuable Player" for three consecutive years and winner of a Grammy Award for "Best

Pop Instrumental Performance." Carlton is truly a master of pop, rock and jazz music. On this tape he not only teaches technique, but imparts his attitude about playing, including self-editing and playing with taste and restraint. 40 minutes, \$44.95 ①

4211D) JOE PASS SOLO JAZZ GUITAR • Learn the best of Joe Pass, including chord melody, chord substitutions, leading tones, chromatic chords, voice movements and common tones. Learn to work within close voices and turnarounds, add substitution to your melodic playing, and create walking bass lines over chords with comping. Also, special licks, lines vs. scales. 60 minutes, \$49.95 ①

4103D) JOHN SCOFIELD, ON IMPROVISATION • Gifted jazz guitarist and Miles Davis sideman covers such topics as the use of 17 major modes and scales, chromatics, passing tones, melodic devices and picking techniques. A wealth of information. 60 minutes, \$39.95 ①

4401D) JAZZ GUITAR IMPROVISATION *Barney Kessel* • Tape and booklet feature ten lessons from Billie Holiday sideman Kessel on playing what you hear, fills, turnarounds, the building blocks of improvisation and, of course, the blues. It is the perfect formula for the beginning improviser. 90 minutes, \$69.95 ①

4402D) JAZZ GUITAR IMPROVISATION, PROGRESSIVE CONCEPTS, *Barney Kessel* • Chord formations and sequence playing in six thoughtfully prepared lessons. Ideal for the intermediate to advanced guitarist who requires thorough concepts and ideas to work with. Includes a comprehensive booklet. Practice tracks and musical examples feature Kessel, with Dave Young on string bass. 53 minutes, \$49.95 ①

4403D) JAZZ GUITAR IMPROVISATION, CHORD-MELODY STYLE *Barney Kessel* • Seven lessons of clear and precise instruction on developing ways to harmonize a melody, aimed at developing your own original harmonic style and improvisational skills. Comes with a detailed booklet for in-depth study. Practice tracks and musical examples feature Kessel, with Dave Young on string bass. 53 minutes, \$49.95 ①

✓ 4006D) BILLY SHEEHAN ON BASS • Rock legend Sheehan offers practical tips and honest encouragement to developing players, with an emphasis on playing harder, faster and louder. Covers "two-fingered" hammer-ons, anchoring the right hand for better attack and control, several strength and dexterity exercises, and much more. His quick sense of humor and healthy disregard for music theory and classical technique make this video especially enjoyable. 83 minutes, \$49.95 ①

✓ 4214D) JERRY JEMMOTT: Bass Master Class • Learn tasty bass riffs from the bassist for B.B. King, Aretha Franklin, Wilson Pickett and other legends. Jemmott is the master of creating a simple, solid groove and using various "fills" and "pickups" to sustain the hypnotic bass line throughout a song. The interview format reveals his philosophies and advice on creating your own musical vocabulary. Booklet included. 60 minutes, \$49.95 ①

✓ 4008D) JOHN PATITUCCI ELECTRIC BASS • A complete guide to grooving in 15 styles, including funk, samba, jazz, reggae, Latin, shuffle, rock and baion. With Dave Weckl on drums, Patitucci demonstrates each style and discusses major influences and variations on each groove. Includes many tips on proper left- and right-hand techniques, plus a number of unique exercises. 85 minutes, \$49.95 ①

4010D) CAROL KAYE'S ELECTRIC BASS COURSE • Carol Kaye, legendary studio bassist with an amazing track record of hits, provides an easy-to-follow, logical program of simple starting techniques, tips on practicing, and a "how to create" formula. Includes easy pop-jazz theory for interested rock and jazz pros and a step-by-step guidance program with more than 90 exercises in all styles. 120 minutes, \$59.95 ①

4127D) BASS FUNDAMENTALS with Dave Spitz • Delivers the solid foundation needed to develop your own style. Covers setting up your bass, tuning with harmonics, holding down the groove, chords, octaves, hammer-on and pull-off exercises, working with the drummer, warm-up drills and more. 60 minutes, \$49.95 ①

Study with today's best players and teachers on videocassette. The video advantages of split screens, slow motion and extreme close-ups make these some of the best lessons you'll ever have. Note: When ordering, please specify VHS or Beta format. Selected titles also available in PAL format, call for price and availability.

4106D) JACO PASTORIUS, MODERN ELECTRIC BASS • The definitive study of one of the world's most respected bassists. Pastorius discusses right- and left-hand technique, fretless bass, scales and arpeggios, study concepts, etc. Also included are solos and group performances with John Scofield and Kenwood Dennard. The late Weather Report member is in excellent form on this 90-minute video. \$49.95 **V**

4205D) BASS GUITAR MASTER CLASS WITH JOHN ENTWISTLE • Study with one of rock's all-time greats. Learn Entwistle's unique fingering, licks, octave style, chords, hammer-ons, pull-offs, picking techniques, harmonics, soloing concepts, walking bass lines, string-bending and phrasing. Lots of useful tips and advice that to your style, technique and overall approach to bass playing. 60 minutes, \$49.95 **V**

4216D) SLAP, POP & TAP FOR THE BASS WITH STUART HAMM • Learn left-hand stretch exercises, major and minor arpeggios, playing chords, slapping and popping, funk, hammer-on slaps and trip-

lets. Also includes right-hand, flamenco strums; two-handed, polyphonic tapping techniques; contrapuntal playing; percussive tapping; playing a melody with the right hand while the left plays a bass pattern; and classical techniques and styles. 60 minutes, \$49.95 **V**

4313D) JEFF BERLIN • Berlin is an outstanding clinician, and his extensive credits include stints with Allan Holdsworth, Bill Bruford and Pat Martino. On this tape, he begins with a discussion of his personal musical philosophy, then moves on to more specific techniques on harmonic practices, fretboard mastery, record transcriptions and more. 60 minutes, \$44.95 **V**

KEYBOARDS

4113D) CHICK COREA, KEYBOARD WORKSHOP • Invaluable insights into developing technique, practicing and composing. Features John Patitucci (bass) and Tom Brechtlein (drums). Extensive booklet included. 60 minutes, \$39.95 **V**

4120D) CHICK COREA, ELECTRIC WORKSHOP • Corea goes into detail about creating sounds with synths and layering them to produce new textures. He also writes a new composition, which is then developed and performed by his trio. Booklet included. 60 minutes, \$39.95 **V**

4114D) GEORGE DUKE, KEYBOARD IMPROVISATION (Vol. 1) • A video seminar during which Duke discusses left-hand comping, phrasing techniques, soloing, chord constructions, voicing and various tricks of the trade. Booklet included. 60 minutes, \$39.95 **V**

4115D) GEORGE DUKE, KEYBOARD/VOCAL ACCOMPANIMENT • Duke shares the benefit of his vast experience, gathered over years of working with artists such as Quincy Jones, Anita Baker and Michael Jackson. He discusses concepts such as chord substitution, voice leading and phrasing. Booklet is included. 60 minutes, \$39.95 **V**

4314D) STEVE PORCARO • Porcaro is on the cutting-edge of music production and is one of the world's top session players. On this tape, he gives a detailed tour of his MIDI setup and shares his insights and hard-won knowledge, covering MIDI and computer use, analog and digital synthesis, programming, sequencing and signal processing. 50 minutes, \$44.95 **V**

4129D) DAVID BRYAN, How to Play Keyboards in a Rock and Roll Band • Teaches classical technique, arpeggios, octave exercises and contrary motion, and has drills to develop your strength, speed and accuracy. Includes blues and rock licks, pentatonic improvisation, left-handed rhythms, cluster chords and illustrations on how to work with a drummer and guitarist. Both hands are shown close-up. Booklet included. 60 minutes, \$49.95 **V**

LEARN THE ESSENTIALS OF PIANO

Talc Tolchin

4420D) Volume I, Beginner • Talc Tolchin advocates theory and ear-training over note reading. This video for beginners contains the equivalent of six to ten weeks of lessons, beginning with the names of the notes, scales, chords, rhythms and improvisation. Includes all the basics you'll need to get started on keyboards. 90 minutes, \$49.95 **V**

4421D) Volume II, Beginner • Using the Beatles' song "With a Little Help from My Friends," Tolchin shows you how to learn a tune from a recording. You'll learn how to hear melody and chord changes and how to voice and invert chords. Also gain hands-on experience of 60 three-note chords. 60 minutes, \$49.95 **V**

4422D) Volume III, Beginner/Intermediate • An introduction to the blues—its simplicity, variety and intricacy. You don't need years of study to jam with other musicians and have fun. All you need is three chords, the pentatonic scale and your creativity. Includes blues licks, progressions, rhythms and seventh chords. 60 minutes, \$49.95 **V**

4423D) Volume IV, Intermediate • This new series moves faster than the popular Beginner series, yet still benefits from Tolchin's relaxed and methodic delivery. This packed tape has exercises in patterns, arpeggios, scales and chord inversions covering 9ths, 11ths, 13ths and 4th intervals. These exercises will help you gain strength, speed, dexterity and greater confidence to be used in creating your own improvisational lines. 52 minutes, \$49.95 **V**

4424D) Volume V, Intermediate, Songwriting • Drawing from music theory fundamentals, this video contains specific examples of how to begin a song and make use of structure to take your tune to completion. Tolchin shows how using pedal tones, 10ths, bass lines and repetitive rhythmic progressions can give you the inspiration and foundation for an original composition. 44 minutes, \$49.95 **V**

4430D) Volume VI, Intermediate, Song Production: How to Demo a Song • Here Tolchin puts his theory into practice as he produces a song using a sequencer and 4-track tape recorder. He takes you from the initial concept of a composition to its completion as a demo. You will see how a song is layered with a drum machine, synthesized bass, chord and lead track and how to overdub solos and drum fills. 40 minutes, \$49.95 **V**

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DRUMS

✓ **4140D) HOW TO PLAY DRUMS FROM DAY ONE, with Jim Payne** • A well-produced and clearly focused video for the beginner. Payne's unique (and effective) approach of vocalizing the drums' sound makes it easy to grasp rock, blues, funk and shuffle styles. Nine play-along songs help you get the feel of playing with a band, and a booklet clarifies the beats and teaches you fundamental drum notation. 54 minutes, \$29.95 ①

✓ **4139D) DAVE WECKL: THE NEXT STEP** • Take a giant step and get an 80-minute lesson from a master drummer. Continuing from the "Back to Basics" video (item 4135), Weckl concentrates on time playing, constructing a groove, beat displacement, cymbal technique, phrasing, creating a drum part, playing odd times and soloing. Intermediate to advanced. 80 minutes, \$39.95 ①

4135D) DAVE WECKL, BACK TO BASICS • Offers invaluable insights into the fundamentals of drumming. Topics include hand and foot technique, practice routines, and practical drum kit setup and approach. Weckl also performs several tunes and solos with sequenced percussion and taped band accompaniment. 72 minutes, \$39.95 ①

4123D) LATIN-AMERICAN PERCUSSION • Designed for both beginning and experienced players, this new video teaches basic techniques for playing congas, bongos, timbales and shakers and explains the differences between many key Afro-Cuban rhythms. Examples of ensemble playing are featured. Booklet included. 45 minutes, \$39.95 ①

4101D) STEVE GADD, UP CLOSE • One of the most recorded drummers of all time, Gadd demonstrates practice techniques, ap-

plying rudiments to the set, chart reading, keeping time, bass drum technique, four-stick drumming, sambas, solos and much more. 60 minutes, \$39.95 ①

4102D) STEVE GADD II, IN SESSION • Features Gadd in the studio with two all-star rhythm sections, including Will Lee, Richard Tee, Jorge Dalto and Eddie Gomez. Gadd works up tunes in a variety of styles, including funk, reggae, bebop and several Latin feels. Also included are some of Gadd's most exciting recorded solos. 90 minutes, \$49.95 ①

✓ **4004D) PETER ERSKINE, Timing Is Everything** • This smooth and disciplined jazz great teaches his trademark ride cymbal technique, syncopated feel through right- and left-hand independence, improvisation, brush technique and overall philosophy of how to "swing." The stellar trio performance, featuring John Abercrombie and Marc Johnson, displays many styles and tempos. Booklet included, 85 minutes, \$49.95 ①

4112D) BILL BRUFORD AND THE BEAT • This fine portrait of Bruford is entertaining as well as instructional. He demonstrates and discusses various aspects of his drum technique and his attitude toward music in general. Also featured is excellent footage of him with King Crimson and Yes, with special appearances by Robert Fripp and Steve Howe. 30 minutes, \$39.95 ①

4116D) STEVE SMITH, PART ONE • Tips on rock and jazz drumming, double bass and time-keeping, plus a sizzling performance with Vital Information. Winner, Best Music Instructional Video, 1987, American Video Awards (*Billboard* magazine). Includes a 36-page study booklet. 60 minutes, \$39.95 ①

4122D) STEVE SMITH, PART TWO • Smith's class continues with

double-bass drumming, developing creativity and building a drum part (using "Don't Stop Believing" as an example). Features additional performances by Vital Information. Also includes rare, in-concert footage of Step Ahead and an exercise/transcription booklet. 45 minutes, \$39.95 ①

4134D) CHEY MCCrackEN AND CHESTER THOMPSON, Basic Drum Tuning and Techniques • Fine-tune your drum habits with two of today's most versatile drummers. Hear and see tips on selecting, maintaining and tuning your drums properly to get the best and most compatible sound possible. Drum heads, muffling techniques and equipment are also covered. Thompson explains how to master the movement around the drums and McCracken demonstrates some simple groove patterns. 50 minutes, \$44.95 ①

4121D) TERRY BOZZIO, SOLO DRUMS • Bozzio presents his overall approach to the drum set as an orchestra-in-itself. The tape opens with an incredible solo, which he breaks down section-by-section, explaining the various techniques used. Covers double-bass drumming, hand techniques and a study of his part for "U.S. Drag." He also outlines exercises to strengthen chops and independence. Transcription/exercise booklet included. 55 minutes, \$39.95 ①

4133D) JEFF PORCARO • Porcaro describes his approach to straight time, triplet and shuffle feels, and Latin grooves. He breaks down a variety of drum patterns and discusses half-time shuffles, bass drum-pedal technique and timing techniques to achieve a variety of effects on the hi-hat. Booklet included. 40 minutes, \$44.95 ①

4128D) TICO TORRES: Drumming Essentials • Versatile veteran teaches you about rock, jazz and Latin styles, stick preparation, snare tuning, tuning the kit, equipment care, studio miking, cymbal technique, the "buzz" roll, crescendos and much more. Special exercises to help eliminate back problems. For beginning to advanced players. 60 minutes, \$49.95 ①

4206D) DRUM MASTER CLASS Carmine Appice • Appice discusses and demonstrates various rock patterns, hi-hat accents and patterns, fills, double-bass drum

techniques and patterns, complex stick-twirling for added performance "flash," substitutions and much more. Examples are performed several times at different tempos, and the patterns are shown on the split screen. 60 minutes, \$49.95 ①

OTHER

4226D) ROCK AND ROLL SAXOPHONE with Steve Douglas • Douglas helps you work on "chicken sax," adding "growl" to your tone, "singing" with the sax, flutter-tongue techniques, alternate fingerings, and the "great shake" armature exercises, rock and roll licks and scales, chromatic runs, false fingerings and other great rock and R&B techniques. 60 minutes, \$49.95 ①

✓ **4138D) LET'S SING IT RIGHT From Back To Rock, with Muriel Brown Older** • This quick, light-hearted look at the techniques of *bel canto* singing can improve any vocalist's sound and endurance. Demonstrations of proper breathing, posture and mouth position are presented, along with a discussion of the mental aspects of vocal performance. 35 minutes, VHS or Beta, \$34.95 ①

4130D) VOCAL EASE: Care and Exercises for the Singing Voice with Pamela Polland • Build strength and confidence as a vocalist with a pro who has worked more than 25 years with such luminaries as Kenny Loggins and Manhattan Transfer. Topics include eating/drinking habits, vowel shaping, posture, improving range, breathing, projection and mic technique. Equivalent to seven sessions with a vocal coach. Contains five warm-up exercises. 78 minutes, \$39.95 ①

3240C) SINGING FOR THE STARS Setb Riggs • This complete program for voice training was written by one of the most respected vocal coaches in the world. His students have included Michael Jackson, Al Jarreau, Bette Midler, Stevie Wonder and James Ingram. No matter what style of music you sing, from pop to opera, Riggs' techniques will increase your vocal strength, clarity, flexibility and range. ©1985, 146 pp. plus two cassettes, \$39.95 ①

COMING SOON!

✓ **BUDDY RICH MEMORIAL SCHOLARSHIP CONCERT, Volumes One & Two** • Taped October 14, 1989, this night of big band swing featuring the Buddy Rich Band was not available for review at press time and is scheduled for 1990 release. Volume One stars guest drummers Bellson, Bissonette and Chambers; Volume Two has Weckl, Colaiuta, and Gadd. Each tape over one hour long. ①

4141D) VOLUME ONE \$44.95

4142D) VOLUME TWO \$44.95

4143D) COMPLETE SET \$79.95

IBM PC MUSIC FEATURE from IBM •

This full-length expansion card is a combination MIDI interface and Yamaha FB-01 8-voice multitimbral, 4-operator FM synthesizer with 240 preset voices and 96 programmable sounds onboard. Includes a mini-stereo (Walkman-type) headphone output and two RCA stereo jacks for monitoring through an amp or hi-fi. A MIDI in/out/thru interface is included to provide connection to all other MIDI instruments.

14540J for IBM \$495.00 / SALE PRICE \$425.00!

What you need to run it: IBM PS/2 Model 25 or 30, PC XT/AT or true compatible.

THE IBM PC MUSIC FEATURE

A Bookshelf Exclusive! • IBM and Yamaha have joined forces to turn your PC into a musical instrument. This combination MIDI interface and 8-voice multitimbral sound module, on a full-size expansion card, puts a Yamaha FB-01 4-operator FM synthesizer under the hood of your IBM PC. Now you can compose, perform, record and play back music directly from your PC and forget about external tone generators and all that cable clutter. Eight notes at a time can be played from 336 available preset sounds. You can emulate polyphonic instruments like guitar or piano, or build 8-piece ensembles of monophonic voices. Add a second card to your system, and you can orchestrate as many as 16 different instruments on your computer. Also included in the IBM PC Music Feature is a MIDI in/out/thru interface (not Roland MPU-401-compatible) that allows you to connect all other MIDI instruments to your setup. The software listed below affords you different ways to create and learn about music. The programs are available individually or as part of an applications package that includes an IBM PC Music Feature card. Dealer pricing available.

14539) IBM MUSIC FEATURE: A Primer

Fred Hofstetter • Learn how to set up a Feature card, check out some of the available software and get tips on using a MIDI controller with this manual. Included free with each IBM Music Feature card purchase, or available separately. ©1987, 42 pp. (Stapled) \$3.00

14540M) IBM PC MUSIC FEATURE TECHNICAL REFERENCE

• Documents the functions and operations of the IBM PC Music Feature card. Manual is shrink-wrapped, unbound, for insertion in 3-ring binder. Crucial resource for programmers or advanced users. ©1987, 160 pp. \$29.95

IBM® PC MUSIC FEATURE CARD

✓ PERSONAL COMPOSER SYSTEM/2

Version 3.0 from Jim Miller • Latest upgrade to the popular integrated sequencing/scoring program features a new mouse/menu interface that lets you choose commands with minimal mouse movement, new on-line hypertext help, and WYSIWYG PostScript implementation. Do the composing direct from your IBM keyboard or mouse, or play from your MIDI controller and have the program convert it into notation. Then edit your score with short, simple commands, play it back, transpose it, automatically verify rhythms and/or synchronize it to external clock sources. Shift to Recorder mode, and the program becomes a 32-track sequencer. Through MIDI event-editing, each track can be erased, looped, bounced, cut-and-pasted and quantized. Customize the program by saving a repeated series of keystrokes into a single function (macro). A nice extra for IBM Music Feature card users is the ability to configure the card's FB-01 sounds from a simulated, onscreen front panel. Supports HP LaserJet II, LaserJet+, DeskJet and PaintJet, Epson LQ and FX, Toshiba 24-pin printers, Canon LBP-8II, LBP-8A2, BJ-130 and BubbleJet, NEC Pinwriter, IBM ProPrinter and any other printer that is compatible with, or can emulate those listed above.

12400 for IBM (5.25" disk) \$495.00
14440 for IBM (3.5" disk) \$495.00

What you need to run it: IBM PC XT/AT, PS/2 Model 25/30 or compatible with at least 640K RAM (hard disk recommended); Hercules-compatible graphics card; IBM PC Music Feature card or MPU-401-compatible interface; MIDI instrument(s). Optional: printer; Microsoft mouse.

MF MASTER from Computer Business

Associates • The low-priced editor/librarian gives you access to every element of the Feature card's 4-op FM synth chip so you can create, store and group original voices.

14512 for IBM \$99.00

MIDISOFT STUDIO from Passport •

This low-cost, 32-track sequencer features easy operations, a clear, friendly user interface and a mild learning curve. Onscreen "transport" controls move you through your piece, recording or playing back in real- or step-time from any section of the song. Cut-and-paste, transpose and time-correct features, plus combine, move, copy and erase commands, let you sculpt your own musical masterpieces. Synchs up to song position pointer and MIDI clocks; playback capacity is more than 20,000 notes with 640K RAM. Includes a configuration editor for setting up Feature card voices in performance groups.

14415 for IBM \$149.95

What you need to run it: IBM PC XT or compatible with 512K RAM and two floppy drives, or one floppy and a hard disk, and IBM PC Music Feature card. Supports Microsoft mouse.

PLAYREC from Yamaha •

The Playrec sequencer is an entry-level music performance, recording and playback program for the IBM PC Music Feature card. With Playrec, you can lay down tracks playing the Music Feature's multitimbral FM voices and/or other MIDI synths. As recorded tracks are replayed, you can overdub additional parts (16 tracks are available). Divided into two programs, Playrec provides easy composition tools for beginners; a more advanced option allows simple editing (no punch-in), allocation of 336 voices, and control over volume, tempo and meter. Playrec is flexible enough to involve and educate the musical semiliterate and can provide an inexpensive intro to MIDI sequencing for someone with real chops. Export song files to Compose for transcription.

14400 for IBM \$77.00

What you need to run it: IBM PC or compatible, IBM PC Music Feature card, CGA or EGA graphics card. Supports Microsoft mouse.

✓ MUSIC PRINTER PLUS Version 3.0

from Temporal Acuity Products • The recent upgrade to this fast, user-friendly notation program features accurate transcription of real-time MIDI performances and enhanced Laser printer support. As with the previous version, it offers single-key-stroke selection of all music characters from the computer keyboard and prepares publication-quality printouts of any size, up to 42 staves per score system. Listen to the score on the Music Feature card, then extract parts automatically. More than 600 text and musical characters are available, with full control of stem directions, beams, ties, slurs and key signatures, and transposition of entire scores. Prints lyrics and accepts real- and step-time entry from a MIDI instrument. Printing capabilities include high-resolution dot matrix (both 9-pin and 24-pin); supports wide-carriage printers and Laser printout (Canon BJ-130 BubbleJet, Canon Laser Beam, and HP LaserJet II series and compatibles).

16055 for IBM \$595.00

What you need to run it: IBM PC XT/AT, PS/2 Models 25/30 or compatible with 640K RAM; CGA, EGA, Hercules or VGA graphics card & monitor. Optional: IBM Music Feature card or MPU-401-compatible interface; MIDI instrument, printer.

IBM PC MUSIC FEATURE EDITOR/LIBRARIAN from Passport •

Get the most out of your Feature card by creating custom sounds. This program gives you a virtual front panel for the Feature card so you can easily tweak every sound-generating parameter. Librarian module give you free and easy storage and manipulation of voices and banks. Includes six banks of new sounds.

14506 for IBM \$149.00

Education software also supports the PC Music Feature. See pages 34-37.

COMPOSE from Yamaha • Yamaha's music composition and notation program is fully compatible with the IBM PC Music Feature card. It's simple enough for beginners, yet powerful capabilities are available for creating multipart compositions for playback and printing. With Compose and the Music Feature card, you can input note data from a MIDI keyboard, create up to eight parts, access up to 336 voices and print or play any section of your composition. Compose will import and transcribe Playrec sequencer files into standard notation. External MIDI output devices, such as drum machines, are also supported.

14459 for IBM \$109.00

What you need to run it: an IBM PC or compatible, IBM PC Music Feature card, CGA or EGA graphics card. Optional: MIDI instruments, Playrec sequencing program, printer. Supports Microsoft serial or bus mouse.

✓ TEXTURE CLASSIC Version 3.5 from

Magnetic Music • The latest release of this true "classic" supports standard MIDI files and responds to song position pointer. Texture has endured because of its modular architecture, speed and musician-oriented design. You can create as many as 96 patterns, each containing 24 tracks, all tracks assignable to any MIDI channel. Simple keystroke commands and pop-up dialog windows make for quick operation. In addition to the standard record, play, punch-in, overdub and quantize features, it also allows step entry, note-by-note editing and global creation of crescendos and ritards. The current version lets you put multichannel performances on single tracks and lets you hear notes in the edit display as you cursor over them. If your IBM has 640K RAM, Texture can record and playback about 72,000 notes. A great mix of features and reliability at a new, low price.

12304 for IBM \$199.00

What you need to run it: IBM or compatible with at least 256K RAM; one or more MIDI instruments; IBM Music Feature card or MPU-401-compatible MIDI interface card.

IBM PC MUSIC FEATURE Application Packages

Starter Series #1
IBM PC Music Feature; Yamaha
Playrec; MIDI for Musicians
by Craig Anderton
ISS20) for IBM \$469.00

Starter Series #2
IBM PC Music Feature; Yamaha
Playrec and Compose; ICS
Editor/Librarian; MIDI for
Musicians by Craig Anderton
ISS28) for IBM \$609.00

Starter Series #3
IBM PC Music Feature;
Passport's Midisoft Studio;
MIDI Sequencing for Musicians
by Jim Aikin
ISS29) for IBM \$559.00

Advanced Series #1
IBM PC Music Feature;
Magnetic Music Texture;
ICS Editor/Librarian; MIDI
Resource Book by DeFuria
& Scacciaferro
IAS30) for IBM \$695.00

Advanced Series #2
IBM PC Music Feature; TAP
MusicPrinter Plus V.3.0; MIDI
Resource Book by DeFuria
& Scacciaferro
IAS35) for IBM \$899.00

Master Series
IBM PC Music Feature; Jim Miller
Personal Composer; ICS Edi-
tor/Librarian; MIDI Resource
Book by DeFuria
& Scacciaferro
IMS40) for IBM \$965.00

SONGWRITING IV from *SongWright* • A budget-minded lead-sheet solution. Plug notes on the staff from the computer keyboard, or enter them in step-time from any MIDI keyboard. Play back individual parts or hear full orchestrations with optional use of MIDI. Transpose compositions into any key. *SongWright* prints quality manuscripts, lead sheets, piano/vocal and ensemble scores, including lyric text, chords and dynamics. Laser printer support now available.

12402) for IBM \$89.95

16000) Laser Print Drive \$39.95

What you need to run it: IBM PC XT/AT, PS/2 Models 25/30 or compatible with at least 256K RAM; CGA or Hercules graphics card; IBM/Star/Epson-compatible printer. Optional: IBM PC Music Feature card or MPU-401-compatible MIDI interface; MIDI instrument.

IBM/MPU-401-COMPATIBLE SOFTWARE

CAKEWALK V. 2.0 from *Twelve Tone Systems* • This hip, powerful and affordable sequencer has 256 tracks available, with independent names, play/mute switches, and pitch and velocity transpositions. You can use a mouse with pull-down menus or shortcut keystrokes to execute common operations quickly. Other features include simple transport controls, cut-and-paste editing, MIDI event filters, quantization down to 32nd-note triplets, full online help and synchronization to MIDI clock with song position pointer. You can print files with The Copyist.

14405) for IBM \$150.00

What you need to run it: IBM PC XT/AT, PS/2 Models 25/30 or compatible with at least 256K RAM; MPU-401-compatible MIDI interface; MIDI instrument(s).

✓ **SEQUENCER PLUS (V. 3.0)** from *Voyetra* • New upgrade to the Sequencer Plus series adds a host of new features and drastically raises track capacity, yet prices have dropped! The sequencer is organized into screens that give access to the information you need, when you need it. The Main Track menu displays and controls available MIDI recording tracks. The Note Edit screen uses a "piano-roll" metaphor; as each note is highlighted, all its attributes are shown. The View screen's dynamic track sheet makes arranging and punch-in overdubs a breeze and offers cut-and-paste editing. The Options menu displays and controls metronome on/off, lead-in, clock source, time signature and more. Voyetra's Network Organizer is now bundled with all levels of Sequencer Plus, which allows you to save sounds for all your MIDI instruments right along with your songs. Mark II and Mark III include a universal patch librarian for nearly 100 instruments from more than 20 manufacturers. Mark III includes a MIDI data analyzer program, an excellent real-time diagnostic tool. All three levels (Mark I, II and III) have identical displays; they vary in the numbers of recording tracks, extensiveness of the editing features, utility programs and SMPTE implementation. Upgrades are available. You can print files with The Copyist.

14420) Mark I for IBM \$129.00
(500 tracks)

14435) Mark II for IBM \$229.00

(500 tracks)

12303) Mark III for IBM \$349.00
(3,000+ tracks)

What you need to run it: IBM PC XT/AT or compatible, or IBM PS/2 Models 25/30; at least 640K RAM; MS-DOS 2.0 or later; Roland/Voyetra or compatible MIDI interface; one or more MIDI instruments.

✓ **PC/MIDI PACK PLUS** from *Voyetra* • Complete MIDI starter package for the IBM PC and any MIDI synth (see advertisement). Includes Sequencer Plus Mark I Version 3.0, V-4001 MIDI interface, demo disks and PAN membership.

14432) for IBM \$249.00

What you need to run it: IBM PC XT/AT or compatible with at least 512K RAM; one or more MIDI instruments.

THE COPYIST from *Dr. T's* • This popular notation software is the program of choice for converting sequencer files to sheet music and is available in three levels. All levels include a full selection of musical symbols, six clefs (including percussion), guitar fret symbols, all key and time signatures, and mouse-controlled cut, copy,

paste and move functions. You can quantize note timings and durations independently, and sections of score or individual tracks differently. The Copyist supports MIDI files, features extremely flexible note placement and editing functions, and transcribes many popular sequencers. The professional version has all that, plus a symbol editor that allows ten user-created symbols, converts any supported sequencer format to any other, extends score length to 50 pages and supports Atari Laser printer, HP LaserJet Plus and HP plotters. Desktop publishing (DTP) version has all of the above and supports PostScript-compatible Laser printers, includes Adobe Sonata fonts, extends score lengths to 100 pages, converts Copyist files to TIFF and EPS formats, and interfaces with PageMaker, Ventura and Publishing Partner Pro. All three levels are fully file-compatible and upgradable.

COPYIST APPRENTICE

14040) for Atari ST \$99.00

14450) for IBM \$99.00

16005) for Amiga \$99.00

COPYIST PROFESSIONAL

13027) for Atari ST \$275.00

Leader of the Packs.



\$249
PC compatibles

PC/MIDI Pack Plus combines Sp1 version 3.0 and our V-4001 to save you a bundle. You can also apply part of the cost towards an upgrade to Sp2 or Sp3*, so it will grow with you, instead of being outgrown.

When you're ready for PC music, get a head-start with the leader.

Voyetra Dept. C
333 Fifth Ave
Pelham, NY 10803
(914) 738-4500 Fax: (914) 738-6946
Orders or free catalog: 1-800-233-9377

V-4001 interface

- Uses Roland Chipset: 100% MPU compatible
- Tape sync
- Selectable IRQ
- Cable-less design
- FCC Certified

Sp1 ver 3.0

- 500 tracks
- 60,000 notes
- MIDI Files
- Compatible with Pers Composer and Copyist
- 192 PPQ
- Mouse support
- Smart quantize
- Sync chase
- Auto Ch Assign
- Multi-bar t-signs
- Program chase
- Pitch, time, vel, and split Xforms
- Non-destructive quantize
- Track load/save
- Track merge
- Punch-in record
- Memory buffers
- Network Organizer loads patch banks to 32 instruments

Includes

Demo package

Sequencer Plus
The power
of a Legend™

*Certain restrictions apply © 1990, Voyetra. Trademarks are property of respective companies.

12403) for IBM \$275.00
16007) for Amiga \$275.00
COPYIST DTP
14045) for Atari ST \$399.00
14455) for IBM \$399.00
16009) for Amiga \$399.00

What you need to run it: an Atari ST computer (1 MB RAM recommended).

What you need to run it: IBM or compatible with at least 512K RAM; two disk drives; CGA or Hercules graphics card.

What you need to run it: Amiga computer with at least 512K RAM (1 MB recommended).

✓ **BASIC COMPOSER 4.3** from *Education Software Consultants* • A versatile, affordable, and easy-to-use program for the non-MIDI user. Compose on either one staff at a time or the grand staff, play back, print out quality manuscripts, transpose, write lyrics and add guitar tablature. Automation and many advanced features are now part of this critically acclaimed program.

16062) for IBM \$49.00

What you need to run it: IBM PC XT/AT or PS/2 with 192K; CGA, VGA, EGA, LCD or Hercules monochrome adapter; dot matrix printer.

✓ **LASER MUSIC PROCESSOR** from *TEACH Services* • For the budget-conscious user who's into music publishing and demands a high standard for print quality. It can drive any LaserJet-compatible printer as well as Epson dot matrix printers. The MIDI features give you a choice of real- or step-time input. Besides a mouse-controlled WYSIWYG editor with pop-up menus, the package includes a built-in, single-track sequencer, five text fonts with more than 600 musical symbols, slanted ties, slurs and beams. Well-supported and simple to use.

16063) for IBM \$99.95

What you need to run it: An IBM or compatible computer; 512K RAM; MS-DOS 2.0 or later; single floppy drive; graphics display; HP-compatible Laser printer or Epson FX-compatible dot matrix printer. ■

EDUCATION & EAR-TRAINING SOFTWARE

✓ **PRACTICAL MUSIC THEORY, V.**

3.1 *Sandy Feldstein* • Recent upgrade to this three-volume music curriculum is now installable on hard disk, and a new Mac version is now available. Units include random drills of music materials and variations in content material. Competency levels are established for each lesson sequence, with aural examples played by the computer. Each lesson is reinforced with a review section. The program has a total of 84 topics. Volume One lessons include the staff, clefs, measures, time signatures, notes and rests. Volume Two reinforces the first segment with further instruction in time signatures, notes and rests, ties and slurs, repeats and endings, and flats, sharps and naturals. Volume Three covers scales and key signatures, sharps and flats, and dynamics, plus lessons on tempo, chords, inversions and harmonizing. Final lessons conclude with composing a melody. Complete three-volume set/six disks:

2404) for Apple II+/IIe/IIc \$299.95

3500) for IBM \$299.95

2469) for C-64/128 \$299.95

2470) for Macintosh \$399.95

3510) for Atari \$299.95

➔ **GO TO** our Composition book section to find Sandy Feldstein's *Practical Theory Complete* textbook, available separately.

ALFRED'S MUSIC ACHIEVEMENT

SERIES *Sandy Feldstein* • A theory-test series, correlated to the *Practical Theory Complete* package, that generates a new, randomized series of items in each section every time the test is used. It stores the scores for each student, which are easily reviewed by the teacher and student—up to 50 students' scores on one diskette! MIDI keyboard-compatible. Book and three disks.

3505) for IBM and compatibles \$199.95

What you need to run it: IBM PC XT/AT or compatible with at least 512K RAM. MIDI interface and MIDI instruments optional.

3506) for Apple II and Commodore 64 \$199.95

What you need to run it: Apple II+/

IIe or Commodore 64. MIDI interface and MIDI instruments optional.

3485) for Macintosh \$249.95

3511) for Atari \$199.95

PERCEIVE from *Coda Music Software* • A complete course of study in theory, ear-training and timbre that requires no extra hardware and no previous knowledge of music or notation. Progress is reinforced by text and workbooks and is tracked by the Reports module. Six programs on two disks cover intervals, triads, seventh chords, scales, modes and tunings, plus waveform analysis and graphic sound design. Hear notes through the Macintosh's internal sound chip or any MIDI sound source as you "touch" the onscreen keyboard. Includes 120-page textbook, 55-page workbook and 30-page reference manual.

16030) for Mac \$99.00

What you need to run it: Macintosh 512K, Plus or SE. MIDI interface. MIDI instruments and ImageWriter printer supported as optional output devices.

THE MUSIC CLASS from *Coda* • Five complete courses for the Apple II cover all the basics: how to read notes and music symbols, follow rhythms, and use your ears to tell what's happening in a piece of music. You can choose the speed and repetition and keep a record of your progress. Handsomely packaged, every course comes with an easy-to-read guide and special sections on musical concepts. *Dealer pricing available.*

14956) Fundamentals: Learning the Basics \$49.00

(Note reading, rhythm I, major/minor scales, intervals)

14957) Rhythm: Learning to Feel the Beat \$49.00

(Rhythmic structure, meter, measures and pulse)

14958) Ear Training: Learning to Hear \$49.00

(Melodic error detection and correction, aural interval recognition, melodic and rhythmic dictation Parts I and II)

14959) Music Symbols: Learning the Language \$39.00

(Animated graphics and games teach you how to read the symbols and words that make up standard notation)

14960) Note Reading: Learning to See and Understand \$39.00

(Learn to read notes on any clef in any position in any piece of music)

14961) Complete Package \$195.00

What you need to run it: Apple II+/IIc/IIGS with 64K; one disk drive.

✓ **SOUND, SONG & VISION** from *Advanced Software* • Now you can trigger your MIDI equipment with your voice. Simply plug an amplified mic signal into the cassette input of the Apple, and the computer analyzes the pitch and outputs MIDI data through the MIDI interface. It also displays the pitch of the note you're singing. See your pitch in real time. Train your ear.

16031) for Apple II \$99.00

What you need to run it: Apple II+ or IIe; MIDI interface.

✓ **PRACTICA MUSICA (V. 2.0)** from *ARS Nova* • Now Macintosh users can learn music fundamentals. In the rhythm and melody mode, *Practica Musica* invents some catchy tunes, and you can choose the key, scale and meter. Listen to the melodies, watch the rhythms and try to pick them out on the keyboard. In the intervals and chords mode, it will guide you through all the common and many uncommon chords in tonal music. Another hip feature: Play a chord or interval, and the program will identify it for you.

16034) for Macintosh \$129.00

What you need to run it: Macintosh Plus, SE or II; any MIDI keyboard.

✓ **GUITAR WIZARD** from *Baudville* • Turn your Mac into a guitar teacher with this educational software package. The fretboard display teaches notes, scales, chords, and appropriate fingerings for all of the above. It works with any fretted instrument in both standard and non-standard tunings. Also, if you'd like to study away from the computer, simply print any screen directly to your dot matrix printer.

16046) for Macintosh \$34.95

✓ **TUNER** from *Conduit* • Here is a unique drill for improving your sense of pitch. It begins by sounding two tones that are less than a normal half-step apart. By pressing "R" (for raise) or "L" (for lower), you tune the second pitch to match the first. The program then evaluates the match. Simple and effective drill for all instrumentalists.

16036) for Apple II \$35.00

What you need to run it: any Apple II with at least 64K.

✓ **CAMUS: MELODIC DICTATIONS** from *Conduit* • This set of exer-

cises trains the ear to perceive musical sounds in relation to musical notation. The exercises address a variety of listening problems, such as the recognition of particular intervals, rhythmic intricacies and mode colors (e.g., major, harmonic minor and melodic minor). The primary aim of all the exercises is to improve your sense of pitch.

16047) for IBM, Disks #1-4 \$150.00

What you need to run it: IBM PC XT/AT; IBM PS/2 Models 25-70; MS-DOS 2.10; 256K; one 360K, 5.25" disk drive; CGA, EGA or VGA color graphics adapter.

16048) for Apple II, Disks #1-4 \$150.00

What you need to run it: any Apple II; 64K; one 5.25" disk drive. Individual disks \$50.00 each. Call for information.

✓ **CAMUS Authoring System •**

Teachers can use this program to write their own melodic dictation exercises to be played with CAMUS: Melodic Dictations (see previous). This allows you to create, edit and discard exercises according to your curriculum needs.

16049) for IBM \$75.00

✓ **BASIC ADULT PIANO THEORY**

Sandy Feldstein • This new program is an interactive, activity-oriented program that develops and reinforces music skills. It features randomized programming of concepts so that drills and activities will not be repeated in the same sequence. MIDI-compatible. Specify disk size.

16056) for IBM \$49.95

16057) for Macintosh \$59.95

16058) for Apple II/Commodore \$49.95

16059) for Atari ST \$49.95

LISTEN! 2.0 from *Resonate* • It's back! Learn ear-training from exercises that range from simple single-note dictation and naming intervals to identification of the notes in complex and random atonal chords. Five difficulty levels are provided, with numerous helpful features such as a "repeat drill" button, a graph to keep score and "hints" indicating if your answer was too high or too low. Information may be entered from on-screen guitar and keyboard icons using a mouse, or from a MIDI controller, and played back with the Mac's internal voices or a MIDI sound source.

14950) for Macintosh \$99.00

What you need to run it: any

Macintosh. Optional: MIDI interface; MIDI instrument

TAKE NOTE from *Take Note Software*

• This ear-training program has recognition drills for pitch, intervals, chords, arpeggios and scales and teaches you how to get around on the keyboard, guitar fretboard and staff. It accepts input from a mouse or MIDI keyboard, sends output to the internal sound chip or optional MIDI instruments, and automatically tracks student progress.

16035) for Atari \$79.95

What you need to run it: Atari 520ST or 1040ST; monochrome or color monitor. TOS in ROM required. MIDI instruments supported as optional input/output devices.

16034) for Amiga \$79.95

What you need to run it: Amiga with at least 512K RAM. Optional: MIDI interface and instruments.

NOTE WIZARD from *MIDImouse* •

Features timed note-reading drills in five levels, with nine stages per

level. Drills include two-, four- and six-note problems. Saves test results for instructor; uses MIDI keyboard for input device. For beginner through advanced.

15051) for Atari \$69.95

What you need to run it: an Atari 520ST, 1040ST or Mega; any MIDI keyboard.

SCALE MASTER from *MIDImouse* •

Speed drills on scale skills covering major, natural minor, harmonic minor and melodic minor, plus blues scales in all 12 keys. Accu-

—continued on page 37

The Most Logically-Organized, Well-Paced, Affordable Music Theory Software Has Just Become MORE PRACTICAL!

ANNOUNCING VERSION 3.1!

Educational Music Software from Alfred by Sandy Feldstein

- You may now copy onto a hard disk!
- You may now make back-up copies!
- IBM versions may now be used with a monochrome monitor, or a color monitor and Hercules graphics card!
- Available for Apple II, Commodore 64, Atari ST and IBM (3.5" and 5.25") computers, plus three new versions for Apple 3.5", Yamaha C1 and Macintosh computers!



ALFRED
Computer Software
for Music Education

Practical Music Theory Complete

Practical Theory is a drill and practice approach to music theory, beginning with the basics of music notation and ending with chord inversions and smooth voice leading. Ideal for reinforcing new concepts presented at the theory lesson. Use it in the school software lab, music classroom or private teaching studio. Includes six diskettes and a complete spiral-bound workbook. (Workbook is also available separately.) MIDI compatible.

Music Achievement Series

An effective test series in three volumes that correlates with the popular *Practical Theory* series. It may also be used with other theory materials or used as a placement test. A new, randomized series of items is presented in each section each time the test series is used. Includes a password system for students and the instructor. Up to 50 students' scores can be stored on each diskette. Includes three diskettes, a *Practical Theory* workbook and a Teacher's Manual. MIDI compatible.

Alfred's Basic Piano Theory Software Levels 1A, 1B & 2 Levels 3, 4 & 5

Designed for piano students, age 7 and up. Each package contains entertaining games and theory drills—great to use at home or in the teaching studio. Each diskette correlates with three levels of piano instruction as presented in *Alfred's Basic Piano Library*. Each student's performance is recorded in the program's memory for review by the student or instructor. Each package includes one diskette and a reference manual. MIDI compatible. In full color.

Alfred's Basic Adult Piano Theory Software Level 1

An interactive, activity-oriented program for adults that develops and reinforces skills learned in *Alfred's Basic Adult Piano Course*. It features randomized programming of concepts so that drills and activities will not be repeated in the same sequence after frequent use. Also includes a score-keeping feature. MIDI compatible. In full color.

ALFRED PUBLISHING COMPANY

EAR-TRAINING, THEORY AND TECHNIQUE TUTORIALS

Instructional Software from Electronic Courseware Systems

KEYBOARD BLUES—MIDI • Learn the basics of the 12-bar blues and practice playing and hearing chord changes, with accompaniment and without. The drill-and-practice section tests your knowledge of simple blues chords. Compose original solos with computer accompaniment; the computer does not judge the solos but simply allows the user to experiment with new ideas.

MA-1158) for Apple II+, IIe, IIGS, or IIc \$79.95

MI-1158) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1158) for Commodore 64/128 \$79.95

MS-1158) for Atari ST \$79.95

KEYBOARD NOTE DRILL—MIDI • Increase your speed in identifying notes on the bass and treble staves. The MIDI keyboard is used for selection of answers; identify 20 notes to complete each session. The response time can be set to adjust the level of difficulty.

MA-1155) for Apple II+, IIe, IIGS or IIc \$39.95

MI-1155) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$39.95

MC-1155) for Commodore 64/128 \$39.95

MS-1155) for Atari ST \$39.95

KEYBOARD ARPEGGIOS—MIDI • Review keyboard arpeggio performance and fingerings. The program is presented in five parts: instructions, hand-over-hand triads (major and minor), major triads (two octaves), minor triads (two octaves) and a final quiz (random selection of all forms). Two-octave triads are presented for both right-hand and left-hand fingerings. Drills are notated by onscreen staves.

MA-1168) for Apple II+, IIe, IIGS or IIc \$79.95

MI-1168) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1168) for Commodore 64/128 \$79.95

MS-1168) for Atari ST \$79.95

KEYBOARD CHORDS—MIDI • A tutorial on major, minor, diminished and augmented chords, a chord-spelling drill, a keyboard drill and a test. Drill-and-practice programs allow the user to select the inversion (root, 1st, or 2nd) and the clef (treble or bass) for the drill. The test randomly selects the inversions and clef for each item, and a score is displayed after ten correct answers.

MA-1157) for Apple II+, IIe, IIGS or IIc \$79.95

MI-1157) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1157) for Commodore 64/128 \$79.95

MS-1157) for Atari ST \$79.95

KEYBOARD FINGERINGS—MIDI • Review standard and special fingerings for the major, natural minor and harmonic minor scales. Program includes instruction and major and minor scale reviews for both the right and left hands, in bass and treble clef. The computer judges the accuracy of the scale performance in each section and the final test. Automatically tracks your progress.

MA-1167) for Apple II+, IIe, IIGS or IIc \$79.95

MI-1167) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1167) for Commodore 64/128 \$79.95

MS-1167) for Atari ST \$79.95

KEYBOARD INTERVALS—MIDI • Learn to play major, minor, diminished and augmented intervals. The program is composed of a tutorial, an interval-spelling drill and a test. You must be able to read music and play notes on a music keyboard to use this lesson.

MA-1166) for Apple II+, IIe, IIGS or IIc \$79.95

MI-1166) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1166) for Commodore 64/128 \$79.95

MS-1166) for Atari ST \$79.95

MIDI JAZZ IMPROVISATION • A superior teaching tool for jazz improvisation, allowing you to choose keys, speed and arrangement. Each exercise is organized in eight separate tracks: bass, simple chords, complex chords, melody, countermelody, scale study, sample improvised line and rhythmic pulse. The program provides play-along material to learn jazz improvisation, using original tunes based on traditional chord progressions, and coordinates well with your existing curriculum. Designed for beginning and advanced improvisers, the handbook includes step-by-step instructions for using the program. Level I introduces ii-V-I progressions, slow blues in B-flat, medium blues in F, fast blues in C, minor blues and a sample tune. Level II offers more advanced materials and assumes a background in scales and improv technique. Learn the samba, ballads with ii-V progressions, 12-bar blues with substitutions, blues with a bridge, funk/rock improv and complex ii-flat II-I progressions. Requires Final Cut sequencer with Atari version.

MI-1252) Jazz Improvisation I for IBM PC or PS/2 \$79.95

MI-1253) Jazz Improvisation II for IBM PC or PS/2 \$79.95

MS-1254) Jazz Improvisation I for Atari ST or Mega, includes Final Cut sequencer \$179.95

MS-1253) Jazz Improvisation II for Atari ST or Mega \$79.95

KEYBOARD JAZZ HARMONIES—MIDI • Learn chord symbols, seventh-chord recognition and chord spelling. The tutorial, four drills, four quizzes and final quiz use MIDI gear for output of aural examples and input of answers. In the final quiz, the computer plays a small portion of a jazz tune, and the student must give the chord symbol for each chord change and spell the chord by playing it on the MIDI keyboard. A basic knowledge of traditional harmony and musical intervals is required.

MA-1154) for Apple II+, IIe, or IIGS \$79.95

MI-1154) for IBM PC or PS/2 (compatible with IBM PC Music Feature card) \$79.95

MC-1154) for Commodore 64/128 \$79.95

MS-1154) for Atari ST or Mega \$79.95

KEYBOARD EXTENDED JAZZ HARMONIES • The sequel to Keyboard Jazz Harmonies (see previous) teaches you to identify and build ninth, 11th and 13th chords. Covers visual and aural chord recognition and includes chord-symbol and chord-spelling drills. The drills use MIDI for note input; online help is provided throughout the lesson. A final quiz is included.

MA-1236) for Apple II+, IIe, IIGS or IIc \$79.95

MI-1236) for IBM PC or PS/2 \$79.95

MC-1236) for Commodore 64/128 \$79.95

MS-1236) for Atari ST \$79.95

FUNCTIONAL HARMONY: BASIC CHORDS—MIDI • A drill-and-practice lesson that develops facility in harmonic analysis. Each of the four disks contains quizzes on analyzing chords in root positions, first inversion or second inversion. Disk 1 covers basic chords in major and minor keys. Disk 2 presents diatonic seventh chords, Disk 3 introduces secondary dominants, and Disk 4 completes the set with practice on borrowed and altered chords. The student record-keeping feature allows an instructor to select the number of problems presented in each quiz. When using the MIDI option, chords displayed on the screen will play through the audio device to facilitate identification. Although we sell the disks as a set, they may be purchased separately (call us for details).

MA-1299) for Apple II+, IIe, IIGS \$159.80

MI-1299) for IBM PC or PS/2 \$159.80

MS-1299) for Atari ST or Mega \$159.80

ECS-1) • ECS Catalog. Free

racy and tempo are recorded for instructor review; three song files with chord progressions are included for practice. Beginner through advanced.

15052) for Atari \$69.95

What you need to run it: an Atari 520ST, 1040ST or Mega; any MIDI keyboard.

CHORD MAGIC from MIDImouse •

Train on major, minor, diminished and augmented triads; seventh chords, including dominant, major, minor, diminished and augmented; plus all inversions. 36 timed drills; use your MIDI keyboard as the input device. Beginner through advanced.

15053) for Atari \$69.95

What you need to run it: an Atari 520ST, 1040ST or Mega; any MIDI keyboard.

✓ RHYTHM TIME from MIDImouse

• Here's a fun and rewarding way to learn rhythmic concepts. It will develop your ability to play written rhythm problems and recognize patterns and write them via the mouse. There are six graded drill levels with six different stages that cover all notation up to 16th notes (including ties, rests and triplets); also covers 3/4, 4/4 and 6/8 time signatures.

16032) for Atari \$69.95

What you need to run it: an Atari 520ST, 1040ST or Mega; any MIDI keyboard.

✓ ATARI MUSIC EDUCATION SERIES from MIDImouse •

Instructional software for the Atari is now available at a special package discount! The combination of Rhythm Time, Note Wizard, Scale Master and Chord Magic provide a thorough, four-stage course in music fundamentals.

16033) for Atari \$239.95

What you need to run it: Atari 520ST, 1040ST or Mega; any MIDI keyboard.

Coming soon for **Mac** and **IBM** - call *Bookshelf* for details.

ALFRED'S BASIC PIANO THEORY SOFTWARE Sandy Feldstein •

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Complete management system designed for music educators. It has interactive modules and flexible reporting for easy tracking of student files, an automatic uniform checkout system and equipment-inventory and

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16060) for Apple II \$295.00

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 -Don

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ECS MIDI Instructional Software



HARDWARE

APPLE/MACINTOSH

APPLE STANDARD MIDI INTERFACE

from Sonus • For use with Apple IIe, II+ or IIGS. One in, two outs, with drum sync.
14963) \$99.95

APPLE MIDI INTERFACE WITH TAPE SYNC

from Sonus • For use with Apple IIe, II+, IIGS. Sends sync tone to tape. Also has one in, two outs, with drum sync.
14964) \$149.95

MACINTOSH PRO PLUS INTERFACE

from Opcode • For use with the Macintosh Plus and 512K. Includes one MIDI in and three MIDI outs. Comes with appropriate cables and power supply.
13302) \$125.00

STUDIO 3 INTERFACE

from Opcode • The state-of-the-art solution for professional sequencing and video scoring applications. This rack-mount, Macintosh MIDI interface has two independent inputs and six user-assignable outputs. It reads and writes all SMPTE time code formats and will do jam sync. It even has printer and modem serial pass-through.
16065) \$459.00

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AMIGA MODEL A INTERFACE

from Dr. T's • Standard MIDI interface for the Amiga 500 or 2000. It features one in, two outs and serial pass-through.
14347) \$75.00

COMMODORE 64/128 STANDARD MIDI INTERFACE

from Sonus • This standard MIDI interface includes one in and two outs.
13103H) \$89.95

COMMODORE 64/128 MIDI INTERFACE WITH TAPE SYNC

from Sonus • One in, two outs, sends sync tone to tape.
14342) \$149.95

IBM

➔ **GO TO** pages 32-33 for IBM PC Feature card.

✓ MPU-IMC IBM Micro Channel

MIDI Interface *from Roland* • Finally, a MIDI interface compatible with the new Micro Channel Architecture bus format used on IBM PS/2 personal computers. Provides the same MIDI interface function as the MPU-IPC and is compatible with most currently released software. Equipped with one MIDI in and two MIDI outs, plus tape in, tape out and metronome out.
14548) for IBM PS/2 \$350.00

MPU-IPC IBM MIDI Interface

from Roland • The classic, affordable, smart interface for IBM users. Combines the IPC half-card and a port terminal with one MIDI in, two MIDI outs, sync out, tape in, tape out and metronome out.
14546) \$170.00

V-4001 MIDI INTERFACE

from Voyetra • An all-in-one, smart interface (MPU-IPC compatible), including FSK sync conversion, unpitched metronome, MIDI in, MIDI out, tape sync in/out.
14547) \$199.00

✓ LAPC-1 L/A Sound Card

from Roland • This new option card offers IBM users the benefits of an L/A synthesis sound source. By inserting the LAPC-1 into a PC's expansion slot, you get instant access to all the sounds of Roland's MT-32 sound module. All MT-32 sound circuitry is mounted on a single expansion card along with RCA jacks and a stereo, mini-headphone output. MIDI operations require the MCB-1 optional MIDI connector box. Functions similarly to a MPU-IPC/MT-32 combination, with the advantage of requiring less space and eliminating many cables.
14549) \$595.00

✓ MCB-1 Optional MIDI Connector Box

for LAPC-1 • Interfaces the LAPC-1 sound card with any external MIDI equipment. Gives you two MIDI ins and two MIDI outs, plus metronome and tape sync in/out. Required equipment for using LAPC-1 in a MIDI environment.
14551) for IBM with LAPC-1 \$150.00

RELATED HARDWARE

MIDI CABLES *from Hosa* • High-quality cables are DIN plug-to-DIN plug. Please specify your plug color preferences (black, blue, red, orange or white).
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CBL3) 3' MIDI cable \$5.00

CBL5) 5' MIDI cable \$6.00

CBL10) 10' MIDI cable \$8.00

CBL15) 15' MIDI cable \$10.00

CBL20) 20' MIDI cable \$12.00

MT-70 MIDI THRU INTERFACE

from Sonus • Solve your MIDI cable nightmare. This unit includes two ins and eight outs, and has independent input switches for each of the eight outputs. Compatible with all MIDI setups.
14348) \$95.95

14350) THE MIDI VIEWPORT

from datastream • A versatile, hand-held device for troubleshooting and education. Use it to analyze MIDI transmissions: The buffer retains the last 64 bytes, scroll buttons let you move forward or backward through the buffer and the liquid crystal display (LCD) shows each byte in both decimal and English. Responds in real time to all MIDI messages. Messages pass unaltered through the MIDI out port. Also transmits test messages to check receiving devices in your system and includes a MIDI-cable test function. This handy new accessory is a *Mix Bookshelf* exclusive! \$159.95

MIDIMAN

from Musicsoft • MIDIman is the MIDI-to-tape deck interface. It allows you to record and play back MIDI information with any audio tape deck. With the MIDIman hooked up between your keyboard and tape deck, you can play in a song and save it to tape, then have the tape be the master and tell the keyboard what notes to play. You can also dump whole sequences from a software or hardware sequencer to tape, a great alternative to logging the old personal computer down to the gig! This box gets big points for "Innovative Concept" and "Excellent Use of Existing Technology".
✓ **14353)** \$199.95

SYNCMAN SMPTE/Song Pointer

Sync Box *from Musicsoft* • The Syncman is a versatile synchronization solution for the studio that's tight on space or cash. The unit is the size of a paperback novel, has one button and six DIP switches, will write all four SMPTE time code formats plus a proprietary song pointer sync stripe, and outputs MIDI clocks, MIDI time code and direct lock (for Mark of the Unicorn's *Performer*). *Bookshelf's* tests on Syncman found no problems with dropout or weak time code signals. It slaved up extremely fast, handled tape-speed

variations unerringly, was entirely predictable in its performance, and gets high marks for portability, performance and price.
✓ **14354)** \$199.00

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from Musicsoft • The most compact, dual 4-channel or mono 8-channel mixer/preamplifier yet, optimal for live MIDI gigs and crowded home studios. This hand-held solution to managing the audio outputs of multiple sound modules lets you select low, medium or high line levels with two front panel switches, and operates up to one year on a 9-volt battery. Frequency response is 20 Hz to 20 kHz, ±3 dB; S/N ratio is 90 dB (-10 dB signal in unity gain mode).
✓ **14355)** \$99.95

14001) THE SHARP PC900V OPTO-

ISOLATOR • This hard-to-find component is a crucial part of most DIY MIDI projects. \$3.00 each ■

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CZ SUPER CASIO PROGRAMS

from Synthetic Productions • Each of the three EZ CZ RAM cartridges holds 64 patches (four banks of 16) ranging from imitative voices (piano, organ, trumpet) to very innovative sounds. A complete patch list is available.

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14058) Cartridge 3 with 64 sounds \$69.95

14059) Complete package \$179.95

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from Key Clique • Customized sounds for the serious keyboard player. Patch list

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Yamaha DX7/II/S ROMS \$49.95 (64 Sounds)

13108) Best of the USA

13110) Top 40

13112) Wedding Band

13106) Analog 1

13107) Analog 2

13102) Standard Splits (DX7/S only)

13105) Rock Splits (DX7/S only)

Roland D-50/550 ROMS \$74.95 (64 Sounds)

13114) Top 40

13115) Pro I

13116) Pro II

13117) Pro III

Roland D-10/20 ROMS \$74.95 (128 Sounds)

13136) Volume 1

13137) Volume 2

Korg M1 ROMS \$74.95 (64 sounds)

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✓ BO TOMLYN'S KORG M3/M3A ROMS from Key Clique • Four new ROMs of original sounds for the

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13141) M3 ROM Vol. 1 \$79.95

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13143) M3 ROM Vol. 3 \$79.95

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13145) M3 ROM Vol. 1 \$69.95

13146) M3 ROM Vol. 2 \$69.95

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SAMPLES ON COMPACT DISC

5400C) EARWORKS Sound Library, Volume One, Percussion Terry Fryer • A collection of exotic percussion sounds, heavy on the Asian and Pacific Islands instruments, along with plenty of cowbells, triangles and tambourines. The disc contains crotales, dumbek, log drum, Javanese gongs, Chinese temple bowls, rain stick and much more, digitally recorded and allowed to fade naturally. More than 150 sounds. ©1987, \$49.95. ☐

JUST ANNOUNCED: Terry Fryer's new disc of avant-garde samples, featuring the sounds of power tools, carnival rides, and prepared pianos. Perfect for post-modern composers. Scheduled for release in spring 1990, call *Bookshelf* for more details. ■

SOUND IDEAS

5470D) SOUND IDEAS SAMPLER LIBRARY • This comprehensive, contemporary collection contains more than 3,100 sounds, recorded in stereo on six compact discs. The generous selection includes virtually all the sounds of the orchestra and a wide variety of pop/rock instruments. Features every note of a concert grand piano, more than 150 human voices, vast quantities of guitar and percussion, and an entire disc of sound effects. Each instrument is multisampled and presented with a variety of playing styles. In the 135 musical instruments and 375 sound effects, you'll find everything from Simmons drums to Slinkys, Stratocaster to sitar, orchestral hit to mojo stick; all are played by pro session musicians and meticulously recorded in full digital audio. Each tone is digitally indexed. The library comes complete with extensive documentation and a handsome case. ©1987, \$395.00. ☐

✓ 5471D) SOUND IDEAS SAMPLER LIBRARY, SOUND EFFECTS DISC • The Sound Effects sample disc #6

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PROSONUS SOUND LIBRARY

✓ **5438D) PERCUSSION VOLUME ONE/"EXOTIC PERCUSSION"** • 43 all-new tracks, spanning the range from toy toms and log drums to unique sounds like "Death Scrape" and "Whale Sounds." Highlights include Bass Bells, Mechanical Harp, Smell the Brakes, Mutant Banjo, Power Dulcimer and Kartoon Kalimba. Includes full documentation, plenty of multisamples and voice cues. ©1989, \$69.95 ④

5435D) PERCUSSION VOLUME TWO/ORCHESTRAL PERCUSSION • More than an hour of high-quality, orchestral percussion sounds on this 49-track CD. The 21 instruments include bass, drum, snare, cymbal, glockenspiel, marimba, temple block, tympani and xylophone. Each track includes multiple hits; pitched instruments are multisampled every four semitones. Offbeat sounds include bird calls, slapstick, whistles and sirens. Also featured are the hair-raising sounds of bowed cymbals, bowed gong, bowed springsteel and bowed xylophone. Documentation includes a description of each hit, timings and voice IDs. ©1987, \$69.95 ④

5423D) KEYBOARDS VOLUME ONE/PIANOS • The richness and beauty of the concert grand piano, captured in pure digital splendor. Concert grands from Yamaha, Mason & Hamlin, Steinway and Bosendorfer are played forte, mezzo forte and piano, with each voicing multisampled an average of 18 times. With thorough documentation. ©1989 \$69.95 ④

5420D) ELECTRONIC VOLUME ONE • Hour-long disc features 39 of the richest strings and pads available. These thick, furry synth stacks have plenty of texture, many evolve over time, and all sound great across the entire tonal range. Highlights include Crispy Bass, Buzzy Breath, Voicerealm and Ariated Strings. Each track contains about a dozen multisamples, all four seconds long, with voice IDs and ample documentation. ©1987, \$69.95 ④

5430D) WOODWIND VOLUME ONE/DOUBLE REEDS • Double-reed instruments are presented on this disc, featuring oboe, English horn, bass oboe, bassoon and contrabassoon in sustained and swelled voicings. 11 of the 21 tracks have chromatic multisamples; the rest are sampled five semitones apart. Sounds average three seconds each and include voice IDs. ©1988, \$69.95 ④

5425D) BRASS VOLUME ONE/TROMBONE & BASS TROMBONE • Here you'll find an exhaustive selection of trombone and bass trombone voicings: muted, sustained, flutter tongue, pedal tone and much more. The 32 tracks each have six or more multisamples, averaging around two seconds in length. Voice IDs are included, along with timing and pitch documentation. 42 minutes long. ©1987, \$69.95 ④

5426D) BRASS VOLUME TWO/TRUMPETS, CORNET & FLUGELHORN • 48 pop and classical trumpet voicings covering the entire spectrum of playing style and dynamics. Emphasis is on the B-flat trumpet, with plenty of open and muted notes. Also covers flugelhorn, cornet and piccolo trumpet. Each voice is generously multisampled and includes spoken track IDs and complete sound list. ©1988, \$69.95 ④

5427D) BRASS VOLUME THREE/FRENCH HORN, TUBA & TUBA FX • Sustained, swelled and staccato notes are presented across the entire dynamic range, with an average of 12 multisamples per voice. 24 tracks include muted French horns and some outrageous tuba effects. With voice IDs and timing and pitch documentation. ©1988, \$69.95 ④

5428D) BRASS VOLUME FOUR/BRASS ENSEMBLES • This excellent addition to the sonic palette covers the real sounds of a brass quintet, a large brass ensemble and a rock and roll horn section. The disc offers a wide range of stabs, swells and rips, plus major and minor chords, played both piano and forte. As with all Prosonus releases, these 39 tracks are thoroughly multisampled, include spoken IDs and have documentation. ©1988, \$69.95 ④

✓ **5439D) STRINGS VOLUME ONE/ELECTRIC GUITARS** • Although *Bookshelf*'s guitar army feels a little threatened by this disc, we've

decided to offer it anyway! More than 60 tracks of Strat, Tele, Les Paul and ES-335 samples, featuring single notes, triads, fifths and harmonics. Includes two-dozen note sequences and metallic whammy-bar action. Total of 475 sounds, with documentation and spoken cues. ©1988, \$69.95 ④

COMING SOON! The Prosonus Sound Library has just announced a new series of orchestral strings samples on four compact discs. Although unavailable for review, they'll have the same high-quality sound and thorough documentation as the rest of the Prosonus collection. Scheduled for release in early 1990; call *Bookshelf* for details on content and availability.

✓ **5441D) STRINGS VOLUME TWO/STRING ENSEMBLE** • ©1989, \$99.95 ④

✓ **5442D) STRINGS VOLUME THREE/VIOLIN & VIOLIN SECTION** • ©1989, \$99.95 ④

✓ **5443D) STRINGS VOLUME FOUR/CELLO & CELLO SECTION** • ©1989, \$99.95 ④

✓ **5444D) STRINGS VOLUME FIVE/VIOLA, BASS & SECTIONS** • ©1989, \$99.95 ④

✓ **Just Announced! PROSONUS D.D.D. SAMPLES** • Formatted patches on diskette for virtually all samplers. Call *Bookshelf* for details on price, format and availability. ■

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5475D) VOLUME 1: STRINGED INSTRUMENTS • Solo violin, viola, cello, double bass and ensemble violin. ©1987. ④

5476D) VOLUME 2: ALL WOODWIND AND BRASS INSTRUMENTS • Flute, clarinet, bassoon, French horn, trumpet, trombone and more. ©1987. ④

5477D) VOLUME 3: GRAND PIANO, PERCUSSION AND SAXOPHONES • Two Steinway grand pianos; marimba; xylophone; vibraphone; glockenspiel; tubular bells; soprano, alto and baritone saxophones; and orchestral and ethnic percussion. ©1987. ④

5479D) VOLUME 4: ROCK PERCUSSION AND TYMPANI • Acoustic, processed and pitch-shifted hits and rolls on drums, cymbals, tympani and small percussion instruments. Features many gated sounds. ©1988. ④

5480D) VOLUME 5: ROCK STRINGS • Electric bass, synthesized bass, and clean and processed electric guitar. ©1988. ④

5481D) VOLUME 6: LATIN GROOVES #1 (SOLO INSTRUMENTS) • Conga, tumba, timbales, wood blocks, shakers, claves, guiro, tambourines, triangles, maracas, accordion and more, played in various 8- and 16-measure Latin dance patterns. ©1988. ④

5482D) VOLUME 7: LATIN GROOVES #2 (ENSEMBLES) • The instruments from Volume 6, in ensemble settings, with trumpets. Includes rhythms for rumba, mambo, compasa, cha cha, wawonko and Egyptian belly dance. ©1988. ④

5483D) VOLUME 8: JAZZ SOUNDS • Jazz chords and octaves on Gibson ES-335 and Fender Telecaster, plucked acoustic bass, G&L fretless bass, muted trumpet, cornet, and tenor and alto sax. ©1988. ④

5484D) VOLUME 9: MORE STRINGS, WINDS, PIANOS AND PERCUSSION • Supplements Volumes 1 through 3 with vibrato-less versions of solo strings and pedaled piano sounds, plus classical guitar, harp and celesta. ©1988. ④

5485D) VOLUME 10: PIPE ORGAN • 13 stops and mixtures from a German Baroque organ. ©1988. ④

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SOUND EFFECTS

✓ 5436D) FOLEY FOOTSTEPS Prosonus Sound Library •

This new CD is perfect for a quick fix on problem soundtracks. The 32 tracks contain the sounds of leather shoes, sneakers, dress boots and high heels walking, shuffling, running and jumping on a variety of surfaces. Each track comes with around 20 different takes, all digitally recorded and mastered. Includes a complete index. ©1989, \$69.95 ☐

✓ THE SOUND IDEAS HOLLYWOOD LIBRARY, SERIES

4000 • Just released! More than 2,200 larger-than-life, digitally recorded motion picture sound effects. The most complete selection of cartoon boinks, zips and pops, created by top Hollywood talent. You'll feel chills when you hear the flesh ripping in the horror volume; you'll want to hit the deck during the impressive selection of handgun and automatic rifle sounds. Includes two full discs of musical stingers, beds and signatures, from all genres. All effects are fully cross-referenced in the new Sound Ideas manual (item 5702).

5805 5 CDs, \$495.00 (plus \$5 s&h) ☐

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RARY • The world's first holophonic sound effects library contains 1,001 digitally recorded effects, recorded "on location," worldwide, in special environments that minimize unwanted background noise. The library was designed with the producer in mind, with all effects carefully arranged by category. Holophonics involve a new technique that provides an opportunity to experience sound exactly as it occurs in the original recording environment, with precise up-and-down, front-and-back, side-to-side and far/near spatial reference. The sound effects library comes on ten compact discs and is accompanied by a fully cross-referenced index.

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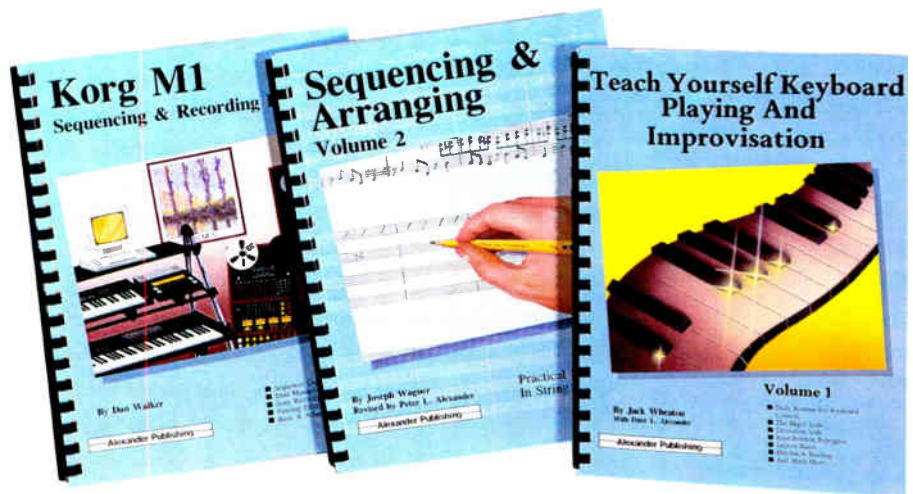
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if I really had anything to offer the business as an individual, as opposed to being surrounded by bands and other musicians. I took a couple of years off and just studied with an orchestrator and arranger and went into the studio in '84 to put down some instrumental ideas." Through a circuitous route he ended up with Gold Castle Records, for whom he's put out two albums of instrumental music.

While his new disc, *Essence*, took about a year to write, the actual recording took only three weeks, including mastering, because Weider believes in simplicity. For that reason, he eschews home studios and says adamantly, "I'm completely against it—for me. I have no recording equipment at home at all. The reason I don't do demos at home is you can spend so much time messing around with your original idea that it gets lost sometimes. I have my guitars and a synth, and I write everything out on manuscript paper. That's all I need. To me, the original idea is always the best. Some people think I live in the Dark Ages doing it this way, but it works for me."

Weider believes that his Gold Castle albums show his evolution as a composer and explains that *Essence* will be the last of the baroque and Renaissance mood he has been favoring. The electric guitar on two cuts of *Essence* herald an upcoming third album, and a slightly different stylistic focus.

"There are going to be some classical influences coming out, but they're going to be more in a modern vein, more in the 20th century sense as far as composition is concerned," he says. "There will be a lot more orchestration on the next album. The sound is going to be fuller and more lush with strings to complement the guitars."

To take it a step further, Weider sees himself film scoring within a couple of years. For him, it is always a matter of forward motion.

"The funny thing is I'm doing now what I originally intended when I learned to play the violin and was into classical," he says. "Then all the rock 'n' roll stuff came along, but I've actually come full circle."

—Robyn Flans

BRIGHT DAYS FOR THE OL' PIANO

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expense of the traditional piano. There's no question that the Casios and Rolands of the world have put a big dent in the fortunes of Steinway and Baldwin. The market share of the old-line giants has been further eroded by the advent of instruments that can accurately reproduce grand piano timbres. One thing has not changed, however: musicians' desire to use that sound in their music. A piano is still a piano.

Ah, but pianos are not necessarily *pianos* anymore. Or they may be pianos, but also *more*. And the same technology that crippled the traditional piano industry is also giving new life to the beloved instrument. Two recent developments should have fans of the instrument—even traditionalists—cheering.

In early March, Yamaha unveiled its new, electronically controlled Disklavier grand piano by having George Gershwin play "Swanee" on the \$20,000 instrument. Well, it was *almost* Gershwin, anyway. Actually, the Disklavier "read" a Gershwin performance from a 1919 piano roll

of the song that had been translated into MIDI data, and then "played" it exactly the way Gershwin did 70 years ago. In that earlier era, composers frequently eschewed making recordings with the crude equipment available and instead opted to have performances of their songs preserved on piano rolls for player pianos. Many of these paper rolls are now extremely fragile, and, of course, player pianos—never the most reliable instruments to begin with—are almost as rare as buffalo nickels.

Recently, however, Massachusetts-based company Micro-W Distributing received a patent for a process that takes the patterns on a piano roll, converts the information to numerical form by computer, and then translates that into MIDI information. As a result, thousands of performance rolls by the likes of Rachmaninov, Scott Joplin, Eubie Blake and others will be stored in a more permanent medium, and be able to be played back by instruments like the Disklavier, or other electronic pianos. One can easily imagine *contemporary* recordings of some of this material—Rachmaninov himself on compact disc!

At Bosendorfer, another maker of fine acoustic pianos, the big news is the introduction of Bosendorfer SE, an "electronic reproducing piano" invented by Wayne Stahnke. Stahnke has developed his own method of converting player piano rolls into computer language to be played exclusively (so far) on the SE.

The SE was also part of an historic event last fall: the first direct-to-CD recording session. Here's how it went down:

In New York City, the noted jazz pianist Dick Hyman performed a number of songs by Fats Waller on an SE, which stored the performance on an internal floppy disk. The floppy was then taken to California where it was fed into another SE in a recording studio. Mics on the piano picked up the performance, which was converted to a digital bitstream and then sent by microwave to a Disctronics' CD mastering facility. The resulting CD is called *Dick Hyman Plays Fats Waller* on Reference Recordings.

—Blair Jackson



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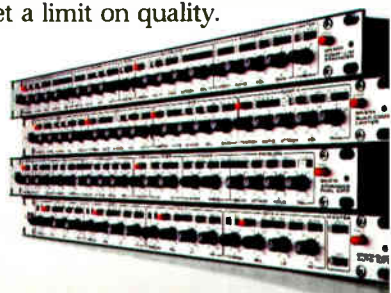
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—FROM PAGE 72, FUTURE: SIGNAL PROCESSORS

Users could "press" buttons by pointing to the image on the screen. The big advantage of graphical displays over traditional knobs and dials is that the interface can adapt. Virtual front panels present only the controls needed for the task at hand. With intelligent design, there is no need for a vast array of controls, eliminating a source of expense, unreliability and awkwardness.

Virtual panels will also encourage manufacturers to provide additional controls, because virtual controls neither complicate the control surface nor burden the parts cost. Three ongoing developments will popularize virtual front panels in the next decade. First, high-resolution, flat-panel graphical displays are becoming inexpensive. Second, programmers are getting better at designing software that makes virtual front panels an advantage. (Having to change from one screen to another to access a control can be a hindrance.) And third, the computer power (including graphics engines) will be powerful enough to generate the required displays.

Converters

Whither the bit wars? Unlike consumer audio, the need for additional bits (beyond 16) in professional audio is clear. In principle, as long as the final product is 16 bits, then 16 bits should suffice for the original recording. But where do you set the record volume control during a live performance? You would like to set it to just utilize the full 16-bit dynamic range for the loudest passage, but you can't know *a priori* what the loudest passage will be. Err on the high side, and the loudest passage will be distorted. So recording engineers must err on the low side, which means that recordings rarely utilize all 16 bits.

Ideally, professional recording equipment would provide at least a couple of extra bits, for 12 dB of headroom. Throw in a few more bits for improved linearity, and you're looking at a 20-bit converter. A 20-bit storage medium assures an accurate recording, after which the signal can be precisely attenuated to just fill the 16-bit dynamic range of consumer media. Considering the tendency in audio to irrational excess, chances are good that converters with even greater resolution will be in use by the end of the decade. In fact, an oft-quoted

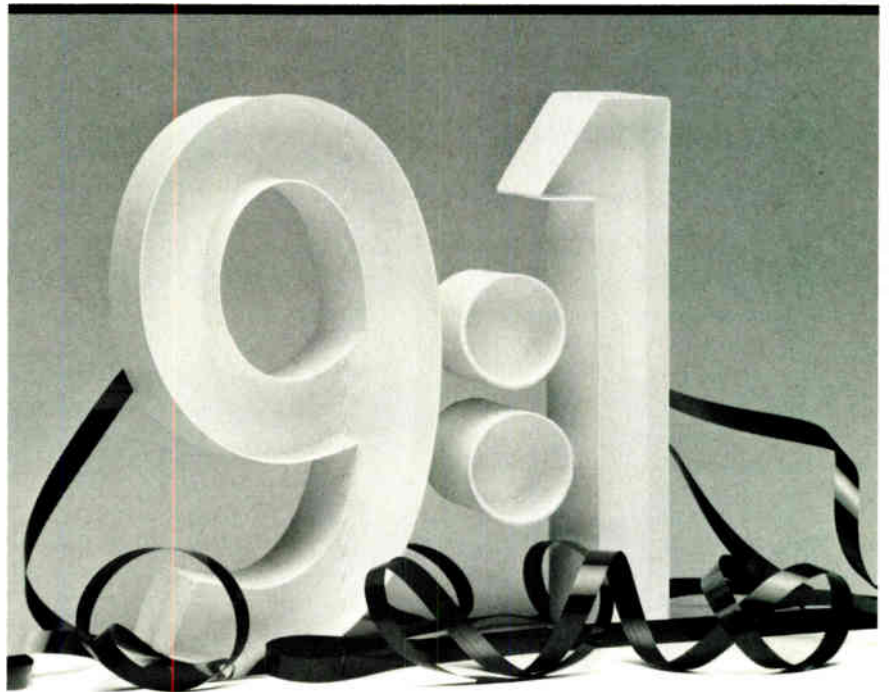
paper by Louis Fielder of Dolby Laboratories holds that 21 bits are required to keep noise inaudible at all times. But it doesn't help to do everything right in production if the final result has to be reduced to 16 bits. A new CD standard, anyone?

What It's Going to Mean for Digital Audio

As digital technology began to catch on in audio at the beginning of the '80s, it created cacophonous controversy. Now, as we enter the '90s, the problems are being resolved, and designers are beginning to turn their attention to novel applications. The lever-

age provided by the computer industry will accelerate developments. By applying digital technology in new and different ways, products in the '90s will provide new capabilities, increased productivity and greater opportunities for creative expression. It's going to be a fun decade! ■

Jeffrey Borish has been involved in digital audio for many years, first on the SoundDroid project at LucasFilm, then as inventor of the NoNoise system at Sonic Solutions, and now as president of EuPhonics, a consulting firm specializing in digital audio and digitally synthesized music.



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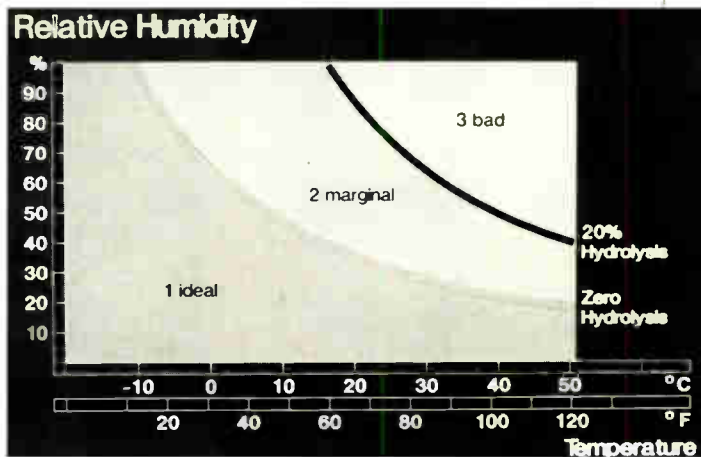
by Philip De Lancie

STICKY SHED SYNDROME

TIPS ON SAVING YOUR DAMAGED MASTER TAPES

Anyone who's been working with old master tapes in the last few years is probably familiar with the following scenario. You're about to get started on preparing a reissue when you notice that your source tape was recorded in the late '70s. With mounting apprehension, you load the tape onto your machine, rewind a bit and press play. Just as you feared, within 30 seconds you start to hear the familiar squeal of gummy oxide grabbing the tape as it moves past the heads and stationary guides. You know immediately that you're going to have to abandon the project, and the client isn't likely to be pleased that his or her irreplaceable master has transformed itself into adhesive tape. After winding off the tape, you spend the next couple of minutes ridding your tape path of the sticky black shed that used to be part of the master.

Excessive humidity and temperature conditions can result in hydrolysis, causing tape binders to absorb atmospheric moisture.



Sticky shed isn't a new phenomenon. But the ongoing efforts of record companies to fill out their CD lines with reissues have created an unprecedented demand for material previously left undisturbed in

company vaults. The years haven't been kind to many of these tapes. Problems have cropped up on masters recorded on all the major brands. With the exception of Agfa (see accompanying sidebar), tape

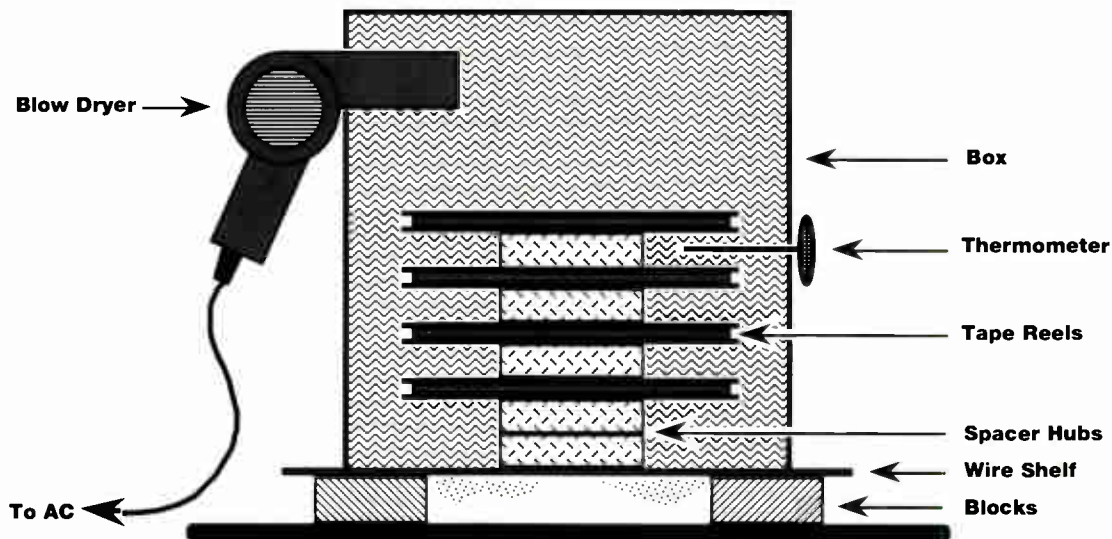


Figure 1: Heating Chamber for Baking Tapes

manufacturers haven't gone out of their way to publicize the problem. Steve Smith, product line manager at Ampex Recording Media, summarizes his company's attitude as follows: "We've taken a lower profile on this than Agfa. Based on our research, the problem is significant but not so widespread that everybody needs to be concerned about it. When customers do encounter it, we have a fix for them that works, which we pass along at no charge. And if people want to have us 'bake' their tapes, we'll be glad to do that for them."

Smith notes that tape can exhibit two discrete, long-term problems: binder breakdown and lubricant breakdown. Lubricant breakdown, which is relatively rare, leaves a whitish shed. (According to Smith, this has not been a problem with Ampex product.) He cautions that anyone who intends to apply any kind of lubricant to a shedding tape should first determine that the problem is lubricant breakdown rather than the more common binder breakdown, which leaves the dark, gummy residue.

Binder breakdown is due mainly to the use of polyurethane binders. Under humid conditions, polyurethane has a tendency to absorb water in a process called "hydrolysis." The water reacts with the urethane molecules, causing them to break from their normal structure and migrate to the surface of the tape,

Send Us Your Masters

In April 1989, Agfa hosted a forum on restoring old masters at which it described Agfa-XT, a new process for dealing with oxide shed. Since October, the company has been offering XT as a send-in service to clients including PolyGram and CBS. Agfa's charge, based on tape speed and length, comes to between \$280 and \$350 for a 2,500-foot roll (any width) at 15 ips. Turnaround time is normally about two weeks. In the following interview, national technical director John Matarazzo gives Agfa's view of the sticky shed problem and explains the XT treatment:

Mix: What are the causes of the shed problems that spurred Agfa to develop the XT process?

Matarazzo: XT is designed to deal with tapes that are deteriorating due to the "hydrolytic" effect, resulting in binder breakdown. What's happening in modern tapes with polyurethane binders is that the molecule chain is breaking down,

where they gum the tape path during playback. Short strings of urethane are particularly prone to this phenomenon, while long ones tend to make the coating mixture too viscous to work with in manufacturing. Ideally, the vast majority of strings in any given batch of poly-

Results from 12 year old tape



and moisture is being absorbed into the coating, which causes it to break apart. This creates a shed that is gooey enough to make the tape stick to the machine's guides and heads. The same effect could happen with the back-coating, but we've been dealing mostly with oxide shed.

Mix: What age-range of tapes are at risk?

Matarazzo: It is not necessarily only back-coated tapes that have the problem. We've dealt with tapes going back as far as 23 years. But most of the work has been on five-

—CONTINUED ON PAGE 153

urethane are of middle length.

In the case of Ampex, Smith believes the tapes that might be at risk are those manufactured from approximately 1975—when the 406/456 binder system was introduced into production—through 1984. During those years, polyurethane

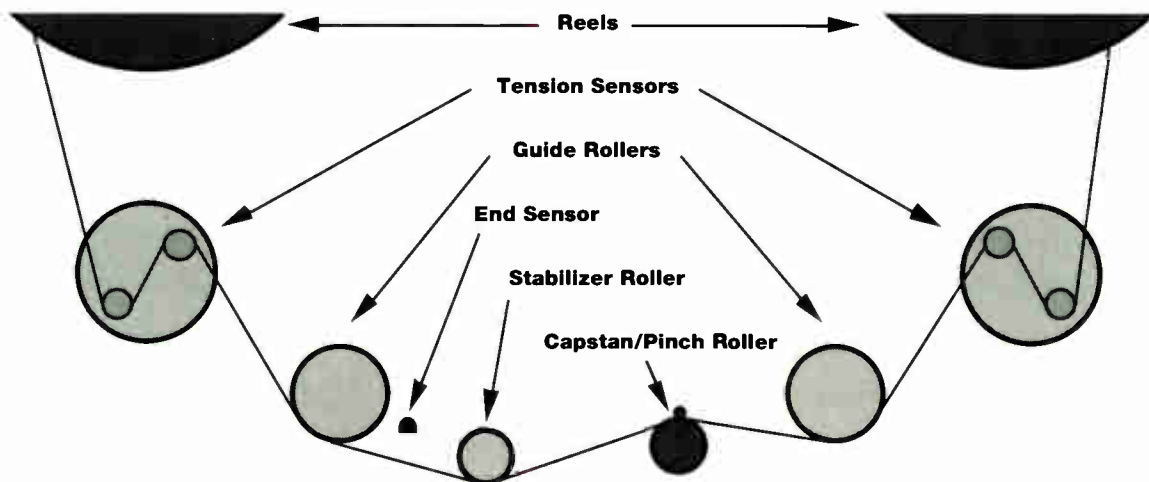


Figure 2: Tape path for packing sticky tape on a Studer A80. With head assembly removed, tape goes around the outside of the stabilizer roller to avoid scraping the tape end sensor.

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TAPE & DISC

supplied to the company by vendors was evaluated with a viscosity check upon receipt at the factory.

Unfortunately, batches with a wide mix of very long and very short strings can average out to the same viscosity as those with mostly medium strings. So an unknown number of tape batches were manufactured with undesirably high levels of short urethane strings. In some cases, according to Smith, hydrolysis may be triggered in these tapes by as little as two or three days at 70% relative humidity. Once started, the breakdown process can render tapes unplayable in anywhere from two to 15 years.

In 1984, the high-pressure gas chromatograph was invented, and Ampex purchased one for use at its plant. With a much more accurate means of analyzing incoming polyurethane, a narrow distribution of medium string lengths can now be confirmed. This greatly reduces the possible incidence of hydrolysis. Says Smith: "We now feel that you would almost have to soak a tape to make it become a problem. Of course, even though we have accelerated testing programs, only time will tell. We think the tapes we make today will hold up better than those of the past. But any information storage medium will degrade over time. So we tell our customers that our tapes should normally last at least ten years under proper storage conditions. We have jointly recommended with 3M that people should budget for the cost of transferring their material on a ten-year basis."

The fact that steps have been taken to minimize the possibility of binder breakdown in current output is reassuring. But for those with older masters, the question remains: "What can be done for a tape suffering from sticky shed syndrome?" Fortunately, there are a number of options. Agfa's XT process (see sidebar) is one rather pricey possibility in which the master is sent off, treated, transferred to new stock and returned.

For those more inclined toward a do-it-yourself approach, an effective and relatively low-cost alternative is available, that of "baking" the tapes. That's the route we've

taken at Fantasy Studios Mastering. We encounter sticky tapes a few times a month, either from outside clients or from Fantasy Records' own extensive collection of classic recordings. After picking the brains of technical personnel at 3M and Ampex about fixes to the problem, chief engineer George Horn devised a temporary "tape oven" (see Fig. 1) to test the efficacy of baking afflicted tapes. While admittedly inelegant, it's proven 100% successful. Scores of previously unusable masters have been made playable without shed. The fix lasts for about a month. Though Ampex claims that tapes may undergo baking numerous times with no ill effect, we normally make digital copies after a single treatment.

The "oven" is actually a 14-inch (cubed) cardboard box with its flaps cut off. The box rests open side down on a wire shelf, which is raised about three inches above a tabletop by blocks in each corner. Tapes are removed from their boxes and stacked inside on 1-inch or 1/2-inch flangeless hubs, which serve as spacers to allow airflow between reels. A 1500W blow dryer, set on low heat and low speed, is inserted into a tightly fit hole high up one side of the box. Poking in through the opposite wall, about halfway up, is a cooking thermometer—the kind with a round dial and a pointed stem for sticking into roasts. Ideal temperature is 130°F, with an acceptable variation of not more than ten degrees in either direction. Baking time ranges from four hours for 1/4-inch tapes up to eight for 2-inch masters. For safety's sake, the thermometer is checked regularly to confirm proper temperature. After the blow dryer is shut off, tapes are left in the oven for several hours to allow them to return to room temperature at leisure.

It sounds pretty simple, but there are a number of very important cautionary notes to keep in mind. First, the system is not thermostatically controlled. Would-be bakers will have to experiment before finding a combination of blow dryer model and setting, distance between the tabletop and the wire shelf, and box size that yields a steady 130°F after the initial warm-up period, which

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we find to be about 20 minutes. If air temperature fluctuates much in the room where the treatment is to take place, maintaining consistent heat in the box might be a problem.

Regarding the tapes themselves, it's a good idea to avoid getting into the middle of a reel before finding out there is a shed problem. Assuming the tape at the tail appears to be of the same type as the body of the material, tapes of suspect vintage can be rewound only one or two minutes worth and played to see if there is a problem before winding all the way to the head. If there is, don't try playing the tape anyway. Buildup of oxide between the play head and the tape will severely impair high-frequency response. Further, the characteristic squealing sound of the tape sticking to stationary surfaces can, according to Smith, actually induce a vibration into the record head that may record onto the tape.

It's also important that tapes be packed smoothly before baking. That presents a bit of a problem if

a tape is unevenly wound, since it can't be run without shedding oxide. The solution is to pack the tape on a machine with the head stack and all stationary guides removed, leaving only roller guides in the tape path (see Fig. 2).

Lately, we've begun repacking most tapes before baking, whether they are unevenly wound or not. That's because the sticky polyurethane binder that has migrated to the oxide surface likes to bind to polyester-base films (one reason it makes a good binder), including plastic leader. After years of contact with an adjacent surface, all that's needed to bind sticky oxide to plastic leader is heat. Baking a reel packed tails out could cause some pulling away of oxide from the first revolution of tape at the head of bands leadered with plastic. By turning reels over and packing tapes heads out, any bond built up between adjacent layers is interrupted before heat is applied.

The blow dryer/cardboard box approach does not necessarily represent the highest attainable level

of tape restoration technology. A more permanent enclosure with banks of thermostatically controlled resistors as a heat source is probably our next step, when time allows. But the current setup actually works fine and avoids the danger of exposure to electrical fields, which is one of many potential problems with trying to use a conventional kitchen oven.

Steve Smith has recommended to some Ampex customers a convection oven available from Faberware for about \$150, which can be set to operate at the required low temperature. So far he's heard no reports of field-related problems with that unit. The fact that a variety of approaches seem to work demonstrates that sticky shed syndrome, while certainly a significant inconvenience, is less than a full-scale disaster for the record industry and the world's recorded musical heritage. ■

Tape & Disc editor Philip De Lancie is a mastering engineer at Fantasy Studios in Berkeley, Calif.

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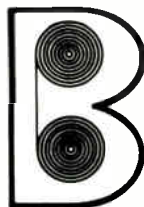
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—CONTINUED FROM PAGE 149

to 15-year-old tapes, averaging ten years old.

Mix: Have you observed that variations in the oxide formulations used in different brands of tape have had much effect on the type or degree of shed problems?

Matarazzo: The problems are basically arising across the board. This is not really at all a matter of faulty manufacturing of a particular brand. Manufacturing faults that cause premature shedding can arise, but those problems usually start to show up within a few months. The shedding we are dealing with here has to do with age and, in many cases, improper care and handling of the material. You cannot stop the deterioration of any manufactured product, especially when you are dealing with something like magnetic tape formulations, which are compounds involving hundreds of chemicals. But you can help to slow it down through proper care and handling.

Mix: What kinds of improper care contribute to breakdown?

Matarazzo: One example would be the use on tape machines of chemicals like xylene or MEK, which readily and easily remove oxide from tape. You can test for that by just putting some on a Q-Tip and seeing if the coating comes off easily when you gently rub a piece of tape. You have to be very careful about using chemicals like that as cleaning solutions in an environment where you've got tape, because the fumes alone are strong enough in some cases to start a negative reaction in the coating and the back-coating. So we recommend the use of chemicals that do not have such a strong effect on tape, such as 99 percent isopropyl alcohol or freon. But if you must, for some reason, use those other chemicals, keep your tapes protected from the fumes, and go over the machine a second time with isopropyl to remove any residue of the first chemical.

Mix: What about long-term tape storage conditions?

Matarazzo: Good conditions that can be economically maintained would be temperature between 68 to 72°F, with 40 percent to 45

You cannot stop the deterioration of any manufactured product, especially when you are dealing with something like magnetic tape formulations, which are compounds involving hundreds of chemicals. But you can slow it down through proper care and handling.

percent relative humidity. Basically, what's comfortable for your body is good for the tape. The difficulty comes when you have rapid changes in temperature or humidity. That is very detrimental to the tape.

Mix: I assume these guidelines apply not only to recorded tape but

blank stock as well.

Matarazzo: Not only before and after you use the tape, but also during recording. We are just finding out now about the effect of cigarette smoke, ashes, dust and dirt. This debris gets trapped between the layers, and that causes prob-



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lems related to breakdown of the material after long-term storage.

Mix: Has growing awareness of the sticky shed problem led manufacturers to make any changes in process or materials—for instance, exploring alternatives to polyurethane?

Matarazzo: First of all, even some tapes that do not have polyurethane binder can experience breakdown and shedding. Second, polyurethane is necessary in modern tapes to deal with problems inherent in older binding systems. The recording industry wanted tapes

that were quieter, with better high-frequency capability, better MOL and lower abrasivity on the heads. The polyurethane needs to be there in order for us to build the magnetically excellent tapes we have today. Like anything else, there are trade-offs, but no manufacturer of any kind of quality tape would go back to the formulations of earlier days. However, they might go back and relearn from that earlier technology to help make longer-lasting tapes today. The bottom line is that nothing lasts forever, but all the tape manufacturers are actively

working to design and build tapes that will have a longer lifespan.

Mix: Is polyurethane binding currently used in both digital and analog tape formulations?

Matarazzo: Yes.

Mix: Let's go over the five steps in the XT treatment. You start with "inspection and splice protection"?

Matarazzo: Yes. We have to be sure when we process the tape that the glue from the splice, which is probably already oozing, doesn't stick to the adjacent layers, because that could wind up pulling the oxide off. So we put an insulator between layers on both sides at splices. It is a very labor-intensive process. To be able to run the tapes while we make our inspections, we use a machine that has only roller guides, and we don't go over the heads, so it is gentle on the tape.

Mix: The second step involves a "quick chemical treatment." Is the chemical used for cleaning, lubrication or some other purpose?

Matarazzo: We do not recommend applying lubricant to try to make the tape run. You are trying to add something that wasn't there at the tape's inception, and we have found that it usually causes more damage than help. We are continuing to work on a chemical aid to help stabilize the problem, but to date we haven't come up with anything that we can successfully apply. So, the chemicals we use now are just to help clean the material. They are very mild solvents.

Mix: Step three is a "cleaning process" as well. Is that a mechanical cleaning—something in the tape path that is wiping away debris?

Matarazzo: Basically.

Mix: Step four is the application of heat.

Matarazzo: This is the key—the most critical stage. What makes the XT process so crazy is that what we do for tape A doesn't necessarily work for tape B. All the formulations are different. So we have to find the right combination of the five steps to get the tape to play back. By analyzing a blank section of tape before we start, we get an idea of what to do for a particular tape, or perhaps for a batch of tapes from the same lot. We figure out how much heat to apply for how long, and how long it has to accli-

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mate before transfer if we don't transfer while it's hot.

Mix: You do the transfer, which is step five, as soon as the tape has acclimated for the appropriate duration. Why is timing so important?

Matarazzo: Because this is not a cure. We're not sure there is a cure. This is just a temporary stabilization of the shedding. We can stop it, remove any loose debris and get a good clean playback without having to stop between selections. But it doesn't last. The material reverts back to its original state: not any worse, but not any better. We give ourselves a window of an hour to work with, but it does vary depending on the severity of the problem. We have had tapes last as long as 16 hours. But in the majority of cases, it starts to go back to its original state about an hour after it acclimates.

Mix: In our experience with "baking" tapes at Fantasy Mastering (see accompanying article), they seem to remain playable up to a month after treatment.

Matarazzo: I would guess the reason is our process doesn't require the tape to be heated for the same length of time. It all boils down to trade-offs. If you have to wait four or eight hours to bake a tape, it limits the amount of tapes you can do in a given day unless you have a lot of these special ovens. With our system, you have the advantage of being able to treat each tape quickly.

Mix: What formats do you usually transfer to?

Matarazzo: We give the client back a direct tape-to-tape copy of whatever they gave us, with no signal processing. We have all Dolby types here, so if they want we can decode A-type and encode SR. We have had requests to go to DAT or 1630, and we can do that for a little extra charge. We haven't been asked to do open-reel digital formats yet, but if somebody wants it, we'll do it. We'll work with the client.

Mix: Are there types of shed problems that XT is not intended to deal with?

Matarazzo: So far, we haven't met a tape we couldn't play. It's out there someplace, I'm sure, because the effectiveness of the process depends on how badly the material has deteriorated. But up to now we've been 100 percent successful.

Mix: How would you describe the advantages of sending tapes to Agfa for XT processing over setting up a baking system to handle the problem in-house?

Matarazzo: I have talked to people who have used the baking technique and have been very successful with it. My response is: "Good." Anything that can be done to get valuable recorded material back in action is a good thing. But as a tape manufacturer, Agfa is experienced with tapes and what is really happening with them. We know how to handle these shedding tapes, and the likelihood of something going wrong is probably less here than it would be in a studio. That's important to the people who have a lot of material and need to have it transferred correctly.

—Philip De Lancie

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by Philip De Lancie

TAPE & DISC NEWS

A number of related reports in *Billboard* seem to indicate that there's no end in sight for ongoing disputes over DAT and home taping. Several representatives, including California's powerful Henry Waxman, introduced legislation in Congress on February 22 requiring inclusion of the Serial Copy Management System (SCMS) on consumer DAT recorders imported to the U.S. The bill, put forward as part of last year's Athens agreement between the RIAA and DAT manufacturers, is thought unlikely to receive high priority from legislators occupied with more important concerns (like getting re-elected). Further, though it is supported by the National Association of Recording Merchandisers (NARM), it faces strong opposition from the Copyright Coalition, a collection of publishing and songwriting interests.

Hopes for an alternative technological solution to the problem have been set back by the apparent opposition of Sony to a debit

card plan. This plan proposes that recorders would only allow home taping upon insertion of a prepaid card sold through record retailers, the proceeds from which would go to copyright holders. Jean-Loup Tournier, director of the French authors' rights society SACEM, reportedly said at Europe's MIDEM convention that Sony had told the European Commission such technology would be too costly and wouldn't be ready for years. Tournier expects 1990 to bring a recommendation from the commission that all member nations of the Common Market, scheduled for full-scale economic integration in 1992, impose levies on blank tapes to pay copyright holders for revenues allegedly lost through home taping.

Reached for comment in New York, Charles Sanders of the National Music Publishers' Association, a Copyright Coalition member organization, noted that the coalition itself has no formal goal beyond

defeat of the SCMS bill. But he feels that the European developments bolster NMPA's own position in favor of levies instead of—or in addition to—technical limitations on home recorders. "[The Europeans] realize the more money that goes to creators, the more people can support themselves by being part of the creative community, and the higher the output will be, in quantity and quality, from indigenous songwriters. In this country, the Reagan and Bush administrations, recognizing that we have moved away from heavy industry, have made intellectual property the centerpiece of our trade policy. So it would seem ludicrous for us to lag behind in the protection of American copyrights. That's something we intend to stress to Congress."

Regarding Sony's and Technics' intention to begin importation of SCMS-equipped DAT recorders, Sanders says, "The NMPA is studying all its alternatives, including litigation, for ensuring that songwrit-



The Starter System from Optimage Interactive Services. See page 158, Splices.

ers and publishers get proper copy-right protection. The decision to import has, if anything, just sped up the process. We intend to be ready when the time comes."

CMS Digital, the Pasadena, Calif.-based digital mastering and equipment rental firm, has acquired Artisan Sound of Hollywood. According to vice president Gene Shiveley, the move is part of a company plan to create a facility specially oriented toward audio for all types of optical discs, including CD-Audio, videodisc, CD-V and CD-I. The hope is to extend the mastering room's role beyond the confines of the record industry, making the practice of giving a final polish to audio a regular part of the production chain for video product as well. All-digital signal processing paths and fiber optic transmission will be an integral part of CMS's digital mastering areas. Exact distribution of activities between the Pasadena and Hollywood sites has yet to be finalized, but mastering engineer Greg Fulginiti will continue his work on record industry product out of Artisan.

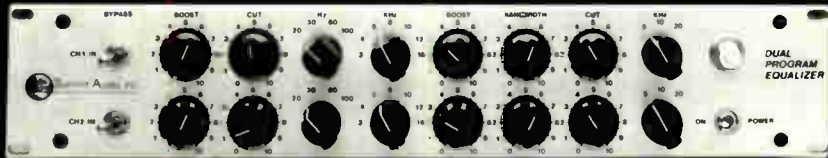
Island Records has initiated an innovative policy to encourage young music buyers to support CD releases of emerging artists. Alternative marketing director Gayle Miller feels many young pop and rock fans who would buy CDs are held back by price differences between formats and are opting for vinyl because of a perceived quality edge over cassettes. To get CD releases off the ground on titles by "new and developing" artists, a list price of \$9.98 has been set for the first 25,000 CDs sold. After 25,000, the list will jump to \$11.98. When CD sales top 50,000, the titles will revert to the company's normal CD list price for their category.

Harmonia Mundi Acustica has developed the Graphical User Interface, designed to supplement or supplant the company's existing control hardware for its BW 102 digital signal processing modules. Instead of knobs, faders, switches and LCDs, the new interface is based

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TAPE & DISC

on a 386-type computer with high-resolution graphics capabilities. A "multiplane display" keeps the user informed on system status and parameter settings, while a tablet and stylus are provided for user input. All moves are recorded and referenced to time code. Stylus activity on the tablet affects displays on both units when new and old interfaces are used together. Harmonia Mundi is handled in the U.S. by Gotham Audio of New York.

• • •

SPLICES

WaveFrame, the Boulder, CO, maker of the AudioFrame digital sound production system, has merged with **Cybermation**, developers of the CyberSound editorial/project management system. Three-and-a-half million dollars in new capital has been raised to fund continued growth for the newly unified venture. WaveFrame shipped 43 systems in the last quarter of last year and reported record new orders in January. ...Seattle's **Martin Audio Group** has expanded its exclusive dealership arrangement with CD manufacturer **American Helix** to include Oregon in addition to Washington state. The company has also reported the election of president Scott Olsen to the board of directors of the **Northwest Area Music Association**, a non-profit organization promoting the Northwest music community. ...Knoxville, TN-based **OptImage Interactive Services** has created a low-cost development platform, the Starter System, which "lowers the entry threshold for developers to get involved with CD-I." The system combines a Philips CD-I player, including multimedia controller and extension system, with a monitor, keyboard and 40-megabyte hard drive. An enhancement, the CD-I Emulator, will be available soon to upgrade the Starter System to full CD-I publishing capability. ...CD Simulator, a turnkey CD-ROM development package, is now available from **Reference Technology** (Boulder, CO) in three system levels: Primary, Desktop and Compact. Depending on price, the systems integrate 9-track tape, disk and 8mm tape com-

ponents with a computer running the CD-Simulator System Software, allowing in-house CD-ROM production. ...**Dialog Information Services** of Palo Alto, CA, is shipping two new CD-ROM products: the monthly updated IDD M&A Transactions and the Thomas Register, a company profile and product index for 148,000 American manufacturers.

A Production Totalizer has been developed by **Versadyne** of Campbell, CA, to keep a running count of complete recordings made from the running dub master during duplication. The SPD-250, retrofitable to most professional dupe systems, is designed to eliminate miscalculations leading to short runs or overruns. It allows the use of mixed length hubs, stagger-loaded, and may be stopped/restarted without losing its count. ...**Tape-matic's** Static Audio Master is up and running at Quebec's **Disques RSB**, the first North American duplicator to use the RAM-based high-speed duplication master. SAM features simultaneous loading of sides, four loading ratios (up to 32:1), and five output duplication ratios including 128:1. Memory is expandable to a maximum 120 minutes of program. ...Work is underway in Kазepally, India, on construction for **Hindustan Magnetics** of a video and audio tape plant that will be the first in that country to make chromium dioxide tapes. Design, building and installation of tape manufacturing equipment, as well as training of personnel, will be handled by the project's primary contractor, **CM Magnetics** of Santa Fe Springs, CA. ...**Panasonic**, seeking to allay any industry apprehension about the durability of DAT in professional applications, is publicizing the results of a recent "tor-ture test" in which a 30-second section of tape was subjected to over 12,000 playback passes in the company's SV-3500 deck. According to Panasonic, the tape exhibited increasingly high interpolated errors toward the end of the experiment, but continued to play back with no audible problems. ...**Music & Design Studio** of Somerset, NJ, has announced successful completion of an audio cassette sales training program for AT&T. ■

1990 MIX DIRECTORY

NORTHEAST STUDIOS

Information in the following directory section is based on questionnaires mailed earlier this year and was supplied by those facilities listed. *Mix* claims no responsibility for the accuracy of this information. Personnel, equipment, locations and rates may change, so please verify critical information with the companies directly.



Messina Music, in New York City, has completed the installation of the first of API's new Discrete Series consoles. The 56-input board features an all-discrete (no VCA's or IC's in the signal path) design, along with 48-track tape monitoring, 48 buses, ten echo sends, API 550B 4-band EQ and GML moving fader automation. Photo by Lightscapes.

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Mix listings procedure: Every month, *Mix* mails questionnaires to recording studios and/or other vital facilities and services for the recording, sound and video production industries. There is a nominal charge to list a Boldface Listing (name, address, contact) and an Extended Listing (equipment, credits, specialization and photo or logo). If you would like to be listed in a *Mix* Directory, write or call the *Mix* Directories Department, 6400 Hollis Street #12, Emeryville, CA 94608; toll free 800-344-LIST!

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24+ TRACK

STUDIOS

ACME
RECORDING STUDIOS INC.

ACME RECORDING STUDIOS
Mamaroneck, NY

[24+] **ACME RECORDING STUDIOS**; 112 W. Boston Post Rd.; Mamaroneck, NY 10543; (914) 381-4141. **Manager:** Peter Denenberg. **Engineers:** Rory Young, Peter Denenberg, James Brown, Thom Leinbach, Bill Masters. **Dimensions:** Room 1: studio 25 x 28, control room 12 x 18. Room 2: studio 12 x 12, control room 12 x 20. **Mixing Consoles:** ACME design 56 x 48 w/discrete signal path, musically intelligent devices, disk-based automation (in-board) w/56 fully automated gates, V.U. and PPM metering, stereo spectrum analysis, complete automation display. **Audio Recorders:** Otari MTR-90 MkII 24-track, Ampex 24-track, 1" video layback, 1/2" 2-track, 1/4" 2-track, Sony 1000-ES DAT. **Cassette Recorders/Duplicators:** (4) Yamaha, Sony DAT 1000ES. **Noise Reduction Equipment:** Dolby SR/A, dbx. **Synchronization Systems:** BTX, Cipher Digital 2- to 4-machine lockup, 1" layback to modified audio transport. **Echo, Reverb & Delay Systems:** Lexicon 224, Lexicon PCM70, Lexicon LXP-5, Lexicon LXP-1, Lexicon MRC, Eventide H3000, Eventide 910, Yamaha REV7, various other delays. **Other Outboard Equipment:** Pultec, Lang and Altec EQs and filters, (2) UREI 1176, (2) UREI LA-4 limiter, Aphex gate, Drawmer gate, (56) channels in-board automated gate, (4) dbx 166, dbx 900 rack w/limiters/gates/de-essers. **Microphones:** Neumann U67 tube, Neumann 87 FET, Neumann KM84, AKG The Tube, (3) AKG 414, (2) AKG 451, Calrec, Sennheiser, Shure, Crown P2M and others. **Monitor Amplifiers:** Crest, BGW, Crown, Yamaha. **Monitor Speakers:** Biamp 604 w/subwoofer, Yamaha NS-10, Tannoy, Auratone. **Musical Instruments:** Steinway vintage B piano, Gretsch drums, Marshall amp, Fender amp, Ampex amp, large selection of guitars on request. **Other MIDI Equipment:** Alan 1040ST w/HD, Steinberg and Cu-Base software w/SMP24, Akai S950 sampler, Akai S900 sampler, Korg M1R, Roland D-110, (2) Oberheim Matrix 10k90, Oberheim x-pander, Yamaha DX7iIFD, (2) Yamaha TX8'2. **Video Equipment:** JVC 8250 3/4" VCR, Sony monitor. **Other:** Capability of automating MIDI outboard equipment. **Rates:** \$125/hr. Block rates available. **Specialization & Credits:** Acme Studios overlooks the Long Island Sound and is 35 minutes from NYC. Client list includes: Warner Bros., Sire, Atlantic, Capitol, A&M, Island, Chrysalis, SOS, Rhino, Sonographic, Arista, Tommy Boy, Teldec, RCA, MCA, Polydor, Chetnick, Enja, Passport, CBS. Many gold and platinum recordings for artists like Atlantic Starr, The Roches, Willie Colon, Glenn Alexander w/Randy Brecker & Mino Cinelu, Company of Wolves, Tom Stacy, Kali Mac, Silent Running, Cornell Dupree and Who It Is, Dirty Looks, Nana Vasconcelos, Devon Square, Jeff Beal, Samuel Zyman, Mitch Ryder, Nicolette Larson, Dr. John, Geri Allen, Roland Vazquez w/Anthony Jackson, Rob Mathes w/Will Lee & Joe Bonadio. Complete production services are available, and the greatest food in the world is right up the street.

[24+] **ACTIVE AUDIO**; also *REMOTE RECORDING*; PO Box 405; Underhill, VT 05489; (802) 899-9977. **Owner:** Paul J. Harriman III. **Manager:** Jeffrey A. Cooper.

[24+] **ACTIVE INC.**; also *REMOTE RECORDING*; 270 Lafayette St., Ste. 1203, New York, NY 10012; (212) 925-8150. **Owner:** Active Inc. **Manager:** Stephen Tjaden.

[24+] **A.D.R. STUDIOS, INC.**; also *REMOTE RECORDING*; Skylight Run; Irvington, NY 10533; (212) 486-0856. **Owner:** A.D.R. Studios, Inc. **Manager:** Jack Davis.



ARABELLUM STUDIOS
Albany, NY

[24+] **ARABELLUM STUDIOS**; 654 Sand Creek Rd.; Albany, NY 12205; (518) 869-5935. **Owner:** Art Snay. **Manager:** Yvonne Baulochka.



ASL MOBILE AUDIO
Flushing, NY

[24+] **ASL MOBILE AUDIO**; only *REMOTE RECORDING*; PO Box 791; Flushing, NY 11352; (718) 886-6500; FAX: (718) 886-7214. **Owner:** Aura Sonic Ltd.

[24+] **AUDIBLE IMAGES**; also *REMOTE RECORDING*; 22 Cambria Point; Pittsburgh, PA 15209; (412) 821-2648. **Owner:** Jay O. Dudd. **Manager:** Jay O. Dudd.

[24+] **AUDIO INNOVATORS, INC.**; also *REMOTE RECORDING*; 216 Boulevard of the Allies; Pittsburgh, PA 15222; (412) 471-6220. **Owner:** Norman J. Cleary. **Manager:** Tim Benedict.

[24+] **AUDIO MASTER INC.**; 7101 Wisconsin Ave., Ste. LL01; Bethesda, MD 20814; (301) 294-2222. **Owner:** Jeff Kidwell, president. **Specialization & Credits:** Digital recording and production for radio and television advertising.

[24+] **AUDIOMATION**; 922 W. North Ave.; Pittsburgh, PA 15233; (412) 231-7767. **Owner:** Gregg Vizza. **Manager:** Gregg Vizza.

[24+] **AUDIO-VISUAL RESEARCH (AVR)**; 78 5th Ave., Penthouse; New York, NY 10011; (212) 627-1144. **Owner:** Alexandros. **Manager:** Joe Berger.

[24+] **AURA SONIC LTD.**; also *REMOTE RECORDING*; PO Box 791; Flushing, NY 11352; (718) 886-6500; FAX: (718) 886-7214.

[24+] **AXIS STUDIOS, INC.**; also *REMOTE RECORDING*; 254 W. 54th St.; New York, NY 10019; (212) 262-3120; FAX: (212) 262-3942. **Owner:** Francois Kevorkian. **Manager:** Yvonne Turner. **Engineers:** Judy Reeves, Chief of Maintenance. **Dimensions:** Room 1: studio 8 x 10, control room 17 x 22. Room 2: studio 21 x 16, control room 18 x 14. Room 3: control room 18 x 8. **Mixing Consoles:** SSL 6064E 64 inputs w/G Series computer and Total Recall, Amek Angela 47 inputs w/P&G faders and DiskMix automation, Roland M16E. **Audio Recorders:** Mitsubishi X-800 32-track digital, Studer A-827 24-track analog, (2) Studer A80RC 2-track 1/2" and 1/4" master, Panasonic SV-3500 DAT, Sony DTC-1000 DAT, Studer A80 MkIV 24-track master, Sony DTC-500 DAT, Sony PCM-2500 DAT, Sony DTC-300 DAT, Nakamichi DMP-100 F1 2-track digital, Digidesign Sound Tools editing system w/330MB HD, DAT I/O, Macintosh IIfx w/4MB RAM w/color monitor and over 1/2 of digital audio storage. **Cassette Recorders/Duplicators:** (4) Nakamichi MR-1, Studer Revox. **Synchronization Systems:** TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L, Lexicon PCM70, TC Electronic 2290 digital delay w/11 sec. sampling, Yamaha SPX1000 digital effects, Eventide H3000 Ultra-Harmonizer, (2) Lexicon PCM42, Roland Dimension D, (2) Yamaha SPX90 MkII. **Other Outboard Equipment:** (6) Neve 1073 and 1080 EQ, (2) API 550 EQ, (3) Pultec EQ and filter, Neve 33609 stereo compressor/limiter, (8) Kexep II noise gate, (2) Drawmer noise gate. **Microphones:** AKG C-12 tube, (2) Neumann U47 tube, (3) Neumann U87, (3) Neumann TLM170, Neumann M269c, Neumann M249b, Neumann KM254, Neumann SM69 tube. **Monitor Amplifiers:** (4) Bryston 4B, (3) Hafler P-500. **Monitor Speakers:** (2) UREI 813B, (4) Yamaha NS-10M near-field, (2) Tannoy LGM 12". **Musical Instruments:** E-mu Emulator III w/8MB RAM, Moog Minimoog, Yamaha DX7iIFD, Akai S900 sampler w/library, full complement of analog and digital keyboards and samplers, Akai S1000 4MB RAM 40MB removable HD, SCSI, digital interface card. **Other MIDI Equipment:** IBM 640K RAM 40MB HD w/Sequencer Plus MkIII v.3, (2) Macintosh 2MB RAM 40MB HD w/Performer and Vision, IBM compatible w/Sequencer Plus MkIII v.3.

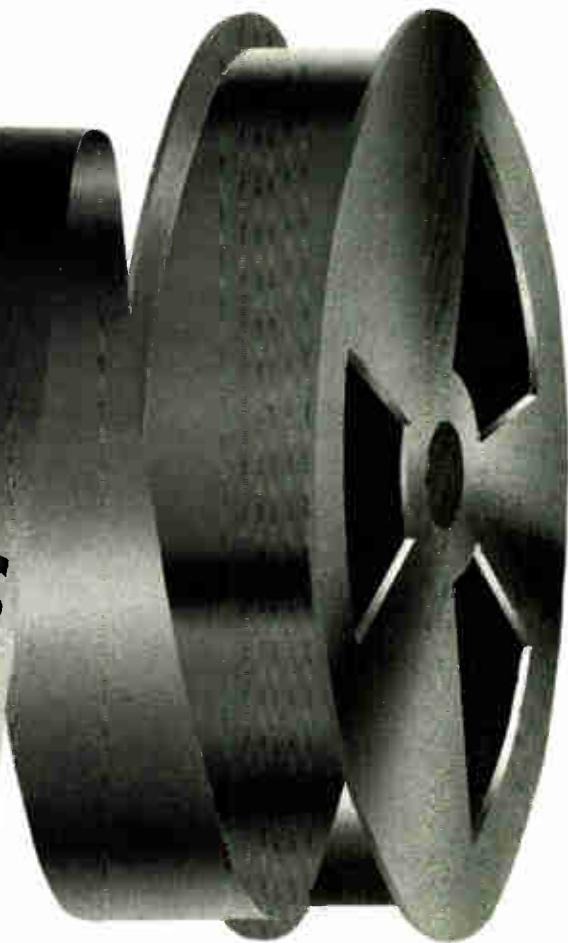
[24+] **BABY MONSTER STUDIO**; also *REMOTE RECORDING*; 645 Broadway; New York, NY 10012; (212) 260-5226. **Owner:** Jamie Burgh. **Manager:** Jamie Burgh. **Engineers:** Gil Abarbanel, Steve McAllister, Bryce Goggin, Judy Mariniss. **Dimensions:** Room 1: studio 15 x 20, control room 14 x 16. Room 2: studio 8 x 10, control room 12 x 17. **Mixing Consoles:** Neve 8036 36 x 8 x 16 w/MegaMix automation, Trident custom 65 32 x 8 x 16 w/Langevin mic pres. **Audio Recorders:** Studer A80 MkII 24-track 30/15 ips, Sony JH-24 24-track 30/15 ips, (2) Sony APR-5002 2-track 1/2" and 1/4" 30/15/71/2 ips, Studer B-67 2-track 1/4" 30/15/71/2 ips, Otari MTR-12 MkII 2/4-track 1/2" 30/16/71/2 ips, Sony 500ES DAT, Casio DA-1 portable DAT. **Cassette Recorders/Duplicators:** (2) Awa AD5-15, (2) TEACV-270C. **Synchronization Systems:** Adams-Smith Zeta-3, Roland SBX-80, Hybrid Arts SMPTE track for Atari ST. **Echo, Reverb & Delay Systems:** (4) Lexicon LXP-1, (2) Lexicon LXP-5, (2) Lexicon MRC, (3) Ibanez SDR-1000, Ibanez SDR-1000+, (2) Yamaha SPX90, Yamaha SPX90ii, DigiTech DSP-128, DigiTech 7.6 sampling delay, Roland SDR-1000, (2) Korg SDD-2000 sampling delay, (3) MXR auto flanger, MXR phaser, MXR flanger/doubler, Eventide 910 Harmonizer. **Other Outboard Equipment:** (6) Pultec tube equalizer, (4) Lang PEQ-2, (2) Pultec HCF-38 filter, (2) Valley People GateX, DR gates, AL gates, (2) Kexep gate, UREI 545 parametric EQ, Orban 622B 2-channel parametric EQ, Orban de-esser, Teletronix LA-2A, (4) UREI LA-3A, (4) UREI 1176LN, (4) UREI 175B, (4) dbx 160 limiter, (3) dbx 160X limiter, dbx 162 stereo limiter, Symtrix CL-150 limiter. **Microphones:** (2) AKG C-12, (4) AKG 414, (2) Neumann U47, Neumann U48, (2) Neumann U67, (2) Neumann U87, (3) Neumann U64, Neumann KM54, Neumann KM56, AKG D-112, (4) AKG 451, (5) Sennheiser 421, (4) Shure SM58. **Monitor Amplifiers:** (2) McIntosh 2100. **Monitor Speakers:** (2) Altec Big Red, (2) Yamaha NS-10M Studio. **Musical Instruments:** Akai S900 sampler, Yamaha TX16W sampler, Yamaha DX7iIFD w/E-1, Steinway B. **Video Equipment:** JVC 8250 3/4" deck. **Other:** Soundtools digital editor, Macintosh IIfx 2/580MB HD. **Specialization & Credits:** Clients include: Epic Records, BMG Records, Green Linnet Records, RaveOn Records, Island Records, Gold Castle Records, Elektra/Nonesuch Records, SBK Entertainment, Caroline Records, Enigma/Metal Blade Records, Radical Records, HBO/Comedy Channel, Important/Relatively Records, Homestead Records, SST Records, Coyote Records, Ciandestine Records. Artists include: Richard Gere, Dr. John, Buster Poindexter, Uptown Horns, Paul Lockheart, Prong, Willie DeVille, Elliot Sharp, Illuminati, Joe Gallant, Eric Anderson, Rebel Reel, Buzzy Linhart, Miles Roston, Pussy Galore, Adele Bertel, Kurtis Mantronix, India, Hugh Masekela (Uptownship), Rick Rowe, the Cheiftans, Jane Gillman. We offer two 24-track rooms, automated mixdown, 3/4" video lockup, MIDI programming, 1630 digital mastering, Soundtools hard disk digital editing, Mac IIfx computer, and complete production, arranging and musician contracting services through producer/musician Steve Burgh, whose credits include—Steve Forbert, Billy Joel, Phoebe Snow, Uptown Horns, Paula Anka, Jane Gillman and others.

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24+ TRACK STUDIOS

[24+] **BALANCE SOUND STUDIOS; 4917 Cordell Ave., Bethesda, MD 20814; (301) 951-3900. Owner: Bob Waxman. Manager: Betsy Berlin. Engineers: Tom Deakin, Jeff Severson, Tom McCarthy, Rich Krents. Dimensions:** Studio 50 x 30, control room 28 x 16. **Mixing Consoles:** MCI JH-628 28 x 24 w/automation. **Audio Recorders:** MCI JH-24 24-track, Studer A807 2-track, (2) MCI JH-110 2-track w/center time code channel. **Cassette Recorders/Duplicators:** Nakamichi MR-2, (6) various. **Synchronization Systems:** J.L. Cooper PPS-100 MIDI/SMPTE interface. **Echo, Reverb & Delay Systems:** Lexicon 224X, (2) Lexicon LXP-1, Lexicon MRC MIDI remote control, Yamaha SPX90II, Yamaha REV7, Eventide H3000S Ultra-Harmonizer, (2) Efectron I, (2) Efectron II, Efectron III, Eventide H910 Harmonizer. **Other Outboard Equipment:** Aphex Type B Aural Exciter, Drawmer DS-301 dual gate, (4) Valley People Kepex II noise gate, (2) Valley People Maxi Q parametric EQ, Klark-Teknik DN-410 dual parametric EQ, (2) dbx 166 stereo compressor/limiter, Orban 424-A gated compressor/limiter/de-esser, (2) UREI LA-4 compressor/limiter, (2) UREI LA-3A leveling amp, UREI 1176LN peak limiter, MXR dual graphic EQ, Yamaha MV802 line mixer. **Microphones:** (2) Neumann U87, Neumann U67, Neumann SM69 stereo, (2) AKG 414, (2) Sony C-37P, (2) Sony ECM-33, (2) E-V RE20, (2) Shure SM81, (2) Shure SM57, (6) Sennheiser 421, Crown PZM. **Monitor Amplifiers:** Bryston 4B, Crest 1501A, Crown DC-300A. **Monitor Speakers:** (2) UREI 813C, (2) Tannoy PBM-6.5, (2) Yamaha NS-10N, (2) Auratone, (2) Altec. **Musical Instruments:** Yamaha C3 conservatory grand piano, E-mu Emax SE sampling keyboard, Sequential Circuits Prophet 2000 sampling keyboard, Roland RD-300 digital piano, Roland Jupiter-6 keyboard, Yamaha RX5 digital drum machine, E-mu SP-12 digital sampling drum machine. **Other MIDI Equipment:** Yamaha TX7 tone generator, Yamaha TX81Z tone generator, Roland MT-32 sound module, Yamaha WX7 wind controller, IBM-compatible PC w/sequencing software, Boss BX-16 line mixer. **Rates:** 24 tracks at 8-track rates!



THE BARGE SOUND STUDIO, INC.
Wayne, NJ

[24+] **THE BARGE SOUND STUDIO, INC.; 92 Lionshead Dr. W; Wayne, NJ 07470-4014; (201) 835-2538. Owner: Jim Barge. Manager: Jim Barge. Engineers: Jim Barge, Jay Morgan. Dimensions:** Studio 17 x 27, control room 14 x 16. **Mixing Consoles:** Harrison 4032C 40 x 32. **Audio Recorders:** Digidesign Soundtools w/Mac IIcx, Panasonic SV-3500, Studer A80VJ MkIV 24-track, Studer A80VJ MkIV 16-track, Studer A80R 2-track 1/4" and 1/2". Otari MX-50502-2-track, TEAC 3340 4-track. **Cassette Recorders/Duplicators:** Tascam 122B. **Noise Reduction Equipment:** dbx 150 30-channel. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon PCM70, EMT 140 w/New York Tech electronics, Roland SRV-2000, DeltaLab DL-2, (2) Korg SDD-3000, Roland SDE-1000, Eventide H910 Harmonizer, Yamaha REV7, TC Electronic 2290 delay/sampler, Yamaha SPX90. **Other Outboard Equipment:** (2) Eventide instant flanger, Loft flanger, (5) Aphex CX1 compressor/expander, (2) Drawmer gate, Aphex Compellor, (2) dbx 160 compressor, Orban 622B parametric EQ, Orban 516C de-esser, Klark-Teknik DN3030 graphic EQ, EXR exciter, BBE 802. **Microphones:** (2) AKG C-414EB, (2) Neumann U87, (5) Shure SM57, E-V RE20, (2) Sennheiser MD-421, AKG D-12E, Beyers M88, (2) Beyers M500, Neumann KM84, (2) AKG C-505E, RCA 77-DX, AKG C-461, AKG 460EB, (2) Neumann TLM170. **Monitor Amplifiers:** Hafler P-500, Crown DC-300A, (2) Yamaha P2100 (cue system). **Monitor Speakers:** (2) 604-based custom-built system, (2) Yamaha NS-10, (2) E-V Sentry 100A, (2) Realistic Minimus-7, Auratone, Tannoy PBM-8. **Musical Instruments:** Yamaha DX7, Yamaha TX816 rack, Ensoniq Mirage, Roland Juno-106, Roland MKS-70, LinnDrum w/MIDI, Kawai KG-2 grand piano, Hammond B-3 w/Leslie, Ludwig 5-

piece drum set, assorted cymbals, misc. percussion, Marshall 50/100-watt head w/cabinet, Fender Concert amp, Roland D-550. **Other MIDI Equipment:** Macintosh Plus w/popular sequencing and library, Roland SBX-80 SMPTE/MIDI interface. **Rates:** On request, based on project requirements.



BATTERY STUDIOS
New York, NY

[24+] **BATTERY STUDIOS; 137 W. 25th St.; New York, NY 10001; (212) 627-8200. Manager: Christopher Rich. Engineers: Tom Vercillo, Mike Allaire, Chris Roberg, Eric Gast, Barbara Milne, Anthony Saunders. Dimensions:** Room 1: studio 9 x 11, control room 20 x 22. Room 2: studio 1,000 sq.ft., control room 20 x 22. Room 3: studio 6 x 11, control room 18 x 14. **Mixing Consoles:** SSL 4064 G Series 64-input, Neve 8068 44-input w/GML automation and 10 additional inputs, DDA APR-24 36-input. **Audio Recorders:** Otari MTR-100, Studer A820 1/2", Studer A827, Panasonic 3500 DAT, Otari 4-track, Otari 2-track 1/4". **Cassette Recorders/Duplicators:** Nakamichi. **Synchronization Systems:** TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L, AMS reverb, H3000, PCM42, PCM70, UREI 1176, GateX, PanScan, Drawmer, LXP-1, GML 8200 EQ, REV5, UREI LA-2A, Lexicon Prime Time II, Pultec EQP-1A, Summit Audio EQP-100A, SPX900, (8) Neve inboard compressor, Roland Dimension D. **Monitor Amplifiers:** Perreaux 8000, Bryston 4B, Bryston 4B-PBX, Bryston 3B, Crown 75. **Monitor Speakers:** Westlake BB5M-12, Yamaha NS-10, Tannoy FSMU, Tannoy 6.5. **Musical Instruments:** S1000, Juno-106, MIDImoog, D-550, Matrix-1000, MC-500, TX802. **Other MIDI Equipment:** Macintosh cxw/Opcode/Vision. **Video Equipment:** JVC 850U 3/4", JVC 8250 3/4". **Specialization & Credits:** Affiliated with the highly successful Battery Studios in London, Battery New York is located in the Chelsea area of Manhattan. Designed by Russell Berger, the studio complex is aided by the local presence of Dearthire equipment rental company. Battery's recent clients include Jonathan Butler, Cissy Houston, Samantha Fox, DJ Jazzy Jeff and the Fresh Prince, and Kool Moe Dee.

[24+] **BAYSIDE SOUND RECORDING STUDIOS, INC.; PO Box 129; Bayside, NY 11361; (718) 225-4292. Owner: David Eng. Manager: Robin Feinberg, David Tvoitie. Engineers: John Ficarotta, Pete Puleo, Andre Debourg. Mixing Consoles:** MCI JH-636 automated. **Audio Recorders:** MCI JH-24 24-track w/autocolor II, MCI JH-110B 2-track 1/4", MCI JH-110 1-track 1/4", Otari MTR-12 2-track 1/2", Sony APR-500 2H 2-track 1/2", (2) Panasonic SV-3500 DAT. **Synchronization Systems:** Roland SBX-80, Aphex studio clock. **Echo, Reverb & Delay Systems:** Lexicon 200, Lexicon PCM70, Lexicon PCM42, Lexicon Prime Time, Roland R-880, Yamaha REV7, Yamaha SPX90II, Ibanez SDR-1000, DeltaLab DL-7, Stroctronics plate. **Other Outboard Equipment:** Eventide 910, (2) UREI 1176, (5) dbx 160X, (10) Valley People Dyna-Mite, Korg digital voice processor, MXR flanger/doubler, (4) Orban parametric EQ, Orban paragrahic EQ, Scholz Rockman distortion/chorus/delay rack, DigiTech multieffects processor. **Microphones:** (3) Neumann U87, (4) AKG 414, (6) AKG 452, (6) Sennheiser 421, (2) E-V RE20, (6) Shure SM57, (2) AKG 451. **Monitor Amplifiers:** (2) Crown PSA-2, Crown DC-75, Bryston, Phase Linear. **Monitor Speakers:** UREI, JBL, E-V, Auratone, (2) Yamaha NS-10M, Tannoy. **Musical Instruments:** Korg M1, E-mu Emulator II, E-mu SP-12 turbo, Yamaha DX7, Yamaha DX100, Roland D-50, Roland Super Jupiter, Roland TR-808, Roland TR-626, Roland Pad-8, Roland electronic drum set, Korg EX-8000, Ensoniq Mirage DSM-8, (2) Akai S900, Sequential Circuits Prophet-5, Moog Minimoog, Fender Rhodes, Oberheim Matrix-6R, Akai MPC-60. **Other:** (2) Macintosh Plus, Mark of the Unicorn Performer, Mastertracks Pro, Drumfile, Opcode editors/librarians. **Specialization & Credits:** Bayside Sound specializes in a relaxed, creative environment where you will receive the highest quality sound and services. It is known to be the best-kept secret in all of New York. Our list of clients have proven this true: Full Force, Lisa Lisa and Cult Jam, UTFO, Weather Girls, LaToya Jackson, James Brown, Dana Dane, LaLa, Salt N'Peppa, Sweet Tee, Kid 'n Play, Bad Boys, E.U., KISS, Lillo Thomas, Marshall Crenshaw, Cash Money, Herby "Luv Bug" Azor, Najee, Skyy, Jimmy Miller, Mantronix, Krystol,

Terumasa Hino, Carlos Alomar, Anthrax, Earl "The Pearl" Monroe, Darryl Strawberry, Eddie Palmieri, George Kranz, Kid Flash, Whodini, Johnny Thunders, Skasha, Jessica Cleaves, Jill Bair, Gibraltar Transmissions, U.S. Athletic, Vicky Love, Pilot Jones, Yolanda! Monge, The Real Roxanne, Cheryl "Pepsi" Riley, Carl Anderson, Lenny White, Buster Poindexter, Sybil, McSearch, McShan, Carole Davis, Larry Smith, Doctor Ice, Mr. Magic, Cool G Rap & Polo.

[24+] **BEARVILLE STUDIOS; PO Box 135; Bearsville, NY 12409; (914) 679-8900. Owner: Estate of Albert Grossman. Manager: Ian Kimmet. Engineers: George Cowan, Chris Laidlaw, Michael Reiter. Dimensions:** Room 1: studio 60 x 40, control room 20 x 19. Room 2: studio 30 x 25, control room 23 x 18. Room 3: studio 30 x 25. **Mixing Consoles:** Neve 8088 40 x 16 x 40, SSL 6000E 56 x 32 x 56 w/G Series computer, custom Bearsville 40 x 8. **Audio Recorders:** (3) Studer A800 MkIII 24-track, Sony PCM-2500 professional R-DAT, Studer A8202-track 1/2", Studer A810 2-track 1/4", Studer A80VU 2-track 1/2", Studer A80RC 2-track 1/4", Studer B67 2-track 1/4". **Cassette Recorders/Duplicators:** (4) Tascam 122 MkII, (3) Tascam 122B, (6) Technics M85. **Noise Reduction Equipment:** Dolby A 24-channel, (2) Dolby 361, dbx 206 24-



BEARVILLE STUDIOS
Bearsville, NY

channel. **Synchronization Systems:** (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** AMS RMX, (2) AMS DMX 15-80S, Lexicon 224XL, Lexicon PCM70, (2) Lexicon PCM42, Lexicon Prime Time II, Lexicon Super Prime Time, Publison Infernal Machine, Yamaha SPX90, (3) Yamaha REV7, (2) EMT 140ST, EMT 240, Live Chamber. **Other Outboard Equipment:** (2) Eventide H949, Eventide H910, (2) Klark-Teknik DN-34, DMP Cyclosynics panner, (4) Pultec EQP, (4) Pultec MEQ, (8) Drawmer DS-201 gate, (6) Neve 32264 comp/lim, (4) UREI 1176LN, (2) UREI 1173, (3) Teletronix LA-2A, (4) UREI LA-3A, (2) Valley People rack, Microphones: Neumann assorted, AKG C-414EB etc., E-V assorted, Sennheiser assorted, RCA 77-DX, Sony ECM assorted, Shure assorted, Sanken CU-41, Beyers assorted. **Monitor Amplifiers:** Perreaux, Crown, Yamaha, Hafler. **Monitor Speakers:** UREI 813A, UREI 813B, Tannoy SRM12B/NFMB, Yamaha NS-10M, Boston Acoustics A60, R.O.B. cubes, E-V Sentry 100, Visonic, Auratone. **Musical Instruments:** Bosendorfer grand piano, Yamaha grand piano, Yamaha DX7, Yamaha CP70 electric grand piano, Roland Jupiter-8. **Specialization & Credits:** Bearsville Studios provides world-class recording and rehearsal facilities in a relaxed country setting just two hours north of New York City. Spacious lodging with 32-channel cable TV on 100 acres with pool. Convenient-to-excellent restaurants and shopping in Woodstock. Fully equipped rehearsal barn complete with custom console. EQs, amps and speakers. Real-time tape duplication in our new copy room. Individual cue mixers in Studio A and Studio B.

[24+] **BEARTRACKS; 278 Haverstraw Rd.; Suffern, NY 10901; (914) 362-1620. Owner: Jay Beckenstein. Manager: Chris Bubacz. Engineers: Larry Swist, Chris Bubacz, Doug Rose, Doug Oberkircher. Dimensions:** Studio 57 x 30, control room 24 x 22. **Mixing Consoles:** SSL 4000 48 x 32 x 32. **Audio Recorders:** Studer A820 2-track, Studer A80 24-track, Studer A80 16-track, Studer A80 2-track 1/2", Studer A80 2-track 1/4". **Cassette Recorders/Duplicators:** (4) Nakamichi MR-1. **Noise Reduction Equipment:** (2) Dolby SR, (2) Dolby 361 A/SR. **Synchronization Systems:** TimeLine Lynx. **Echo, Reverb & Delay Systems:** AMS RMX 16, AMS DMX 15-80S, Publison DHB2, Lexicon 480L, Yamaha REV7, (2) Yamaha SPX90, EMT 240. **Other Outboard Equipment:** (12) Focusrite mic pre/EQ mod, Drawmer DS-201 gates, (2) Teletronix LA-2A limiter, (2) UREI 1176 limiter, (2) Pultec EQP-1R EQ, Pultec MEQ-5 EQ, (2) Fairchild instruments tube limiter, (2) dbx 165 limiter, dbx 162 stereo limiter, Orban 674A stereo parametric EQ. **Microphones:** (2) Neumann U87, (2) Neumann U89, (2) Neumann TLM170, (2) Neumann KM84, Neumann U47 tube, Neumann U47 FET, (4) AKG 414, (7) AKG 451, (2) AKG 460, AKG D-12, (2) Sennheiser 416, (9) Sennheiser 421, E-V RE20, (5) Shure SM57, (2) Beyers 160, (2) Crown PZM. **Monitor Amplifiers:** McIntosh

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Neve 'n Studer "meat 'n potatoes"

N O R T H E A S T 24+ TRACK S T U D I O S

—CONTINUED FROM PREVIOUS PAGE

MC2500, (2) Ashly Audio 200FET, (3) Crown DC-300A. **Monitor Speakers:** (2) Tannoy SGM-10B, (2) Yamaha NS-10M studio, George Augspurger custom design, JBL, TAD components. **Musical Instruments:** E-mu SP-12 drum machine, LinnDrum machine, Yamaha DX7 synth, Yamaha TX MIDI rack, Yamaha RX21L drum machine, Kurzweil 1000-PX, Korg M1. **Other MIDI Equipment:** Macintosh Plus w/Performer software, J.L. Cooper MSB MIDI patch bay. **Rates:** Block rates available. **Specialization & Credits:** Since its opening, Bear Tracks has gained a reputation as a state-of-the-art music production studio that offers a comfortable, relaxed and creative atmosphere to its clients. Located in the woods on the edge of Hartman State Park and conveniently only 30 minutes from midtown Manhattan, this unique facility, built within the existing frame of a huge stone barn and farm complex, has a remarkable acoustic quality that has found great favor among both pop producers for the explosive drum sounds that can be obtained, and jazz and classical artists for its smooth, warm ambience. This spectacular acoustical quality combined with the commitment to provide its clients with the very best equipment current technology has to offer places Bear Tracks among the most exclusive and unique recording facilities in the world.

(203) 968-2420; FAX: (203) 329-7193. **Owner:** Bob, Lola and Ken Blank. **Manager:** Bob Blank. **Engineers:** Bob Blank, Ken Blank. **Dimensions:** Room 1: studio 12 x 12, control room 42 x 22. Room 2: studio 12 x 15, control room 42 x 20. **Mixing Consoles:** (3) Yamaha DMP7 digital, Yamaha DMP70 digital. **Audio Recorders:** ProDisk 464 hard disk multitrack, Studer A80 Mk4 24-track, (2) Fostex E22-track w/center-channel time code, (2) Panasonic SV3500 R-DAT, (2) Sony 300 R-DAT, Nakamichi DMP-100 F1. **Cassette Recorders/Duplicators:** (3) Nakamichi MR-1, (3) Denon M30-HX. **Noise Reduction Equipment:** (2) Dolby SR/A, (2) dbx. **Synchronization Systems:** (4) Fostex 4030. **Echo, Reverb & Delay Systems:** Lexicon 224XL, (2) Yamaha SPX1000, (2) dbx 166 compressor, (4) Valley People GateX, (4) Valley People Gain Brain II, (2) Rocktron Hush II, (4) Yamaha DMP7, (2) Yamaha SPX90II, Rane ME15 graphic EQ, Rane ME30 graphic EQ, (2) ART ProVerb II. **Microphones:** (2) B&K 4011 cardioid, (2) AKG 414EBU, (2) Electro-Voice RE20. **Monitor Amplifiers:** Carver 2.0, Hafler 950. **Monitor Speakers:** (2) UREI 813C, (2) Yamaha NS-10M, (2) Auratone 5, (2) JBL L100, (2) Boston Acoustics U85. **Musical Instruments:** Kurzweil MIDIboard 6.0, (3) E-mu Proteus II, (3) E-mu Emax, (2) Korg M1, (2) Oberheim Matrix-1000, (2) Roland D-550, Yamaha TX802, Yamaha TX816, (2) Yamaha TX81Z, (2) Roland D-10 sampler, Akai S700 sampler, Roland Juno-106, Roland MKS-50, Casio CZ-101, Roland JX-10, E-mu SP-12, Yamaha PTX8 drums. **Other MIDI Equipment:** Symbetix vocal processor, Symbetix TI-101 telephone interface. **Video Equipment:** Sony BVU-800 3/4" U-matic, JVC BR7700U 1/2" VHS, (2) Sony 8mm. **Other:** (2) Macintosh SE20, (2) Atari 1040ST, IBM PC-AT. **Rates:** Per project—please call. **Specialization & Credits:** Bob Blank has 15 gold and platinum records to his credit. Blank Production's secluded Connecticut retreat continues our 16-year commitment to quality and success. Located in a 100-year-old restored farmhouse on two wooded, private acres, we offer a unique, high-quality work environment. Olympic swimming pool, catered meals and sleeping accommodations combined with professional, experienced staff round out our package. Inexpensive, cost-effective work is possible thanks to the absolute state-of-the-art technology, including digital hard disk multitrack, digital console, mixing and editing. Many national TV spots, four film scores and two Top 20 records in 1989. Arranging, writing, programming, musicians, 2-way phone interface, satellite linkup. Per project rates available; specializing in on-time successful projects! Call or fax for more info!



Cove City Sound Studios Inc.

7 Pratt Blvd. and 67 B Glen Cove Ave.
Glen Cove, Long Island 11542
Tel. (516) 759-9110
Fax. (516) 674-4204

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BIOYA RECORDING STUDIOS
Paterson, NJ

[24+] BIOYA RECORDING STUDIOS; 32 Hoxey St.; Paterson, NJ 07501; (201) 742-7704. **Owner:** Len and Lou Argese. **Manager:** Len Argese. **Engineers:** Lou Argese, Len Argese, Ron St. Germain, Miguel Otero. **Dimensions:** Studio 24 x 26, control room 20 x 20, (3) iso booths, drum booth with closed-circuit TV. **Mixing Consoles:** Sound Workshop Series 34 74 x 24 automated. **Audio Recorders:** (2) Otan MTR-90II 24-track, (2) Otan MTR-12 2-track 1/4", Otan MX-5050 MkIV 4/8-track, Mitsubishi X-80 Pro-Digi 2-track digital, Sony F-1 2-track digital processor. **Cassette Recorders/Duplicators:** (2) Tascam 122B. **Noise Reduction Equipment:** dbx 216 16 channels, (5) dbx 180 10 channels, (2) Dolby Type A 361 2 channels. **Synchronization Systems:** (2) TimeLine Lynx, Roland SBX-80 SMPTE/MIDI sync box. **Echo, Reverb & Delay Systems:** Quantec QRS room simulator, Stocktronics 4000 echo plate, Yamaha REV7, Yamaha SPX90II, (2) ART 01A, (2) Roland DEP-5, (2) Roland SDE-3000 DDL. **Other Outboard Equipment:** Drawmer stereo gate, (4) Valley People Dyna-Mite stereo multieffects, Fostex stereo limiter/compressor, Yamaha stereo compressor/limiter, BBE 802 stereo audio processor, Aphex Type B stereo Aural Exciter, Rocktron Hush IIC stereo noise eliminator, Roland vocoder, (2) Yamaha 8-channel mic preamp. **Microphones:** Neumann, AKG, Sennheiser, Sony, E-V, Crown P2M, Shure. **Monitor Amplifiers:** Hafler, BGW, Carver, SCS. **Monitor Speakers:** Yamaha NS-10, Auratone, JBL, Impact Audio, Emilar, Renkus-Heinz, Toa. **Musical Instruments:** Roland S-550 sampler, Oberheim DPX-1 sampler, Casio FZ-1 sampler, Roland D-50 synth module, ESQ-M synth module, Yamaha DX7 synth, (2) Yamaha TX7 synth module, Oberheim OB-8 synth, Roland MKS-20 piano module, Yamaha RX5 drum machine, Dynacord digital drum module, Roland MKS-80 synth module, Roland MKS-50 synth module, Korg M1-R synth module, Casio VZ-1 synth, Casio CZ-101 synth, Kawai 5'10" MIDI grand piano, Tama full drum set, Roland DDR-30 digital drums. **Other MIDI Equipment:** Roland MC-500 MkII micro-composer/sequencer, Roland MKB-300 keyboard controller, Roland A-110 display/thru box, Roland Pad 80 Octapad II. **Video Equipment:** Available upon request. **Other:** The "Bioya Bear." **Rates:** Available upon request.

[24+] BLANK PRODUCTION AND BLANK TAPES; also REMOTE RECORDING; 1597 Hope St.; Stamford, CT 06907;

[24+] BLANK PRODUCTIONS/BLANK TAPES; also REMOTE RECORDING; 225 Rector Pl. 20J; New York, NY 10280; (800) 969-5652; FAX: (203) 329-7193. **Owner:** Bob, Lola and Ken Blank. **Manager:** Bob Blank. **Specialization & Credits:** Bob Blank has 15 gold and platinum records to his credit. Our 16-year commitment to quality continues with state-of-the-art digital recording and mixing in our 100-year-old farmhouse located on two wooded acres, complete with Olympic swimming pool, catered meals and sleeping accommodations. Over 65 TV spots, two Top 20 records and four film scores were produced and recorded here. Digital hard disk multitrack, all-digital console, computerized digital mixing and editing. Two complete facilities including over 250 online synth voices, sync-to-pic and all the latest technology. Rates are per project only; production arranging, musicians and vocalists available as well. Project coordination and outside work available as well. Call or fax for demo R-DAT or analog cassette.



BLUE JAY RECORDING STUDIO, INC.
Carlisle, MA

[24+] BLUE JAY RECORDING STUDIO, INC.; 669 Bedford Rd.; Carlisle, MA 01741; (508) 369-2200; (508) 369-0766. **Owner:** Robert & Janet Lawson. **Manager:** Bob Lawson. **Engineers:** Mark Tanzer, Mark Wessel, Tina Hansen. **Dimensions:** Studio 38 x 28, control room 18 x 19. **Mixing Consoles:** SSL 4056E56 56 x 32 w/Total Recall. **Audio Recorders:** (2) Studer A800 24-track, Studer A820 2-track 1/2" w/center time code, Studer A80 2-track 1/2", Studer B67 2-track 1/4", Sony JH-110B 2-track 1/4", dbx 700 digital, Sony PCM-2500 DAT. **Cassette Recorders/Duplicators:** (7) Tascam 122. **Noise Reduction Equipment:** Dolby A 4-channel, dbx 180 stereo. **Synchronization Systems:** TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon 224, Lexicon PCM60.

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AMS RMX 16, EMT 140 stereo tube plate, AMS DMX 15-80, Lexicon Prime Time II, (2) Lexicon PCM42, Lexicon Prime Time, Urs Major Space Station, many others. **Other Outboard Equipment:** (4) Pultec EQP, (3) UREI LA-2A, (2) Drawmer DS-201 stereo, (4) Ashly Audio SC34 stereo, (2) dbx 165A, (2) dbx 160X, (2) UREI 1176, UREI LA-4A stereo, (2) dbx 906 flanger, Loft delay and flanger, many others. **Microphones:** Telefunken 251 tube, AKG C-12 tube, Neumann U47 tube, (2) Bruel & Kjaer 4006, Bruel & Kjaer 4007, (2) Neumann U87, (2) Neumann KM86, Neumann KM84, (2) Neumann U64, AKG C-451E, (3) AKG 414, (2) Schoeps. **Monitor Amplifiers:** (3) Bryston 4, (3) BGW 250, McIntosh 2100. **Monitor Speakers:** UREI 813B (customized), Klipsch Cornwall studio, E-V Sentry 100, Acoustic Research 18, (3) Yamaha NS-10M, Auratone. **Musical Instruments:** Falcone 7' grand piano, Kurzweil 250 (advanced sampling model), Fender Stratocaster, Gibson Hummingbird guitar, Alesis HR-16 drum machine, percussion and snare. **Other MIDI Equipment:** Mac Plus computer w/Mark of the Unicorn Performer Series software. **Specialization & Credits:** Located 30 minutes from downtown Boston, Blue Jay offers state-of-the-art equipment and superior acoustics in comfortable, private surroundings. Constructed in 1979, the uniquely designed, earth-sheltered facility reflects a commitment to technical excellence as well as attention to the needs of creative artists. Credits include: Roy Orbison, Britny Fox, NRBQ, Alice Cooper, soundtrack for *Dick Tracy*.



CARRIAGE HOUSE STUDIOS
Stamford, CT

of hardwoods and stone, provide excellent acoustics for drums, vocals, acoustic instruments or live chamber applications. The Main Room is half carpet/half wood with two iso booths on either side and an air lock that doubles as a third iso booth. The control room sounds great, lo-fi+ great, and works all the time. The accommodations are very private and include 3 bedrooms, living room and kitchen. (Cable TV, catering, cartage, laundry, food shopping, videos, back in ton, beaches, canoeing all available.)

[24+] **DON CASALE RECORDING STUDIOS, INC.;** 377 Plainfield St.; Westbury, NY 11590; (516) 333-7898. Owner: Don Casale. Manager: Don Casale.

[24+] **CBS RECORDS—NEW YORK STUDIO;** 49 W. 52nd St.; New York, NY 10022; (212) 445-2958. Owner: CBS Records. Manager: Fx b Grab-wski.

[24+] **CEDAR SOUND;** also REMOTE RECORDING; 90 West St.; New York, NY 10006; (212) 227-3896. Owner: Regan E. Freedman. Manager: P'squain Frates.

[24+] **BMG STUDIOS;** only REMOTE RECORDING; 1133 6th Ave.; New York, NY 10036; (212) 930-4000. Owner: BMG Music Group. Manager: Hank Meyer, Susan Planer—gen. mgr. Dimensions: Room 1: studio 100 x 60, control room 40 x 19. Room 2: studio 50 x 75, control room 35 x 19. Room 3: studio 50 x 75, control room 35 x 19. Room 4: studio 30 x 40, control room 28 x 20. **Mixing Consoles:** Neve VR Series VR60 Flying Faders, (2) Sony MXP 3036 36 x 24, Neve 8038 32 x 24, (2) Sony MXP-3020 20 x 20. SSL G Series 56-input. **Audio Recorders:** PCM-1630, DMR-4000, DAE-3000, Sony PCM-2500 DAT, Studer A827, (3) Otari 24-track, (2) MCI 24-track, numerous Ampex 2-track 1/4" and 1/2". **Noise Reduction Equipment:** Dolby 361. **Echo, Reverb & Delay Systems:** Lexicon 480L. **Microphones:** Large array. **Monitor Speakers:** (2) B&W 801, UREI 813, (2) UREI 809. **Video Equipment:** JVC 3/4" decks. **Other:** (5) Harmonia Mundi BW102 equalizer, TimeLine Lynx lockup.

[24+] **BRIGHTON RECORDING;** also REMOTE RECORDING; 1 Mill St.; Plains, PA 18705; (717) 829-7060; (717) 341-7560. Owner: Bill Roditski. Manager: Bill Roditski. Engineers: Bill Roditski. Dimensions: Room 1: studio 25 x 33. Room 2: studio 11 x 11. Room 3: studio 8 x 10. Room 4: control room 18 x 26. **Mixing Consoles:** Soundcraft 600 24 x 8 x 24 x 2. **Audio Recorders:** Otari MX-80 24-track 2" w/autolocator, Ampex ATR-800 2-track, Akai 6X630-B 2-track, Toshiba DX-900 PCM (VHS), Sony PCM-2500 DAT. **Cassette Recorders/Duplicators:** Nakamichi MR-1, (2) Nakamichi MR-2. **Noise Reduction Equipment:** Dolby HX-Pro 24-track, dbx. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Yamaha REV5, (2) Yamaha SPX90, DeltaLab 1024, Eventide H910 Harmonizer w/keyboard. **Other Outboard Equipment:** Orban 622B, CDT CGM-2 w/Dynex, (2) Yamaha GQ1031B, Yamaha Q2031, Yamaha GC2020, Aphex 612 gate/expander, (2) UREI 7110 compressor, Aphex Type C, Alesis MIDVerb II, Klark-Teknik DN 360. **Microphones:** Neumann U87, AKG 414BULS, AKG 460-C, AKG D-112, AKG D-12E, (2) Sennheiser 441, (2) Sennheiser 421, (2) Shure SM81 w/cardiod and omni cart., (2) Shure SM57, (2) Shure SM58, Shure 545, (2) E-V PL76B, E-V RE20, (2) Crown PZM. **Monitor Amplifiers:** Hill DX-1500, (2) Hafler XL-280, Rane HC6 headphone amp, (2) Audio-Technica Little Red cue box. **Monitor Speakers:** (2) Tannoy SGM-12, (2) UREI 811B, (2) JBL 4412, (4) AKG 141 headphones, (2) Koss headphones. **Musical Instruments:** Yamaha DX7IFD, Kurzweil 250 RMX w/all libraries, Oberheim OB-8 MIDI, Ensoniq Mirage multisampler w/library, Yamaha FB-01, Roland MKS-20, Yamaha RX5, Roland Juno-106, Roland TR-626, Roland TR-505, Jenco Vibes, Crumar Orchestrator, (2) Yamaha guitar. **Other MIDI Equipment:** Macintosh SE w/30MB HD, Opcode Studio 3 w/ SMPTE, Hewlett-Packard DeskWriter, Performer V, 3.0, Apple IIC w/Transwrap, Passport Mastertracks Pro, Yamaha MJCB, Akai ME10D, Akai ME20A.

[24+] **CARRIAGE HOUSE STUDIOS;** 119 W. Hill Rd.; Stamford, CT 06902; (203) 358-0065. Owner: Johnny Montagnese. Manager: Patricia Spicer. Engineers: Phil Magnotti, Matt Lane, John Montagnese, Ian Spicer Callanan. **Mixing Consoles:** SSL 4036-56E w/G computer TR. **Audio Recorders:** Otari MTR-90II, (2) Otari MTR-10 1/2" and 1/4", Mitsubishi 850 32-track. **Cassette Recorders/Duplicators:** Panasonic 3500 DAT, (2) Tascam 122. **Echo, Reverb & Delay Systems:** Lexicon 480LA, 224XL, EMT S, (3) REV7, Space Station, (2) SRV-2000, (2) SDE-3000, (2) PCM42, Eventide 949, Eventide 910, Instant Flanger, (2) LA-4, (8) dbx 160, Dimension D, exciter, BBE, de-esser, Pultec EQs, Trident EQs, UREI EQs, SDE-1000. **Microphones:** U89, U87, U47, AKG 414, AKG 451, AKG 452, AKG 460, AKG 421, AKG D-12, AKG D-112, RCA 44, RCA 77, PZM, 441, 57. **Monitor Amplifiers:** Yamaha, UREI, BGW, Hafler. **Monitor Speakers:** UREI 813C, NS-10, Toa 280MC, Tannoy NF-8. **Specialization & Credits:** Located on an old New England estate, the Carriage House is 40 minutes from New York City in Stamford, Connecticut. The Carriage House is an artistic retreat offering state-of-the-art technology with grass-roots attention to service. The studio layout is very effective when trying to do many elements at the same time. The Live Room, made

[24+] **CELEBRATION SOUNDS;** 26 Summer St.; Pawtucket, RI 02860; (401) 728-0780. Owner: David Correia, Dan Moretti. Manager: Catherine Correia.

[24+] **CENTRAL STUDIO;** 911 Georgia Ave.; Silver Spring, MD 20910; (301) 565-3734. Owner: Kevin Mora, Alan Leary. Manager: Monsy Morales.

[24+] **CHESTNUT SOUND, INC.;** also REMOTE RECORDING; 1824 Chestnut St.; Philadelphia, PA 19103; (215) 568-5797. Owner: Joe Alfonsi. Manager: Joe Alfonsi. Engineers: Jeremy Birnbaum, Chris Gately, Michael Harmon. Dimensions: Room 1: studio 36 x 17, control room 17 x 14. Room 2: studio 6 x 6, control room 8 x 18. **Mixing Consoles:** Sound Workshop Series 30 28 x 8 w/52 return in muxdown, Hill Multmix 16 x 4. **Audio Recorders:** Otari MX-80 24-track w/autolocator, Ampex ATR-800 2-track, Ampex ATR-700 2-track, Otari 5050 MkII 2-track, Tascam 32-2B 2-track, Panasonic SV-3500 R-DAT. **Cassette Recorders/Duplicators:** (4) Tascam 122, Otari DP-4050 C2. **Noise Reduction Equipment:** dbx 180. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** AKG ADR 68K digital reverb/effects, Lexicon PCM60 w/2.0 update, Yamaha REV7, Ecoplate III, Ibanez SDR-1000, Alesis MIDVerb. **Other Outboard Equipment:** Eventide H910 Harmonizer, Aphex Aural Exciter, dbx 906 flanger, (2) dbx 904 gate, (2) dbx 905 EQ, dbx 902 de-esser, (2) UREI LA-4 comp, (2) UREI 545 EQ, (4) USAudio Gatex gate, TC Electronic 2240 parametric EQ, UREI 1176 comp, Lang PEQ-2 EQ. **Microphones:** (5) AKG various, Neumann TLM170, (3) Sennheiser 421, (2) RCA BK-5, (4) Shure various, (2) Beyer M500, (2) Electro-Voice various, Altec 150A BASS tube. **Monitor Amplifiers:** Hafler 250, Yamaha P2200, Yamaha P2100, Yamaha P2050, Carver PM-175, Crown DC-150. **Monitor Speakers:** Altec Big Reds w/Master Lab crossovers, JBL 4311, (2) Yamaha NS-10, Auratone 5C. **Musical Instruments:** Yamaha G3 grand piano, Sonor drum kit, Korg DDD-1 digital drum machine, Casio CZ-101 synth, Emax digital keyboard/sampler. **Other MIDI Equipment:** (2) Macintosh Plus w/Southworth MIDI interface, Performer sequencing software, complete disk library for Emax, control room-to-studio MIDI telines, Roland Octapad II, Roland D-110 multitrack sound module, Opcode editor/Albrarian software for D-110. **Video Equipment:** NEC DX-1000 VHS, Commodore monitor, additional rentals upon request. **Other:** Studio Technologies Mic PreEminence, Monster ProLink Series I phase-aligned for Mic PreEminence, Gallien-Krueger bass amp, Fender Twin Reverb guitar amp, Technics SL-1200 MkII turntable, Sony CDP-102 CD player. Rates: Available upon request.



- Digital Hard Disk Multitrack, Digital Automated Console, Digital Editing, CD Master Prep
- Studer 24track, 2track, lockup to all formats
- Living accommodations, heated pool, two wooded acres near fishing, boating
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N O R T H E A S T
24+ TRACK
 S T U D I O S



CLINTON RECORDING STUDIOS, INC.
 New York, NY

[24+] CLINTON RECORDING STUDIOS, INC.; also REMOTE RECORDING: 653 Tenth Ave.; New York, NY 10036; (212) 246-2444. Owner: Bruce Merley, Ed Rak. Manager: Lynn Bagley. Engineers: Ed Rak—ch. eng., Gene Curtis—tech. dir., Roger Deller—ch. maint. eng. Dimensions: Room 1: studio 50 x 50, control room 24 x 22. Room 2: studio 40 x 35, control room 22 x 22. Room 3: studio 8 x 10, control room 14 x 18. Room 4: studio 6 x 8, control room 12 x 16. **Mixing Consoles:** (3) Neve 8078. **Audio Recorders:** (3) Studer A80024-track, (3) Studer A80 4-track 1/2", (2) Studer A80 2-track 1/4", (7) Studer A810 2-track/mono 1/4", (2) Mitsubishi X-850 32-track digital, Mitsubishi X-80 2-track digital, (3) Sony DTC-1000ES R-DAT. **Cassette Recorders/Duplicators:** (7) Nakamichi MR-1. **Noise**

Reduction Equipment: (3) Dolby SP24 24-channel, (6) Dolby 361 single-channel. **Synchronization Systems:** BTX Shadow w/controller, BTX Softouch w/controller, (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** (6) EMT 140 plate reverb, (3) Lexicon 224XL w/LARC, AMS DMX 15-80, (2) AMS RMX, (6) Audio Digital TC2, (4) Yamaha REV7, (4) Yamaha SPX90, Lexicon Super Prime Time, (3) Marshall AR300. **Other Outboard Equipment:** (12) Neve limiter, (6) UREI LA-3A, (6) UREI 1176, (6) dbx 160, (4) dbx 165A, Eventide 969 Harmonizer, Eventide 949 Harmonizer, Eventide 910 Harmonizer, Orban de-esser, Aphex Exciter, (3) Orban 622B equalizer, (6) Pultec EQP-1A equalizer, (8) Drawmer noise gate, (3) UREI 964 metronome, (2) Valley People Dyna-Mite noise gate. **Microphones:** (110) Various. **Monitor Amplifiers:** (2) Bryston 6B, (4) Bryston 4B, (2) McIntosh 2500, (2) McIntosh 2300. **Monitor Speakers:** UREI 813B, (2) Westlake BBSM10, (6) Yamaha NS-10M, (4) Visonik 803, (4) Visonik 9000, (4) E-V Sentry 100, (6) Auratone 5C. **Musical Instruments:** Steinway D 9' grand piano, Yamaha C7 7' grand piano, Yamaha DX7IIFD synthesizer, Yamaha TX802, Roland D-550, Voyetra Eight, Sequential Circuits Prophet-5, Linn 9000, Roland R-8. **Other MIDI Equipment:** Roland SBX-80 sync box, Akai S1000 sampler, Akai S900 sampler, Yamaha C1 computer. **Video Equipment:** (5) Sony Pro Feol 26" monitor, (4) JVC 6550 U-matic VCR w/remote control, (2) VHS and Beta Hi-fi VCR. **Other:** Magna-Tech 10,000 Series 16/35mm film recorder w/1/3/4/ 6-track head stacks.

[24+] CLUBHOUSE STUDIOS; only REMOTE RECORDING; Box 373; Germantown, NY 12526; (518) 537-6305. Owner: Paul Antonelli. Manager: Joe Vaccarino. Engineers: Paul Antonelli, Greg Gruntler, Joe Vaccarino, Joe Hoffman. Dimensions: Studio 18 x 20, control room 22 x 27. **Mixing Consoles:** APSI 26 inputs and 30 mic lines. **Audio Recorders:** Sony/MCI JH-24 16/24-track multitrack, Sony PCM-2500 DAT, Ampex 351 half-track, Otari 5050 half-track. **Cassette Recorders/Duplicators:** (5) Tascam 122. **Synchronization Systems:** Opcode Studio 3, Garfield Time Commander. **Echo, Reverb & Delay Systems:** John Harty M-1 4-channel mic preamp, ADR 68K MIDI processor w/16-bit stereo sampler, TC Electronic 2290, Lexicon PCM70 processor, Lexicon LXP-1, Alessis Quadreverb, (2) Yamaha SPX90, Yamaha R1000 digital reverb, Korg SDD-2000 sampling digital delay, (2) BSS 402 stereo comp/lim, (3) BSS 502 stereo noise gate, (2) dbx 166 compressor/limiter, Ashly Audio SC-55 stereo peak limiter/compressor, Altec A322C tube limiter, (2) Passac Unity Eight 8-channel live mixer, BBE 802 stereo signal processor, Passac AGR-1000 active resonance for guitar, Passac ABS-1000 active resonance for bass. **Other Outboard Equipment:** Lexicon MRC MIDI

remote controller w/ver. 3 software, Tektronix 604A monitor oscilloscope, B&K Precision 1472 dual-trace oscilloscope. **Microphones:** (2) AKG C-414, (3) AKG C-451, AKG C-460, AKG D-112, AKG 747, AKG 310, Beyer M201, (2) Neumann U87, (2) Realistic PZM modified, (5) Sony P-222, (5) Shure SM57. **Monitor Amplifiers:** Perreaux 6000 MOSFET, (2) Crown DC-300A, Crown PSA-2. **Monitor Speakers:** Tannoy PBM-6.5, Yamaha NS-10S, JBL 4311, JBL subwoofer system. **Musical Instruments:** E-mu Emulator II sampler, E-mu Emax, Linn 9000/Forat update drum machine/sequencer, Oberheim Matrix-1000, Passac Sentient Six MIDI GTR controller, Roland D-50, Fender Telecaster guitar 1971, Alvarez-Yari acoustic guitar, Marshall amp. **Other:** Macintosh Iliac w/80MB HD, Software: Digidesign Sound Tools, Digidesign Sound Designer, Digidesign Softsynth, Opcode Vision, Mark of the Unicorn Performer, Mark of the Unicorn Composer, Southworth MIDI Paint, Passport Master Tracks Pro sequencer, Aesthetic Engineering MIDI mouse algorithmic composer, Woodstock Digital Designs MDR reference utility, Rates: Call.

[24+] COURTLLEN RECORDING; 149 MaQuan St.; Hanson, MA 02431; (617) 294-8316. Owner: Frederick Danner. Manager: Patricia Danner. Engineers: Bob St. John, Bob Dalton, Fred Danner, Dave James. Dimensions: Studio 26 x 24, control room 18 x 15. **Mixing Consoles:** Klark-Teknik AMR-24 36 x 24, ARMS Automation and disk mix. **Audio Recorders:** Sony/MCI JH-24 24-track w/ALIII, Otari MTR-102-track, Otari MX-5050B 2-track. **Cassette Recorders/Duplicators:** Sony TC-W7R. **Noise Reduction Equipment:** Dolby SR 24-track. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon 200, Lexicon PCM41, (2) TC Electronic 2290, (3) Yamaha SPX90. **Other Outboard Equipment:** (2) Teltronix LA-2A, Brooke-Siren DPR-402, (2) dbx 160, Symetrix 522, (2) GateX, (2) Ashly Audio SG33, dbx 165, Aphex B, Loft 440, Klark-Teknik DN-360B. **Microphones:** (2) Neumann U87, Neumann TLM170, (2) B&K 4000, (2) AKG 414, (2) AKG 451, (2) AKG 452EB, E-V RE20, (4) Sennheiser 421, AKG D-12E, (20) Shure SM57 and SM58. **Monitor Amplifiers:** (2) Ashly Audio 500 FET, (2) Ashly Audio 200 FET, Crown, McIntosh. **Monitor Speakers:** (2) Tannoy SGM-1000, (2) Yamaha NS-10M, (2) Tannoy SRM-12B. **Musical Instruments:** Anything upon request. Rates: Please call.

[24+] COVE CITY SOUND STUDIOS, INC.; 7 Pratt Blvd. and 67B Glen Cove Ave.; Glen Cove, NY 11542; (516) 759-9110. Owner: Clay Hutchinson, Richie Cannata. Manager: Clay Hutchinson. Engineers: Clay Hutchinson, Bob Cadway, Tom Yezzi, Mario Vasquez, Dan Hetzel. Dimensions: Room 1: studio 40 x 35 x 22, control room 18 x 32 x 12. Room 2: studio 32 x 31 x 20, control room 22 x 20 x 12. **Mixing Consoles:** Neve 8068, Neve 8014, Neve 8058. **Audio Recorders:** Studer A820 24-track, (3) Studer B67 2-track, (2) Studer A80 24-track. **Cassette Recorders/Duplicators:** Panasonic 3500 DAT, (4) Nakamichi MR-1, Panasonic SV-255 DAT. **Synchronization Systems:** TimeLine Lynx lookup. **Echo, Reverb & Delay Systems:** Lexicon 224XL, (2) Lexicon PCM70, (2) Lexicon PCM60, (3) Lexicon PCM42, AMS reverb, (3) Yamaha REV7, Yamaha SPX900, Eventide 969 and 949, Lexicon 200, EMT 140ST, Yamaha SPX90, (2) Eventide 910, Aphex Aural Exciter. **Other Outboard Equipment:** (14) Kepex II, (12) Drawmer gate, Orban EQ, (4) Pultec EQP-1A, (4) API 554 EQ, (7) UREI 1176, (8) dbx 160 VU, (2) dbx 160X, Pultec MEQ-5, (4) Aphex EQ and compressor, (2) UREI LA-3A. **Microphones:** (4) 421, 47 tube, (12) AKG Tube, (16) 414, (16) AKG 452, (4) D-12, (24) 57, (10) U87. **Monitor Amplifiers:** (2) McIntosh 2500, Crest, UREI 6500, McIntosh 2155. **Monitor Speakers:** (2) UREI 813B, (2) Yamaha NS-10M. **Other MIDI Equipment:** All MIDI gear, sequencers, samplers. **Specialization & Credits:** Two very large rooms, very high ceilings, excellent tracking and overdubbing, 48-track lookup. Credits: Taylor Dayne, albums *Tell it to my Heart*, *Can't Fight Fate*, Eric Carmen, Hunter Hayes, Tommy James, Desperado, Whitney Houston, Appolonia, Jennifer Rush. Other specialties: complete MIDI production with programmers in private MIDI suites.

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CRYSTAL SOUND RECORDING, INC.
 New York, NY

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fiers: Crown PSA-2, Crown PS-200, Yamaha P2200. **Monitor Speakers:** Westlake SM1 5-way, Westlake HR1 4-way, Westlake BB5M12, Yamaha NS-10M, E-V Sentry 100. **Video Equipment:** JVC 8250 3/4", Sony BVU-800 3/4".



EPSILON RECORDING STUDIO, INC.
Hamilton, NJ

[24+] **EPSILON RECORDING STUDIO, INC.**; also *REMOTE RECORDING*: 16 Volusia Ave., Hamilton, NJ 08610; (609) 586-6965. **Owner:** John Muradyan. **Manager:** Linda Kasparian. **Engineers:** Tom Zepp, John Muradyan, Ron Shaffer. **Dimensions:** Room 1: studio 25 x 14, control room 14 x 12. Room 2: studio 10 x 12. Room 3: studio 9 x 7. Room 4: studio 110 x 48 (remote). **Mixing Consoles:** Amek/TAC Scorpion 24 x 16 x 2 42-channel. **Audio Recorders:** Otari MX-80 24-track, Tascam 85-16 16-track, Tascam 38-8 8-track, Sony PCM-2500B 2-track R-DAT, Tascam 32-2 2-track. **Cassette Recorders/Duplicators:** (3) Tascam 122, (2) Nakamichi BX-300. **Noise Reduction Equipment:** dbx Type A. **Synchronization Systems:** Adams-Smith Zeta-3, Opcode time code machine. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60, Yamaha REV7, TC Electronic 2290 delay/processor, Yamaha SPX90II, Yamaha SPX90, (2) Lexicon PCM41, Lexicon PCM42, (3) Alesis MIDVerb II, Eventide H910 Harmonizer. **Other Out-**

board Equipment: UREI 1178LN stereo peak limiter, UREI LA-4 compressor/limiter, (2) dbx 160X compressor, UREI 546 parametric EQ, (2) Valley People DSP, Aphex Type B Aural Exciter, BBE 802, (2) USAudio gate (8 channels), (2) Rane RE27. **Microphones:** Neumann U87, (2) AKG 414, (2) AKG 460, AKG D-12E, (6) Sennheiser 421, (2) Sennheiser 441, Shure SM81, (2) Shure SM54, (6) Shure SM57, Electro-Voice RE20, Audio-Technica ATM-33R, Crown CM-300, (2) AKG 2000E, (2) PZM 30GP, (6) Barcus-Berry. **Monitor Amplifiers:** Crown 2400 Macro Tech, Hafler PL-500, Rane H6. **Monitor Speakers:** UREI 813C, Yamaha NS-10M, E-V Sentry 100A, Auratone Cube. **Musical Instruments:** Yamaha Recording Series drums, Fender Concert amp, Yamaha DX7, (2) Yamaha TX812, Oberheim Matrix 6R, Ensoniq Mirage, Akai S900, E-mu SP-12 drum machine, Linn drum machine, Wendel jr. drum machine, Wurliizer acoustic piano, Roland Octapad. **Other MIDI Equipment:** Apple 512K, Opcode Studio Plus II, Mark of the Unicorn Performer. **Rates:** Upon request. Block rates available. **Specialization & Credits:** Epsilon Recording Studios is a full-service 24-track facility serving the music, advertising and industrial marketplace. We are conveniently located just 60 minutes from NYC and 40 minutes from Philadelphia. Acoustical design is by New York's Acoustilog, Inc., featuring one live room and two isolation rooms. If you're looking for a large, ambient sound, we provide a 110' x 48' x 18' room with excellent acoustics. Great for drums! In addition to the highest technical standards, we provide a relaxed and comfortable working environment with the utmost attention to personalized service. Also available are lounge and kitchen facilities. For out of town clients we can arrange transportation and overnight accommodations. Recent clients: Island, RCA, Profile, Tuff City, Twin/Tone, Macy's, Johnson and Johnson, New Jersey Nets, Bell of Pennsylvania. Our chief engineer has album credits including Bill Cosby, Joan Jett, Gwen Guthrie, Third World, Grover Washington, Jr., Isley Jasper Isley.

[24+] **EVERGREEN RECORDING, INC.**; also *REMOTE RECORDING*: 215 W. 91st St., New York, NY 10024; (212) 362-7840. **Owner:** Joel Greenbaum. **Manager:** Joel Greenbaum. **Engineers:** Jeff Bruno, Joe Johnson. **Mixing Consoles:** Harrison MR-3 36 x 24 w/MegaMix automation. **Audio Recorders:** Sony PCM-3324 24-track w/Apogee filters, Studer A827 24-track analog, Panasonic 3500 DAT, (2) Nakamichi MR-1B, MTR-12 1/2" 4/2 and 1/4". **Cassette Recorders/Duplicators:** Nakamichi. **Noise Reduction Equipment:** Dolby A 24-track, Dolby SR 2-track, dbx. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon 480L, Lexicon LXP-1, Lexicon LXP-5 w/MRC, Eventide

EVERGREEN
RECORDING, INC.

EVERGREEN RECORDING, INC.
New York, NY

H3000S, Ecoplate II, (2) Yamaha SPX900, (2) Alesis MIDVerb III. **Other Outboard Equipment:** (2) Galax noise gate, (2) Valley People Dyna-Mite, (2) Drawmer DS-201, (2) dbx 160X, Roland DEP-5, (2) Focusrite parametric EQ, (2) UREI graphic EQ. **Microphones:** (2) B&K 4007, Neumann U47, (2) Neumann U87, (2) Sennheiser 414, (4) Sennheiser 451, (4) Sennheiser 421, (4) Shure SM57, (4) Shure SM58, AKG D-12E, E-V RE20. **Monitor Amplifiers:** Yamaha P2200, Briston 4B, Crown D-150. **Monitor Speakers:** UREI 811, Yamaha NS-10M, Tannoy PBM-8. **Musical Instruments:** Korg M1, Roland D-550, Roland R-8 drum machine, E-mu SP-1200, E-mu Proteus, Akai S1000 HD, Steinway M grand piano, lots of guitars, Yamaha Recording Series drums, Paiste/Zildjian cymbals, all the best. **Other MIDI Equipment:** J.L. Cooper 16/20. **Video Equipment:** JVC 8250 3/4" VCR, Sony KV-1311 monitor. **Other:** Macintosh Plus hyperdrive, IBM AT-compatible 30MB HD, tons of software, Digidesign Sound Tools, Sequencer Plus. **Specialization & Credits:** We offer supersonic quality at incredible rates. Our facility is meticulously maintained, acoustically correct and comfortable, so you can concentrate on the work at hand. We also can provide fax and copy machines plus lodging and transportation if requested! Come and check us out. You won't

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State-of-the-art practical microphone techniques for pop tracks, rock tracks, film scoring for large and small orchestras, vocal solos and groups, and string and horn dates are demonstrated and practiced in this one-day program taught by **Allen Sides**, the owner of Ocean Way/Record One Studios. As an engineer Mr. Sides has worked with such artists as Linda Ronstadt, Don Henley, Quincy Jones, Belinda Carlisle, Frank Sinatra, John Williams, and Ella Fitzgerald.

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24+ TRACK STUDIOS

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regret!! Our credits include: Ray Ayers, Ginger Baker, Gil Scott-Heron, Sly Dunbar/Robbie Shakespeare, Nina Hagen, Herbie Hancock, The Golden Palominos, Harry Belafonte, Yellowman, The Slickaphonics, Brenda K. Starr, Southside Johnny, Nick Lowe, Africa Bambaataa, Gwen Guthrie, Meat Loaf, The Manhattanans, The Red Hot Chili Peppers, John Lennon, Yoko Ono, Grandmixer D St. And film credits include *To Live and Die in L.A.*, *Married to the Mob*.



SHA RENE/FADE TO BLACK PRODUCTIONS
Hillside, NJ

[24+] FADE TO BLACK PRODUCTIONS; PO Box 151; Hillside, NJ 07205; (201) 481-6910. Owner: Jerry Ferantano. Manager: Elaine Stevenson. Engineers: Sha Rene' Mixing

Consoles: Allen and Heath System 8 24 x 16 x 8 w/EX-8 expansion. Audio Recorders: Otari MX-70 16-track 1" w/RS232 autolocator, Otari MTR-10 2-track 1/2", Studer Revox C270 1/4" reel-to-reel. **Cassette Recorders/Duplicators:** Tascam 112R studio mastering, Noise Reduction Equipment: dbx noise gate, Orban compressor/limiter. **Echo, Reverb & Delay Systems:** UREI 525 electronic crossover, Tascam RS20 dual reverb system, Akai ME-20A sequencer/arpeggiator, Akai ME-10D MIDI digital delay, Korg SD200 digital delay, Tascam RS20 dual reverb, Akai ME-20A sequencer/arpeggiator, Akai ME-10D MIDI digital delay, Korg SD-200 digital delay, Digitech harmonizer, Ibanez SDR-1000 stereo digital reverb, Marshall/Quantec QRS/XL real-time digital. **Other Outboard Equipment:** Alesis 1622 mixer, Korg KMX-122 line mixer. **Microphones:** Audio-Technica 2500D, (2) Shure SM58, AKG D-310 cardioid dynamic. **Monitor Amplifiers:** Crown Power Bass-1, (2) Roland CK-60 keyboard amplifier. **Monitor Speakers:** JBL 4604B, (2) Yamaha NS-10M 3-way acoustic. **Musical Instruments:** Roland Octapad II/Pad 80 drum pad controller, Roland R-8 drum machine, E-mu Systems SP-1200 drum machine, Oberheim DMX drum machine, Roland TR-707 drum machine, Yamaha RX15 drum machine, Alesis HR-16 drum machine, Roland D-550 synthesizer, Roland S-50 sampler, Roland S-10 sampling keyboard, (3) Akai S612 MIDI digital sampler, Ensoniq ESQ-M digital synthesizer, Roland U-110 PCM sound module, Roland D-110 digital synthesizer, Oberheim Matrix 1000 analog keyboard, Kawai K1-R digital synthesizer, Akai VX-90, Yamaha TX812 FM tone generator, Korg M1-R synthesizer, Yamaha DX7IIFD keyboard, Akai MX73 MIDI keyboard controller, Roland Juno-6 analog synthesizer/polyphonic, 360 Systems Pro MIDI Bass, Ibanez Roadstar 560 electric guitar. **Other MIDI Equipment:** IBM PC/XT 20MB 640K w/Samsung and Sharp monitors, Roland MPU-401 sequencer, Voyetra Sequencer Plus MkIII software 64 tracks, Texture 3.1 sequencing software 24 tracks, Yamaha MDF-1 data filer, 360 Systems 8 x 8 patcher. **Specialization & Credits:** Sha Rene', producer/artist/engineer, wrote and produced her own debut 12" single release "I'm Good For You" (Black Wall Records BW01) 1987, which aired on WBLN (NY). Follow-up UK smash hit "Love Affair" (Requestline Records-RR0104) 1989. Current project: Her new pop/rock album entitled *Love Is Love*. Fade to Black Recording Studio is a full MIDI audio pre/post-production recording facility located in Manhattan. (Not open to the public.) Our studio is for production work of all upcoming Sha Rene' releases. Fade to Black Productions' offices are located in N.J. All inquiries should be directed there. Sha Rene' writes and produces her own material. Her television credits include: WOR 9, WNBC 4 and cable TV. Her press credits include: *Billboard*, *Chartbeat*, *Good Times*, *The Daily News*, *Performance*, *Variety*, *Pulse* and *Mix* magazine

to date. Sha Rene' is an experienced producer, musician, MIDI computer programmer, mixer, editor, songwriter and performer.

[24+] FISHTRAKS; also REMOTE RECORDING; 62 Congress St.; Portsmouth, NH 03801; (603) 431-5492. Owner: Thomas M. Daly. Manager: Thomas M. Daly.

[24+] FORGE RECORDING STUDIOS; Lincoln and Morgan Streets; Phoenixville, PA 19460; (215) 993-9986; (800) 331-0405. Owner: Warren R. Wilson. Manager: Larry Wissinger.

[24+] FUNKY RECORDS RECORDING STUDIOS; 244 Lyell Ave.; Rochester, NY 14608; (716) 458-5610. Owner: Boyd McCoy. Manager: Steve McNally.

[24+] CHRIS GATELY AUDIO SERVICES; only REMOTE RECORDING; PO Box 526; Bryn Mawr, PA 19010; (215) 525-3605. Owner: Christopher D. Gately. Manager: Carol Baily.

[24+] GIANT RECORDING STUDIOS; 1776 Broadway; New York, NY 10019; (212) 247-1160. Owner: Douglas Pell. **Dimensions:** Room 1: studio 25 x 35, control room 20 x 30. Room 2: studio 18 x 22. **Mixing Consoles:** SSL 4056 w/48E and 8 G modules G computer and Total Recall. **Audio Recorders:** (2) Otari MTR-90, Otari MTR-12-11 2/4-track 1/2", Otari MTR-10-11 1/4", (3) Otari 5050B 2-track 1/4". **Cassette Recorders/Duplicators:** (3) Tascam 122, Nakamichi MR-1. **Noise Reduction Equipment:** Telcom c4 28 channels, Dolby A4 channels. **Echo, Reverb & Delay Systems:** Lexicon 480XL, AMS DMX 15-80S, AMS RMX 16, TC Electronic 2290, Lexicon PCM42, Lexicon PCM60, Lexicon PCM70, Lexicon Super Prime Time, Lexicon Prime Time, Yamaha REV1, (2) Yamaha SPX90, Marshall 5402 Time Modulator, Panscan, Aphex Studio Aural Exciter stereo, (2) Lexicon LXP-1, Lexicon MRC controller. **Other Outboard Equipment:** (2) Neve EQ w/mic pre, (2) UREI 1178, (3) Drawmer DS-201 noise gate, (2) Pultec EQP-1A3 EQ, (2) Valley People dual Dyna-Mite, (8) Melcor EQ w/API electronics, (2) Neve compressor/limiter, (2) UREI LA-3A, (2) dbx 904 noise gate, dbx 903 compressor, dbx de-esser, Trident stereo compressor, ADR Scamp rack w/compressor/delay line, Orban parametric EQ. **Microphones:** (4) Neumann M49 tube, Neumann U47 FET, (3) Neumann U67 tube, Neumann TLM-170, (4) Neumann U87, Neumann U89, (2) Neumann KM86, (2) Neumann KM84, (2) AKG 452, (2) AKG 224, (3) AKG 414, (2) AKG C-12A, (4) Sennheiser 421, (2) Sennheiser 441, (2) Sennheiser MD211, (2) E-V RE20, RCA 77, RCA 44, Shure SM81, (2) Shure SM57, Shure SM58. **Monitor Amplifiers:** Yamaha NS-10, (2) Tannoy 6.5, (2) Meyer Sound Labs 833, (2) E-V Sentry 100. **Monitor Speakers:** (2) Bryston 4B, McIntosh 250. **Other MIDI Equipment:** Synclavier w/32MB RAM, 16 outputs, optical disk, 32 FM and 32 sampling, Korg M1R, Roland D-550. **Video Equipment:** JVC 8250. Other: Plus much more.

[24+] GRACE RECORDING STUDIO, INC.; also REMOTE RECORDING; 159 Pelham Ave.; Hamden, CT 06518; (203) 288-9771. Owner: Fred Rossomando, Lee Walkup. Manager: Richard Osterling.

[24+] GRAMAVISION STUDIO; 260 W. Broadway; New York, NY 10013; (212) 966-3410. Owner: Jonathan F.P. Rose. Manager: Tim Casey. **Dimensions:** Studio 10 x 20, control room 15 x 18. **Mixing Consoles:** Neve 8078 40 x 32. **Audio Recorders:** Studer A80 24-track, Studer A80 2-track, Otari MX-5050 2-track, Revox PR99 2-track, Panasonic SV-3500 R-DAT. **Cassette Recorders/Duplicators:** Tascam 122 MkII. **Noise Reduction Equipment:** Dolby XP-24 SR, Dolby 363 SR/A. **Echo, Reverb & Delay Systems:** Quantec QRS Room Simulator, EMT 240 Gold Foil plate, PCM70, REV7, Super Prime Time, PCM41, Eventide H949. **Other Outboard Equipment:** (4) Drawmer gate, (8) Dyna-Mite gate, (2) Tektronix LA-2, (2) dbx 165A, Tube-Tech PE-1A, Tube-Tech ME-1B, (4) API 550 EQ, (4) API 560 EQ, (4) Sansui parametric. **Microphones:** Neumann U47 tube, Neumann U69 tube, Sony C-37 tube, (2) Neumann KM84, (2) Schoeps CMC-5, Beyer M88, Beyer M734, (3) Beyer M500, Beyer M600, (2) Beyer M400, (2) Shure SM57. **Monitor Amplifiers:** Bryston 3B, Bryston 4B, BGW, Kenwood. **Monitor Speakers:** Meyer Sound Labs HD-1, KEF 101, Tannoy 6.5, Yamaha NS-10, UREI 813B. **Musical Instruments:** Yamaha DX7S, Akai S900, Rhodes 88. Rates: \$75/hr. Lockout rates available.

[24+] GRC STUDIOS; also REMOTE RECORDING; 1137 Fillmore St.; Baltimore, MD 21218; (301) 889-4228. Owner: GRC Inc. Manager: Robert Friedman.

[24+] GREAT IMMEDIATELY RECORDING; 423 W. 22nd St.; New York, NY 10011; (212) 206-8561. Owner: Bob Christianson. Manager: Jean Blair. Engineers: Bob Christianson. **Mixing Consoles:** Harrison Raven 36 x 24. **Audio Recorders:** Studer A827 24-track, Sony 2500 DAT, Ampex ATR-102 2-track, Otari MTR-12II 4-track, Otari 5050B 2-track. **Cassette Recorders/Duplicators:** Nakamichi, Mitsubishi, Sony DAT machine. **Noise Reduction Equipment:** Dolby SR 24 tracks, dbx 2 tracks. **Synchronization Systems:** Cipher Digital Shadow II w/Maxipad for 24-trk and video. **Echo, Reverb & Delay Systems:** Lexicon 400, Lexicon PCM70 reverb, Lexicon PCM60 reverb, Eventide H949 Harmonizer, Korg SDD-3000, Korg SDD-2000 digital delay lines, Yamaha REV7, Yamaha SPX90 reverb. **Other Outboard Equipment:** dbx 166 compressor/limiter, dbx 160 compressor/limiter, (2) UREI LA-4A, UREI 11776 compressor, Orban parametric EQ, Rane parametric EQ, UREI metro-nome, Garfield Masterbeat synchronizer, Aphex Compellor,

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V I D E O



GREAT IMMEDIATELY RECORDING
New York, NY

Earcus-Berry #02. **Microphones:** Neumann U87, AKG 414, Shure SM81, Shure SM41, (2) Crown PZM. **Monitor Amplifiers:** UREI, BGW. **Monitor Speakers:** Tannoy 8, ROR cubes, Yamaha NS-10. **Musical Instruments:** WaveFrame AudioFrame digital workstation w/16MB RAM and 16 voices, Emu Emulator II HD w/300-disk and CD-ROM libraries, Roland Super Jupiter-14, Yamaha DX5, Linn 9000 w/extensive sound library, Kurzweil MIDI controller, Roland Octapad, Roland D-50 synthesizer, Oberheim Matrix-6R, 360 Systems Midi Bass, Moog Minimoog, Steinway M 1939 grand, Korg sampling grand, Korg M1, T2, Mirex. **Video Equipment:** JVC 3/4" deck, RCA VHS deck, JVC Super VHS. **Rates:** For in-house productions only. **Specialization & Credits:** Among the clients who have used Great Immediately Productions are CBS TV *The Equalizer*, Home Box Office, Cinemas, CBS TV *Give Me a Break*, PBS TV *The History of Television*, WCBS New Radio, CBS Sports, Sky Channel, Home Entertainment Network, Chevrolet, Ford, Procter & Gamble, Paine Weber, Phillips Light Bulb.



HIP POCKET RECORDING STUDIOS
New York, NY

[24+] **HIP POCKET RECORDING STUDIOS;** 37 W. 20th St.; New York, NY 10011; (212) 255-5313; FAX: (212) 645-1787. **Owner:** Bob Merrill. **Manager:** Jim Doherty. **Engineers:** John Arlotta, Butch Jones, Rich Oliver. **Dimensions:** Room 1: studio 35 x 45 x 15; control room 20 x 25; Room 2: studio 20 x 30 x 12; control room 18 x 22; Room 3: studio 8 x 14; control room 16 x 18. **Mixing Consoles:** SSL 6056E 16 x 32 w/total Recall BG options/update, MCI JH-542C modified 42 x 32 w/options updates. **Audio Recorders:** Otari MTR-90 MkII 24-track, Sony PCM-3324 24-track digital (2) MCI JH-16 24/16/8-track modified w/16-track Wuelke and 1" Wuelke, Studer 2-track 1/2", MCI 110B 2-track 1/2" modified, (5) MCI 2-track 1.4" modified MCI 4-track 1/2" modified, Otari 505C 4-track, Mitsubishi 32-track full SSL hookup available. **Cassette Recorders/Duplicators:** (7) Nakamichi MR-1 Synchronization Systems: (2) Adams-Smit* full system. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon PCM60, Lexicon PCM70, Lexicon PCM42, Audison plates, Lexicon 201, DeltaLab Acoustic Computer, Yamaha SPX90, Bel BD-80, Marshall AR-300 tape eliminators. **Other Outboard Equipment:** dbx 160, dbx 165, Orban 622B, Orban 516EC, Valley People Gyra-Mite, Fanscan, Drawmer gates, Eventide Harmonizer effect, UREI 1176, L'UREI LA-2A, UREI LA-3A, UREI graphics, Prime Time, Yamaha REV5, Yamaha REV7. **Microphones:** Neumann U87, Neumann U67, Neumann U47 original tube, Neumann KM84, AKG tubes, AKG 414EB, AKG 451, E-V RE20 Shure SM57 RCA 44 ribbons, RCA 77 ribbons, Sennheiser 441, Sennheiser 421, Crown PZM, Beyer ribbons. **Monitor Speakers:** UREI 813A, UREI 813, (3) E-V 100A, (2) Yamaha NS-10M, (6) Auratone cube. **Musical Instruments:** Synclavier 16 outs/16 FM 32 Poly/14MB RAM optical disk drive, 4-track direct-to-disk, SMPTE, MIDI and sampling, Yamaha DX7, Tama drums, Yamaha grand piano, Steinway grand piano, Roland Super Jupiter, Yamaha TX816, percussion. **Video Equipment:** JVC 8250U w/FM71, IVC 6600U w/RM70. **Other:** Resolver for Otari and all MCIs (60-line plot, 60 xtal, 50 xtal, composite, video, 59.9i, interstudio trailers, multitrack format layback for video and film, direct 1" video layback special request MCI extra headstacs 1.4" mono and 1/4-track, surround-sound film mixing. **Specialization & Credits:** Hip Pocket Recording Studios has been dubbed by some New York producers as a "Synclavier supermarket," featuring seven New England Digital systems; four Synclaviers and three Direct-to-Disk recording systems. Video post-production services are available through Hans Tobesson, Inc., and recording producer Bruce Nazarian's Gnome Productions features one of Manhattan's largest Synclavier/MIDI-based control rooms, with a Neve Prism rack and Focusrite modules. Hip Pocket can also incorporate its SSL 4056 E Series console with any number of Synclavier configurations through its full studio and control rooms.

[24+] **THE HIT FACTORY TIMES SQUARE, INC.;** 130 W. 42nd St., Ste. 912; New York, NY 10036; (212) 354-2444; FAX: (212) 391-8060. **Owner:** Edward Germano. **Manager:** Tony Prendatt.

[24+] **THE HIT FACTORY RECORDING STUDIOS, INC.;** 237 W. 54th St.; New York, NY 10019; (212) 664-1000; FAX: (212) 246-2252. **Owner:** Edward Germano. **Manager:** Troy Germano.

[24+] **HIT AND RUN STUDIOS, INC.;** 18704 Muncester Rd.; Rockville, MD 20855; (301) 948-6715. **Owner:** Steve Carr. **Manager:** Steve Carr. **Engineers:** Steve Carr, Clayton Blk, Greg Faust. **Dimensions:** Room 1: studio 25 x 28, control room 17 x 13. Room 2: studio 14 x 12. **Mixing Consoles:** Soundcraft 1600 24 x 3 producer. **Audio Recorders:** Otari MTR-12 2-track, Soundcraft 760 MkII 24-track, Otari 5050 MkIII 8-track. **Cassette Recorders/Duplicators:** (2) Technics. **Synchronization Systems:** Iam Box/4 SMPTE. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM60, Lexicon PCM70, Yamaha REV7, Yamaha SPX90 (3) Korg SDD-3000 digital delay Korg SDD-2000 digital delay, Lexicon PCM41 digital delay, DeltaLab harmonizer, Orban 111B reverb. **Other Outboard Equipment:** Orban stereo synthesizer, (2) Rane GE-27 graphic EQ, Ashly

—CONTINUED ON NEXT PAGE



Greene Street Recording, Inc.
112 GREENE STREET • NEW YORK, NEW YORK 10012
(212) 226-4278

GREENE STREET RECORDING
New York, NY

[24+] **GREENE STREET RECORDING;** 112 Greene St.; New York, NY 10012; (212) 226-4278. **Owner:** Steve Lobb. **Manager:** David Harrington. **Engineers:** Rod Hui, Nick Sansano, Chris Shaw. **Mixing Consoles:** Amek APC1000 80-input, Trident TSM 32 x 24. **Audio Recorders:** Studer 800 24-track, Studer B20 24-track, Studer 827 24-track, Studer AB20 2-track, Studer AB20 2-track, AEG 2-track. **Cassette Recorders/Duplicators:** (4) Tascam. **Noise Reduction Equipment:** (2) Dolby. **Synchronization Systems:** (2) Lynx. **Echo, Reverb & Delay Systems:** Pubison America Internal Machine, Lexicon 480L, (2) TC Electronic 2290, Lexicon 224XL, Lexicon PCM70, (2) Lexicon PCM60, (4) Lexicon PCM42, Eventide 3000, Bel BD8, AMS RMX 16. **Other Outboard Equipment:** Eventide H3000, (2) TC Spatial expander, (2) Tubetech expander, (2) Tubetech EQ, (2) Earcus-Berry Electronics 802, Aphex II, Orban stereo EQ, (3) JREI 1176, (2) UREI LA-3A, (2) Brooke-Siren DPR402, Neve stereo limo comp, Kexell/Gain Brain rack. **Microphones:** Neumann AKG, Schoeps, Shure, Sennheiser. **Monitor Speakers:** Fogar/Mayer Quessted tri-amped 4-12", Meyer B33, Yamaha NS-10A E-V Sentry 100. **Musical Instruments:** Korg M1, Emu emulator II, Akai S900, Yamaha DX7, Yamaha DX7II, Yamaha TX816, Roland Super Jupiter MKS-80, Roland Planet PMKS-10, Roland Planet S MKS-30, Roland D-50, Roland GR-707 guitar synth/controller, Oberheim OB-8 MIDI, Sequential Circuits Prophet-5 MIDI, Roland Juno-106, Roland SBX-80, Roland MKS-700 Kahler Human Clock, Akai seq/drum machine, Linn seq/drum machine, Emu SP-1200, Roland TR-707, Roland TR-505, Roland TR-808, Oberheim DMX, Oberheim DX, Steinway grand piano, Tama drum kit, Fender Rhodes piano, Hammond C-3 organ. **Video Equipment:** Sony BVU-800 3/4" w/TBC, Videotek KV-25 XBR monitors.

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—CONTINUED FROM PREVIOUS PAGE

Audio SC66 dual parametric EQ, Orban 622B dual parametric EQ, Rane SP15 parametric EQ. (2) Brooke-Siren DPR-402 dual comp/limit/de-esser, Aphex Compellor. (2) Ashley Audio dual noise gate, Drawmer dual noise gate/ducker, Ashley Audio dual compressor. **Microphones:** Neumann, AKG, Sennheiser, Shure. **Monitor Amplifiers:** Haller P-225, Yamaha 2200, Rane HC6 headphone amp. **Monitor Speakers:** (2) UREI 811A Time Align, (2) Tannoy NFM-8, (2) Yamaha NS-10M, (2) Auratone cube, (2) Pioneer 4-way 12". **Musical Instruments:** (2) Akai S900 digital sampler, Sequential Circuits Prophet-2002 sampler, Roland MKS-70 rack-mount JX-10, Yamaha DX7, Marshall 50-watt 4 x 12 guitar amp, Roland JC-120 guitar amp, Fender Vibratube guitar amp, Fender Stratocaster, Peavey DynaBass, 5-piece drum set w/Yamaha, Ludwig, Radio King snares, Roland digital 5-piece drum pads and Octapad MIDI converter, Dan Electro "Dual Lipstick," Korg SGDI sampling grand 88 keys. **Other MIDI Equipment:** Macintosh Plus w/Performer, Sound Designer software, 360 Systems MIDI patcher, Macintosh HD-20 hard disk storage, MIDI coffee machine. **Other:** Sound Ideas 3000 stereo sound effects on compact disc, Technics SL-P520 compact disc player, Technics turntable, genius. **Rates:** Call.

[24+] **HOLLAND SOUND STUDIOS;** also **REMOTE RECORDING/ING;** 1015 Electric St.; Scranton, PA 18509; (717) 346-8742; **FX:** (717) 346-0459. **Owner:** John C. Nasser. **Manager:** John C. Nasser.

[24+] **HOME BASE SOUND STUDIOS;** 147 W. 24th; New York, NY 10011; (212) 691-7674. **Owner:** Claude Demers, Andrew Milano. **Manager:** Kimberly Boley. **Engineers:** Warren Bruleigh, Andy Green, Claude Demers, Lance Neal, Andrew Milano, Joe Bartoldus. **Dimensions:** Room 1: studio 20 x 30, control room 20 x 20. Room 2: studio 10 x 8, control room 20 x 30. **Mixing Consoles:** Sony MXP-3036 36-input w/hard disk automation, TAC Scorpion 30 x 24. **Audio Recorders:** Studer A800 III 24-track, Studer A80 III 24-track, Studer A80 2/4-track 1/2", (2) Studer A80 2-track 1/2" and 1/4", Sony PCM-501 digital R-DAT. **Cassette Recorders/Duplicators:** (4) Nakamichi MR-2. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon 480 digital reverb, AMS 15-80S 6.5 sec. memory, EMT 140 etc. plates, TC Electronic 2290 delay/EFX, (2) Yamaha REVS digital reverb, (2) Yamaha SPX90II, (2) Lexicon PCM70 etc., Roland DEP-5, Roland Dimension D, Eventide Harmonizer phase/flanger, Korg SDD-2000. **Other Outboard Equipment:** (3) Pultec EQH-2 equalizer, (4) API 560 equalizer, (4) UREI LA-2A limiter, (2) UREI LA-4A limiter, UREI 1176 limiter, (2) dbx 160 limiter, dbx 160X limiter, (8) Drawmer gate, (4) Roger Mayer gate. **Microphones:** (2) Neumann 47 tube, (4) Neumann U87, (2) Neumann KM84, Neumann KM86, Neumann U47 FET, (2) AKG 414, (4) AKG 451/452, (3) AKG D-12, (5) Sony C-22, (2) Sony C-37, (3) Sennheiser 441, (6) Sennheiser 421, (4) Shure SM57. **Monitor Amplifiers:** Bynston, etc. **Monitor Speakers:** UREI 813B, (2) Yamaha NS-10 Studio, Tannoy SGM-3000. **Musical Instruments:** Kurzweil 250 synthesizer, E-mu Emulator II, Yamaha 816, Yamaha DX7, Yamaha DX71IFD, (2) Akai S900, Oberheim Matrix-6, Roland D-550, Oberheim DPX-1, Oberheim OB-8, Casio CZ-1000, Ensoniq Mirage, Voyetra, Roland JP-6, E-mu Emulator SP-1200, Steynway 7" grand piano, Fender etc. guitar amps. **Other MIDI Equipment:** Roland SBX-80, Garfield Masterbeat, J.L. Cooper MSB, etc., Macintosh SE w/hard drive, Atari 1040ST, Compaq, etc. **Video Equipment:** JVC 6650 3/4" machine. **Specialization & Credits:** Home Base Sound Studios has a wide variety of clientele from R&B, jazz, rap, rock, jingles and film. Our credits include the most recent releases in R&B/rap by Sybil, Will Downing, Antoinette, Chubb Rock; jazz by Onaje Gumbs, Art Farmer, Claudio Roditi, Jay Hoggard, Rod Williams, Rob Wasserman; rock by Violent Femmes, Damien; remixes by 24-7 Spyz, Cindy Valentine, Grace Jones and many more artists. Our Studio A offers a great-sounding live room for any acoustic recording, coupled with Studer machines and the ultra-clean, quiet Sony MXP console with hard disk computer automation for perfect mixes. Our Studio B contains the maximum in MIDI variety and flexibility with 30 synths, either Mac, IBM or Atari computers, and an 80-meg drive filled with sound libraries. The large control room, vocal booth and separate lounge make for a very comfortable working atmosphere.

[24+] **HORIZON RECORDING;** also **REMOTE RECORDING;** 29 Tito Ln.; Wilton, CT 06897; (203) 762-2985. **Owner:** Horizon Recording Co., Ltd. **Manager:** Ingrid Paaske, Vic Steffens. **Engineers:** Vic Steffens, Chris Brown, Joe Boerst, Joe Carrano. **Mixing Consoles:** Allen and Heath Sigma 44 x 24 semi-automated. **Audio Recorders:** Studer A80 MkIV 24-track (16-track on request), Sony 5002 half-track 1/2" and 1/4", **Cassette Recorders/Duplicators:** Sony 2500 DAT, Tascam 144, Denon. **Noise Reduction Equipment:** Dolby SR/A 2 channels. **Echo, Reverb & Delay Systems:** Lexicon 480L, (2) Lexicon PCM70, Eventide H3000 Harmonizer, TC Electronic 2290 delay, ART 011A reverb, Roland 3000 delay, Alesis MIDVerb II. **Other Outboard Equipment:** (2) UREI 1176 lim-

iter, (2) UREI 7110 comp/limiter, dbx 166 dynamics processor, Orban 518 stereo limiter, Aphex 612 gate 6 channels, (2) Lang EQ, Rockman preamp and delay, Alembic tube preamp. **Microphones:** (2) Neumann U87, (2) AKG 414ULS, AKG 414EB, (4) AKG 451, (2) AKG 460ULS, (4) Sennheiser 421, Sennheiser 441, AKG D-112, (2) Shure SM57, (2) Shure SM58, E-V 967, Neumann U67 tube. **Monitor Amplifiers:** (4) Haller P-500, (2) Haller P-225, Sony RIC-200. **Monitor Speakers:** (2) UREI 813, (2) Tannoy SG15, (2) Tannoy SG10, (4) Yamaha NS-10M. **Musical Instruments:** Marshall half-stack, Ludwig drum kit, Korg M1, Korg M1-R, Akai S1000 w/80MB HD and digital I/O, Roland D-550, Yamaha TX802, Yamaha DX71IFD, Casio C21, Roland RD-250 piano, Alesis HR-16, Yamaha RX5, Oberheim Matrix-6R. **Other MIDI Equipment:** Macintosh Plus w/Opcode Studio 3, Atari Mega 4, KMX MIDI control, Hybrid Arts SMPTEMate v.3, Mark of the Unicorn Performer v.3, Passport Mastertrack Pro, various editors, librarians and software. **Rates:** \$975/day. **Lockout** includes assistant, accommodations and meals for four. **Specialization & Credits:** Horizon Recording is a residential recording facility located in the scenic hills of Wilton, Connecticut, approximately one hour from midtown Manhattan. Originally built in 1978 by John Storky as an addition to the home of former Kiss member Ace Frehley, Horizon was renovated to current standards in 1989. Although hourly rates are available, Horizon promotes the idea of all-in, lockout sessions. We feel that the questions of hours, rates, rooms and who picks up the dinner check have no place in a recording environment. At Horizon you can work when you want, eat when you want and relax when you want. We offer up to four rooms of accommodations that can be configured as needed, an oversized, commercial-grade kitchen and comfortable common rooms. The stunning Connecticut countryside is always available for recreation. In our first ten months Horizon has hosted major broadcast sessions for Lita Ford and The Tam Show, both produced by Mike Chapman for RCA/BMG, and Sly Stone, with Vic Steffens for TAG Enterprises. **Lockout rates** start at under \$1,000 per day, including food and accommodations.

[24+] **HOUSE OF MUSIC; 1400 Pleasant Valley Way; West Orange, NJ 07052; (201) 736-3062.** **Owner:** Charles and Irene Conrad. **Manager:** Irene Conrad. **Engineers:** John Rolo, Paul Higgins, Jim Bonnell, Nelson Ayres, Danny Grigsby, Mike Weisinger, Marc Marsaglia, Jeff Toone. **Dimensions:** Room 1: studio 30 x 40, control room 18 x 22. Room 2: studio 18 x 23, control room 16 x 22. **Mixing Consoles:** Neve VR60 w/Total Recall and flying fader automation, Neve VR48 w/Total Recall and flying fader automation, MCI 528 w/automation, Yamaha RM2408 24 x 8 x 2. **Soundcraft 600 16 x 8.** **Audio Recorders:** Studer A800 MkIII 24-track, (2) Sony/MCI JH-24 24-track, (4) Studer A80RC 2-track, Tascam MS-16 16-track, Sony PCM F1, Sony PCM 2500 Pro DAT. **Cassette Recorders/Duplicators:** (4) Tascam 122. **Noise Reduction Equipment:** dbx 310D 24-track, Dolby AM Series 24-track, dbx 310D 4-track, Dolby A 2-track. **Synchronization Systems:** Adams-Smith 2600, Sony/MCI JH-45. **Echo, Reverb & Delay Systems:** (3) EMT 140 plate, EMT 250 reverb, (2) AMS RMX 16 reverb, (2) AMS DMX 15-80S DDL, Lexicon 224XL reverb, (2) Lexicon PCM70 reverb, Yamaha REV7, (4) Yamaha SPX90, Lexicon PCM41, Lexicon PCM42, AKG BX20, Roland SRV-2000, Eventide Ultra-Harmonizer, Eventide 949 Ultra-Harmonizer, (4) Eventide 910 Ultra-Harmonizer, (2) Fairchild 670 stereo limiter, (12) UREI limiter, (12) dbx 160, (4) dbx 165, (5) Pultec equalizer, (10) B&B equalizer, (16) Dyna-Mite gate, (4) Kepex II gate, (4) Drawmer gate, (6) B&B gate, Neve stereo compressor, (4) Aphex I Aural Exciter, (2) Aphex II Aural Exciter. **Microphones:** (140) assorted, Neumann tube, AKG, Shure, Crown PZM, etc. **Monitor Amplifiers:** (8) Crown DC-300, (2) McIntosh 2500, (8) Crown DC-150. **Monitor Speakers:** UREI 813B, Westlake TM1, (6) Yamaha NS-10M, (2) Big Red, (2) Tannoy NFM-8, (4) ROR and Auratone. **Musical Instruments:** Yamaha 7'4" grand piano, Hammond B-3 w/Leslie, drum kits and percussion equipment, assorted guitar amplifiers. **Other MIDI Equipment:** Atari, Macintosh hardware and software, comprehensive selection of state-of-the-art synthesizers and MIDI implementation, Yamaha grand w/Forte MIDI retrofit. **Video Equipment:** Synchronization to Sony 3/4" Adams Smith lockup. **Specialization & Credits:** Comprehensive synthesizer consultation and production services available on arrangement with Larry Fast/Synergy. Available is a full range of digital and analog sampling and MIDI-linked synthesis. Full-in-house production and arranging services available for all styles of music from an experienced staff who have impressive track records including Kool and the Gang, Bonnie Tyler, Jimmy Cliff, Peter Gabriel, Southside Johnny, Meat Loaf, Joe Cocker, Britny Fox, Paula Abdul, Buster Poindexter, Warrant, Quarterflash, Dirty Looks, Omar Hakim and others. Scenic seven-acre site 25 minutes from midtown Manhattan with our own 24-hour car service, pool, jacuzzi, kitchen and residential facilities. House of Music provides a full range of client services for record production, audio-for-visual post-production for TV, music video, film and commercial advertising work.

[24+] **IMAGE RECORDING;** 1591 Lockport-Olcott Rd.; Olcott Beach, NY 14126; (716) 778-5683. **Owner:** Mitch Metzler. **Manager:** Mitch Metzler.

[24+] **I.N.S. RECORDING; 19 Murray St.; New York, NY 10007; (212) 608-1499.** **Owner:** Ian and Debbie North. **Manager:** Trude Kay. **Engineers:** Mike French, Jason Vogel, Dan Sheehan. **Dimensions:** Studio 12 x 13, control room 12 x 17. **Mixing Consoles:** MCI 636 x 24 w/automation. **Audio Recorders:** Otari MTR-90 24-track, Otari MTR-12 2-track 1/2",

(2) MCI 110C 2-track 1/2". **Cassette Recorders/Duplicators:** (4) Nakamichi MR-2. **Synchronization Systems:** Roland SBX-80 MIDI/SMPTE. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon 200, Yamaha REV7, Lexicon PCM70, AMS DMX 15-80S, Lexicon PCM41, Lexicon PCM42, (2) DeltaLab 1024 Effectron II, (2) Korg SDD-2000, Roland SDE-1000. **Other Outboard Equipment:** API 5502 4-band parametric EQ. (2) UREI dual graphic EQ, (2) Valley People Maxi-Q parametric, (2) BBE 802 EQ, (2) dbx 165A compressor/limiter, (2) dbx 160X compressor/limiter, dbx dual compressor/limiter/gate, Valley People Gan Brain compressor/limiter, (4) Kepex noise gate, Drawmer dual noise gate, Dyna-Mite dual noise gate/compressor/limiter, Valley Gate 4-channel noise gate, Roland vocoder, Yamaha MEP4. **Microphones:** Neumann U87, AKG 414EB, Sennheiser 441, Electro-Voice RE20, (2) Shure SM57, (2) Shure SM58, AKG 535EB. **Monitor Amplifiers:** Haller, UREI. **Monitor Speakers:** (2) UREI 813C, (2) Yamaha NS-10, (2) Electro-Voice Sentry 100A. **Musical Instruments:** Emulator SP-12 drum machine w/Turbo, Roland TR-808 w/MIDI, Roland Octapads, Yamaha DX71IFD, Yamaha TX812, Roland Super Jupiter, Roland Super JX, Akai S900, Akai S950, Roland D-550, Roland Juno-60, Ensoniq ESQ-M, Korg M1-R, Moog MIDI-moog, Oberheim Matrix-1000, Proteus XR1, Fender Jazz Bass, Fender Telecaster. **Other MIDI Equipment:** J.L. Cooper 16/20 switcher, Voyetra MkIII software, Patchmaster Plus software. **Other:** IBM-compatible PC, Macintosh Plus, Performer and DrumFile software, Texture II MIDI sequence software. **Rates:** Basic rate \$75 per hour. Block rate \$65 per hour—10hrs./paid cash advance.

[24+] **INSTITUTE OF AUDIO RESEARCH/SCHOOL OF AUDIO AND VIDEO TECHNOLOGY; 64 University Pl.; Greenwich Village, New York, NY 10003; (212) 677-7580.** **Owner:** Institute of Audio Research, **Manager:** Albert B. Grundy, Miriam Friedman.

[24+] **IRIS SOUND STUDIO;** also **REMOTE RECORDING;** 237 Main St.; Royersford, PA 19468; (215) 948-3448. **Owner:** David Ivory. **Manager:** Darrah Ribble.



KAJEM VICTORY STUDIOS
Gladwyne, PA

[24+] **KAJEM VICTORY STUDIOS; 1400 Mill Creek Rd.; Gladwyne, PA 19035; (215) 649-2346.** **Owner:** Kurt Shore, Mitchell Goldfarb, Sam Moses, Joseph Alexander. **Manager:** Monica Tannan. **Engineers:** Mitch Goldfarb, Joseph Alexander, Brooke Hendricks, Brian Stover, Joe Stout. **Dimensions:** Studio 35 x 30, control room 25 x 20, ambient room 50 x 40 x 25. **Mixing Consoles:** SSL 4048E w/Total Recall. **Audio Recorders:** Otari MTR-90II 24-track, Studer A80 MkIII 24-track, Studer A80RC 2-track 1/2", Panasonic SV3500 DAT. **Cassette Recorders/Duplicators:** (4) Tascam 122B. **Noise Reduction Equipment:** (2) Dolby A/SR. **Synchronization Systems:** Adams-Smith. **Echo, Reverb & Delay Systems:** Lexicon 480L, AMS RMX 16, AMS DMX 15, EMT 251, Sony DRE-2000, Lexicon PCM70, Yamaha REVS, Lexicon Prime Time II, Eventide H949 Harmonizer, Lexicon PCM42. **Other Outboard Equipment:** (4) Focusrite EQ, Massenburg EQ 2 channels, (2) Pultec EQP-1A, (2) Pultec MEQ, (6) API 550A, (2) Teletronix LA-2A, (3) UREI 1176, UREI LA-3A, Drawmer 1960 stereo tube limiter, (2) Kepex II Gain Brain II, Panscan, BBE Exciter, EXR Exciter, Roland Dimension D, Drawmer stereo gates, Aphex stereo gates, (2) dbx 163. **Microphones:** Neumann U67, Neumann U47, Neumann U47 FET, (3) Neumann U87, AKG C-24, AKG The Tube, (2) AKG 414EB, (6) AKG 451, AKG D-112, AKG D-12, Sanken CU-41, RCA 77, (3) Sennheiser 421, (3) Shure SM57, (3) Shure SM58, E-V RE20, Neumann TLM170. **Monitor Amplifiers:** Haller. **Monitor Speakers:** UREI 813 modified, Yamaha NS-10, Tannoy SRM-12B. **Musical Instruments:** Yamaha 7'4" grand, Pearl 5-piece drum kit, Kurzweil 250RMX w/88-key MIDI board, Roland D-550, Roland S-550, Ensoniq Mirage, Ensoniq ESQ-1, Yamaha DX7, Moog Minimoog, Yamaha RX5. **Other MIDI Equipment:** McIntosh 512E w/Performer software, Roland SBX-80. **Other:** Marshall vintage amp/speaker, (6) AKG headphones. **Specialization & Credits:** Kajem Victory is one of the East Coast's premier residential 48-track SSL studios. A six-bedroom Victorian home is now available exclusively for clients. Incredible

2000 sq.ft. ambient room with 25' ceiling for drum and guitar tracks. Vintage mics, limiters, EQ and wne. Trout fishing, woods and waterfalls. Cinderella (both LPs), Queensryche, Doro, Metalchurch, Heaven's Edge, Tangier, Faith or Fear, Gorky Park, Teddy Pendergrass, Miles Jaye, DJ Jazzy Jeff and the Fresh Prince.

[24+] KAMEN RECORDING STUDIOS; 701 7th Ave.; New York, NY 10036; (212) 575-4660. Owner: Roy and Marina Kamen. **Engineers:** Jim Von Buelow, John Colluci, Diane Andolsek, Roy Kamen. **Dimensions:** Room 1: studio 31 x 21, control room 19 x 20. Room 2: studio 30 x 22, control room 22 x 17. Room 3: studio 12 x 7, control room 16 x 13. Room 4: control room 10 x 17. **Mixing Consoles:** MCI JH-636 36-input automated, Trident 80B 32-input, TAC Scorpion 24-input, Hill 16-input, Roland M-16E 16-input. **Audio Recorders:** MCI JH-24 24-track, Ampex MM1200 24-track, Tascam 38 8-track w/ dbx, (2) Otari MTR-12 2-track, (3) Otari MX-55 2-track, Studer A810 2-track, Sony APR-5000 2-track, (3) Fostex E-2 2-track. **Cassette Recorders/Duplicators:** (2) Nakamichi 700XL, (2) Nakamichi BX-300, (2) Denon DR-M24H, (4) Denon DR-DRM800, Sony DAT TCD-D10 Pro DAT. **Synchronization Systems:** Adams-Smith 2600, (3) Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** (2) Lexicon 224X reverb, (2) Lexicon REV7 reverb, (2) Alesis Quadraverb, (2) Lexicon LXP-1, (2) Lexicon PCM42, (17) assorted reverb and delay, (10) Valley People Kepex II gate, (4) Valley People Gain Brain compressor, dbx 166 compressor, (8) UREI LA-4 compressor, (2) BBE 822 Sonic Maximizer exciter, (20) assorted processors. **Microphones:** (8) Neumann U87, (2) AKG C-414, (15) Sennheiser 421, (15) Shure SM57, (25) other assorted. **Monitor Amplifiers:** (3) McIntosh 2500, Bogan, Bryston, Hafler. **Monitor Speakers:** Big Reds, UREI 813B, Yamaha NS-10M, Tannoy PBM-6.5 near-field. **Musical Instruments:** Yamaha DX7II FD, Akai S1000 HD, Akai S900, Korg M-1R, Roland D-550, Roland D-50, Oberheim Matrix-1000, Alesis HR-16, Roland MKS-50, E-mu Emax, Simmons TMI trigger, E-mu SP-12 drums, Kawai K-1, (2) Steinway 7' grand piano, Hammond B-3 organ, guitar amps, drum kit, mic and mic stands and perc. toys. **Other MIDI Equipment:** Mac Ixk, Macintosh SE/30, IBM PC, Roland MC-500 sequencer, Opcode Vision and other sequencers, Master Tracks Pro, Voyetra Mark Plus III, editor/librarians for all synths. **Video Equipment:** Sony BVH-3000 1" recorder, (2) JVC CR8250 3/4" recorder, (2) NEC 26" color monitor. **Other:** (60) CD and LP music libraries, (17) CD and LP SFX libraries. **Specialization & Credits:** Music recording, tracking, overdubs, MIDI, jingles, scores, radio production, TV soundtracks, 1" layback, phone patch, voice-over casting and recording, engineering services, mix-to-pix, sound design, complete audio service for just about any job.

[24+] LAVSKYMUSIC; 16 E. 42nd St.; New York, NY 10017; (212) 697-9800. Owner: Richard Lavsky. **Manager:** Jun Mizumachi. **Engineers:** Carl Mandelbaum, Jun Mizumachi, Adam Sobel. **Dimensions:** Room 1: studio 30 x 45, control room 16 x 20. Room 2: studio 8 x 10, control room 12 x 26. **Mixing Consoles:** Trident Series 80 32 x 24 x 24, Wheatstone MTX88 32 x 8 x 24. **Audio Recorders:** Synclavier Direct-to-Disk, Synclavier 64-meg 96-voice, Synclavier 64-meg 64-voice, Otari MTR-90, (4) Otari MTR-12 2/center channel SMPTE, Ampex MM1200. **Cassette Recorders/Duplicators:** (8) Tascam 122. **Synchronization Systems:** (3) TimeLine Lynx time code SMPTE/video lockup. **Echo, Reverb & Delay Systems:** TC Electronic 2290, Ursa Major Space Station, Lexicon PCM70, Lexicon 200, (2) Yamaha REV5. **Microphones:** (2) Neumann TLM170, (2) Neumann U87, (2) AKG C-12, Shure SM57, (2) Shure SM576, (4) PZM. **Musical Instruments:** (2) Synclavier fully updated, (2) Korg M1R, Roland D-50, (2) Yamaha DX7.



Audio/Video/Corporate Communications

LEGEND RECORDING STUDIOS
Belleville, NJ

[24+] LEGEND RECORDING STUDIOS; also REMOTE RECORDING; 42 Belmont Ave.; Belleville, NJ 07109; (201) 751-9528. Owner: Anthony Pomponio. **Manager:** Anthony Pomponio. **Mixing Consoles:** TAC Scorpion 32 x 8 x 2, Hill B Series 16 x 8 x 2. **Audio Recorders:** Otari MTR-90 MkII 24-track 2", Otari MX-5050 8-track, Otari MX-5050B 2-track,

Tascam 32 2-track, TEAC A-3300DX 1/4-track. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Akai GX-F71. **Noise Reduction Equipment:** (4) dbx 180 8 channels, (24) Dolby SR/A 24 channels. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM70, Lexicon PCM42. **Other Outboard Equipment:** (2) dbx 160X compressor/limiter, (2) Rane GE-27 1/3-octave graphic equalizer, Drawmer DS-201 2-channel noise gate, UREI Model-546 2-channel parametric equalizer, Tapco Model-2200 2-channel graphic equalizer. **Microphones:** AKG 414, Neumann U87, (2) Shure SM58, (4) Shure SM57, (4) Electro-Voice 635A, (4) Sennheiser MD-421, (2) Sony ECM-50. **Monitor Amplifiers:** (2) Crown D-75, JBL Model 6290. **Monitor Speakers:** (2) JBL 4412 studio, (4) Auratone 5C, (2) Yamaha NS-10 Studio. **Musical Instruments:** LinnDrum, Yamaha DX7, Yamaha acoustic guitar, **Video Equipment:** Sony BVU-150 3/4" VTR, (2) Hitachi 1/2" VTR, (2) Sony monitor. **Specialization & Credits:** Corporate communications: multitrack post audio sweetening, field audio and video productions, original soundtrack openings for video productions. Advertising agencies: professional jingles, voice-over for radio and television, original sound effects. Bands: 24-track recording with new Otari MTR-100A. Legend Recording Studios has built a reputation that settles for nothing less than optimum sound quality. For over eight years Legend's engineering staff has satisfied the most critical ears in the business including: Peter Wallach Enterprises, Hank Forsberg, Inc., The Lempert Company, Inc., Corporate Television Groups of New Jersey Bell, Bellcore, AT&T, ADP, Prudential and Nabisco; as well as Composite Video Productions, Rainbow Video, Padden and Associates, Vision Craft Productions, Inc. and Wilson Communications. Achievements and credits: The National Silver Microphone Award, 1985 for Leonard Kreusch Wines radio commercial and The Association of Visual Communicators, Silver Award, 1987 for Bellcore television program *Private Virtual Network*.

[24+] LIEBERT RECORDING STUDIOS, INC.; 16 W. 46th St.; New York, NY 10036; (212) 840-1350. Owner: Bob and Carmen Liebert. **Manager:** Rosanne Zisa. **Specialization & Credits:** Catering specifically to the advertising industry. Four studios all lock-to-picture. Over 50 music libraries and 25 EFX libraries. Custom music scoring, v.o. casting, phone patches, car service available to downtown clients.

[24+] LION AND FOX RECORDING, INC.; also REMOTE RECORDING; 1905 Fairview Ave. NE; Washington, DC 20002; (202) 832-7883. Owner: Hal Lion, Jim Fox. **Manager:** Rick Starkweather.

[24+] THE LIVING ROOM, INC.; also REMOTE RECORDING; 59 Franklin St.; New York, NY 10013; (212) 226-8161; FAX: (212) 941-9694. Owner: The Living Room, Inc. **Manager:** Rory Johnston.

[24+] LONDON BY NIGHT AUDIO FOR VIDEO; 502 Gorham Ave.; Woodbridge, NJ 07095; (201) 750-1960. Owner: William and Janice Kollar.

[24+] LYX MUSIC PRODUCTION & RECORDING STUDIOS; 25 Foster St.; Worcester, MA 01608; (617) 752-6010. Owner: Paul Weddle, Bob Gilpatric, Andy Celley. **Specialization & Credits:** More than just a recording studio, 24-track recording in a fully equipped control room with one of New England's most advanced studios for acoustic design. Competitively priced to allow you more time to achieve music and audio excellence. Artist music production for the entertainment industry, where we develop your songwriting, arranging and performance into a commercially viable product that will get you noticed by record companies and your listening audience. Commercial music production for the business community (jingles, I.D.s, que, theme, bridge and background music) to enhance your overall marketing strategy and make your sales message exciting, creative and memorable. Veteran staff of talented producers, writers, arrangers, singers, musicians and technicians to help you reach your music production goals. Let us know your broadcast goals by phoning our 24-hour business line for information, consultation, studio tour and brochure.

[24+] THE MAGIC SHOP; 49 Crosby St.; New York, NY 10012; (212) 226-7035. Owner: Magic Shop, Inc. **Manager:** Steve Rosenthal. **Engineers:** Steve Rosenthal, Andre Rocquette, Sam Smith, Rich Novak. **Dimensions:** Studio 24 x 41, control room 24 x 32. **Mixing Consoles:** Neve 80 Series custom wraparound 40-input, Trident Series 24 sidetar 24-input. **Audio Recorders:** Studer A80 MkIV 24-track, Ampex ATR-102 2-track 1/2", (2) Panasonic 3500 DAT, Tascam 22 2-track 1/4". **Cassette Recorders/Duplicators:** (12) TEAC U-670. **Echo, Reverb & Delay Systems:** Lexicon 224 digital reverb, Eventide H3000 Ultra-Harmonizer, Lexicon PCM70 digital reverb, Yamaha REV7 digital reverb, (2) Yamaha SPX90, Alesis MIDiverb digital reverb, TEAC spring reverb, Lexicon PCM42 digital delay, Roland SDE-2500 digital delay, Korg SDD-2000 sampling digital delay, Multivoix MXP-5 analog echo. **Other Outboard Equipment:** (4) Neve 2254 limiter/compressor, (4) Drawmer DS-201 dual gate, (8) Gatex 4-channel gate, Aphex Aural Exciter, (2) dbx 160X compressor, (2) dbx 163X compressor, ART DR2 reverb. **Microphones:** Neumann U67 tube, (2)

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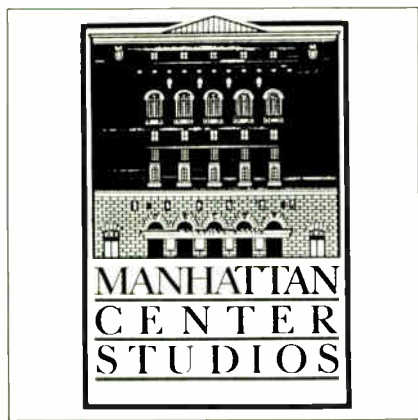
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24+ TRACK STUDIOS

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Neumann KM56 tube, Neumann U87, (2) AKG 414 EB, (2) AKG 451, E-V RE20, AKG D-112, Beyer ribbon, (5) Sennheiser MD-421, (4) E-V BK1, (2) Shure SM57. **Monitor Amplifiers:** Perreux 9000B, (2) Crown Powerbase. **Monitor Speakers:** Tannoy FSM-4, Yamaha NS-10 near-field, E-V 100. **Musical Instruments:** Yamaha 6' white baby grand piano, Yamaha recording Series drum set, Korg M-1 synth, Roland D-50 synth, Akai S900 sampler w/drum triggers, Oberheim DPX-1 sampler player, Roland Super JX synth, Roland digital piano, Roland Super Jupiter synth, Oberheim Matrix-6 synth, Yamaha TX216 synth. **Other MIDI Equipment:** Opcode Studio 3 interface, Akai patch bay, Macintosh SE 40MB w/Performer software. **Other:** Mega-Mix 40-channel console automation, (4) Neve width enhancers. **Rates:** Hourly, daily, weekly, monthly rates are available.

[24+] **THE MAINFRAME;** 2427 Maryland Ave.; Baltimore, MD 21218; (301) 467-1488. **Owner:** The Main Frame, Ltd. **Manager:** George Hagegeorge.



MANHATTAN CENTER STUDIOS
New York, NY

[24+] **MANHATTAN CENTER STUDIOS;** also **REMOTE RECORDING;** 311 W. 34th St.; New York, NY 10001; (212) 279-7740. **Owner:** One Up Enterprises. **Manager:** Steve Honey. **Engineers:** Roy Clark, Robert Carvell, Melanie Jones, Leon Harris. **Dimensions:** Room 7: studio 94 x 98 x 45 w/54 x 95 x 30 stage, control room 18 x 28, Room 8: studio 24 x 28 x 12, control room 14 x 15. **Mixing Consoles:** SSL 4056 G Series 56 x 32 w/Total Recall, Neve VR 36 x 36 w/complete recall and flying faders, TAC Scorpion 28 x 12, Soundcraft 20 x 2. **Audio Recorders:** Sony PCM-3348 48-track digital, Otari DTR-900 32-track digital, Otari MX-80 24-track analog, Otari MTR-102 32-track analog w/Dolby SR, Otari 50502-track analog w/dbx, NED Synclavier 9600 PostPro 16-ch Direct-to-Disk, Panasonic SV-3500 R-DAT, Panasonic SV-250 R-DAT. **Cassette Recorders/Duplicators:** Tascam Nakamichi, Sony, KABA real-time duplication system. **Noise Reduction Equipment:** Dolby SR 2 channels, dbx 2 channels. **Synchronization Systems:** Adams-Smith 2600, Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon, Quantec, TC Electronic, Eventide, Yamaha, Aless, Summit Audio, UREI, dbx. **Other Outboard Equipment:** BASE stereo expander, Focusrite, Boulder, Tube-Tech, Aphex, Rane. **Microphones:** B&K, Schoeps, Neumann, AKG, Yamaha, Sennheiser, Shure, E-V, and many others. **Monitor Amplifiers:** Perreux, Hot House, Carver. **Monitor Speakers:** Tannoy FSM-U, Tannoy 15B w/15 subwoofers, Yamaha and Tannoy near-fields. **Musical Instruments:** NED Synclavier 9600 w/32 voice, 32MB, 16 outs, optical drive, Denny Yaeger library, many synthesizers, Steinway L 5'6", Yamaha professional drum kit. **Video Equipment:** Available upon request. **Rates:** Available on request. **Specialization & Credits:** Our phenomenal acoustics have received praise from the world's top engineers, producers and musicians. Studio 7 is 94 x 98 with a 45' arched ceiling and full stage (54 x 95) making it one of the largest recording rooms in the world. The convenient location on a main cross street is only a block from Penn Station and major subway lines. For live recording (teleproductions, video shoots, etc.) the hall seats 1,200 and is equipped with lighting and staging. 3-room control area wired with Monster and Mogami cable. (Special rates to use control room only for mixing.) Clients and artists include: The New York Philharmonic, Leonard Bernstein, Zubin Mentla, James Levine, Pierre Boulez, Metropolitan Opera, Pavarotti, Domingo, Perlman, Ashkenazy, Broadway cast albums, RCA, CBS, EMI, Nonesuch, PolyGram, Deutsche Gramophon, MTV, Stanley Jordan, Living Colour, Roxette, etc.



MANHATTAN RECORDING COMPANY, INC.
New York, NY

[24+] **MANHATTAN RECORDING COMPANY, INC.;** also **REMOTE RECORDING;** 135 W. 14th St.; New York, NY 10011; (212) 929-5960. **Owner:** Manhattan Recording Company, Inc. **Manager:** Nick Gutfreund.



MARATHON RECORDING
New York, NY

[24+] **MARATHON RECORDING;** 12 W. 37th St., 6th Fl.; New York, NY 10018; (212) 967-1515. **Owner:** David Forrest. **Manager:** Susan Tobocman. **Engineers:** Will Schillinger, Maurice Puerto, Chris Savino, Doug Larsen. **Dimensions:** Room 1: studio 25 x 20, control room 17 x 24. Room 2: studio 10 x 19, control room 14 x 19. **Mixing Consoles:** Neve V Series w/flying faders/60 inputs, Neve 8232 32 inputs. **Audio Recorders:** Otari MTR-90 MkII 24-track, Sony 3324 24-track digital, Studer A80 MkIII 24-track, (5) Studer mix machine. **Noise Reduction Equipment:** Dolby A24 channels. **Synchronization Systems:** (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** Too numerous to mention. **Other Outboard Equipment:** Too numerous to mention. **Microphones:** Too numerous to mention. **Monitor Speakers:** UREI 813B, (2) Yamaha NS-10M, (2) Auratone, Westlake. **Musical Instruments:** A complete host of keyboards, sequencers, samplers, computers and drum machines—full MIDI capabilities. **Video Equipment:** (2) JVC 8650-U U-matic 3/4" lockup. **Rates:** Call for rates. **Specialization & Credits:** Some of our clients include: Cheap Trick, Lou Gramm, Living Colour, The O'Jays, Roberta Flack, Teddy Riley, Paul Stanley, Vanessa Williams, Ernie Isley, Melba Moore, Regina Belle, Surface, Wynton Marsalis, Clmrie Fisher, Christopher Max, Oran "Juice" Jones, Stetsasonic, Mick Jones, The Cover Girls, Johnny Kemp, Keith Sweat, Gwen Guthrie, Bill Cosby as well as many others.

[24+] **MARK STUDIOS;** also **REMOTE RECORDING;** 10815 Bodine Rd.; Clarence, NY 14031; (716) 759-2600. **Owner:** Mark J. Morette. **Manager:** Frederick Betschen. **Engineers:** Fred Betschen, Bruce Leek, Glenn Bernardis, Hugh Bone, Tim Kiernan, Mark J. Morette. **Dimensions:** Room 1: studio 883 sq. ft., control room 303 sq. ft. Room 2: control room 21 x 15. **Mixing Consoles:** Amek M3000 42 x 24 x 4 x 2, Ramsa WR-S216, (4) Ramsa WR-133, Panasonic WR-450. **Audio Recorders:** Otari MTR-90 24-track, Sony PCM-1630/DMR-2000 2-track digital, (2) Panasonic SV-3500 DAT, (3) Panasonic SV-255 DAT, (2) Panasonic SV-250 DAT, (2) dbx 700 digital audio processor, (3) Nakamichi DMP-100 2-track digital, Ampex ATR-100 2-track analog, Otari MX-5050B 2-track analog. **Cassette Recorders/Duplicators:** (50) Nakamichi MR-1 3-head, (50) Nakamichi LX-5 3-head. **Noise Reduction Equipment:** Dolby 361 Type A 2 channels. **Echo, Reverb & Delay Systems:** Lexicon 224XL digital effects processor, AKG ADR-68K digital reverb and effects, Lexicon PCM70 digital

effects processor, Lexicon PCM60 digital reverb, (2) Yamaha SPX90II digital effects processor, Lexicon PCM42 digital delay, Roland SDE-1000 digital delay, MXR 175 digital delay, MXR flanger/doubler. **Other Outboard Equipment:** (2) dbx 902 de-esser, (2) dbx 903 compressor, (5) dbx 904 noise gate, (3) dbx 905 parametric EQ, (6) dbx 160X compressor/limiter, (2) UREI 1176 peak limiter, UREI LA-3 audio leveler, UREI LA-4 compressor/limiter, (3) UREI 535 parametric EQ, (2) Barcus-Berry BBE 802 Sonic Maximizer. **Microphones:** (2) AKG C-12 vintage tube, (2) AKG The Tube, (4) AKG C-414-P48, (4) AKG C-460, (2) Sennheiser MKH-40 cardioid, (4) Sennheiser MKH-20 omni condenser, (10) Sennheiser MD-421, many others. **Monitor Amplifiers:** UREI many varied amps, Crown DC-300A. **Monitor Speakers:** (4) UREI 813A Time-Align, various near-field reference. **Musical Instruments:** Kimball 6'7" grand piano, Yamaha PF80 MIDI electric piano, Roland Alpha Juno-2 programmable polyphonic synth, LinnDrum computer w/MIDI retrofit, Yamaha SP35 electric piano, other drum machine/synthesizer/sampler available on request. **Other:** Music Man 112RP tube guitar amp w/custom cabinet. **Specialization & Credits:** We specialize in complete studio packages. Our compact disc mastering studio is available for immediate 1630 transfer. While working in the studio, you may go over to our fully staffed art department and plan your CD booklet, album jacket or cassette/DAT insert card. After your day-of-the-art, we can run off up to 100 cassettes in our state-of-the-art cassette duplication facility. One hundred Nakamichi MR-1 and LX-5 cassette decks comprise our cassette duplication room. We custom-load only TDK high-bias cassette tape into the newly designed Shape Mark X shell. It's no wonder why Denny Laine, Richie Havens and author Geoffrey Giuliano referred to it as one of the truly unique studios they have ever been in. Mark Studios is also the launching pad of Rick James, Spyro Gyra, Jeff Tyzik, 10,000 Maniacs, New York Voices and Billy Sheehan.

[24+] **MASTER SOUND ASTORIA;** 34-12 36th St.; Astoria, NY 11106; (718) 786-3400. **Owner:** Ben Rizzi, Maxine Chrein. **Manager:** Maxine Chrein. **Specialization & Credits:** MSA's studio A1 is New York's premier "BIG ROOM" music recording studio. It features a fully automated Neve V 60 console, 48-tracks of digital or analog and a full complement of outboard equipment. An unusually diverse music industry client base frequent the studio known for its acoustical integrity. Under the direction of co-owners Maxine Chrein and Ben Rizzi, MSA pioneered the world's first all-digital, bi-coastal recording session via fiber optics and satellite. Additional studio facilities provide audio post-production services. Coming soon...Master Sound Riga in the U.S.S.R.

[24+] **MASTERBLASTER SOUND;** 5 E. 22nd St., Ste. 14M; New York, NY 10010; **Owner:** Joshua Tanner. **Manager:** Pamela Roof.

[24+] **MEDIA ARTS CENTER/NICKEL STUDIO;** also **REMOTE RECORDING;** 753 Capitol Ave.; Hartford, CT 06106; (203) 951-8175. **Owner:** Jack Stang. **Manager:** Jon Bolduc.

[24+] **MEDIA RECORDING STUDIOS;** 841 Sunrise Hwy.; Babylon, NY 11704; (516) 669-1872. **Owner:** Steve Young. **Manager:** Yodi Berglund. **Engineers:** Allen Watts, Steve Young, Pat Gordon, Rob Caprio, Paul Uglin. **Dimensions:** Room 1: studio 26 x 16, control room 14 x 26. Room 2: studio 22 x 18. **Mixing Consoles:** Otari/Sound Workshop 34C 48-input w/DiskMix automation, Soundtracs MR-32 32-input. **Audio Recorders:** (2) Otari MTR-90 24-track, Otari MTR-12 2-track 1/2", Otari 5050B 2-track 1/4", Otari MX-70 16-track 1". **Cassette Recorders/Duplicators:** (4) Nakamichi MR-1. **Noise Reduction Equipment:** Dolby 24-track. **Synchronization Systems:** Fostex 4030, 4035. **Echo, Reverb & Delay Systems:** Lexicon 480L reverb, Lexicon PCM70 reverb, (3) Lexicon PCM42, (2) Roland SRV-2000 reverb, (4) Yamaha SPX90II, (2) TC Electronic 2290 DDL, Eventide H3000, Eventide 949, GL-100 guitar preamp, Korg SDD-2000, Ibanez DMD-2000. **Other Outboard Equipment:** Teltronix LA2A, (4) Kepex, (4) Gain Bran, (4) Dyno-Mite, (4) Drawmer, (4) Galex, (2) UREI 1178, (2) UREI LA4, dbx 160, dbx 165. **Microphones:** (2) Neumann U87, (2) Neumann KM84, (6) Sennheiser MD-421, (2) AKG C-451, (2) AKG C-414, (6) Shure SM57, E-V RE20, (2) E-V RE10, (2) AKG D-12E, Neumann TLM170, (2) E-V 635A. **Monitor Amplifiers:** (2) Crown Microtech 1200, (2) Crown Microtech 600. **Monitor Speakers:** UREI 809, (2) JBL 4412, (2) Yamaha NS-10M, Auratone, Klipsch Lascala. **Musical Instruments:** Synclavier digital music system, Korg M-1, Emulator II, E-mu SP-12 turbo, Yamaha TX802, DX7IID, FB-01, RX-5, CS-60, Roland D-550, Ensoniq ESQ-1, Oberheim Matrix-1000, Roland Octapad, Akai S900. **Other MIDI Equipment:** IBM PC w/MPU 401, Voyetra Sequencer Plus, Atan 1040ST, Mastertracks Pro software, Drumware S900 edit software. **Video Equipment:** Call for info. **Other:** Call for additional instruments or equipment. **Rates:** Call studio manager.

[24+] **MEGAPHONE;** also **REMOTE RECORDING;** 45 Casco St., Ste. 200/300; Portland, ME 04101; (207) 772-1222; **FAX:** (207) 774-7699. **Owner:** Megaphone. **Manager:** John Eltnier. **Engineers:** John Eltnier, Martin Gleitsman, Michael McInnis, John Stuart, Steve MacLean, Lance Vardis. **Dimensions:** Room 1: studio 32 x 15, control room 14 x 14. Room 2: studio 10 x 5, control room 20 x 15. **Mixing Consoles:** Sound Workshop Series 34B 40-input w/DiskMix II automation, Ramsa WR-7820 20-input w/J.L. Cooper MidDimination. **Audio Recorders:** Otari MTR-90II 24-track, Otari MX-70 16-track, Tascam MS-16 16-track, (2) Otari 5050BQ-II 4-track, Otari MTR-12-II mastering

w/center-track SMPTE, (5) Otari 5050 series 2-track, Panasonic SV-3500 DAT, Sony TCD-D10 portable DAT. **Cassette Recorders/Duplicators:** (4) Tascam 122B, KABA real-time duplication. **Synchronization Systems:** Fostex 4030/4035. **Echo, Reverb & Delay Systems:** Lexicon 480L, AKG ADR-68K digital reverb/effects, (2) Yamaha REV7 digital reverb, (2) Yamaha SPX90, Lexicon PCM60 digital reverb, ART 01A digital reverb, Korg A3 Performance, Eventide 969 Harmonizer, (2) Lexicon PCM42 digital delay, Marshall Time Modulator, Teltronix LA-2A limiter, (2) Aphex Compellor, (2) dbx 160 limiter, Valley People Dyna-Mite, Valley People 610 limiter, Inovonics 210 limiter, Ashly Audio SC-33 stereo gate, Rocktron Hush IIC stereo single-ended noise reduction, Orban 674-A equalizer, Orban 536A dynamic noise controller, Valley People 415 de-esser, Aphex Type III Exciter, Aphex C Exciter, BBE 822 exciter, BBE 802 exciter. **Microphones:** Too many to list. **Monitor Amplifiers:** (2) Bryston 4B Pro, (2) Crown DC-150. **Monitor Speakers:** (2) UREI 813B, (2) UREI 809, (4) Yamaha NS-10. **Musical Instruments:** Kurzweil K1000SE, Digital Keyboards Synergy II+ synth, Akai S900 MIDI sampler, Korg M1R synth, Yamaha DX7 synth w/Elmod, Yamaha TX802 synth, (2) Yamaha TX81Z synth, Yamaha TX7 synth, Oberheim DPX-1 MIDI sample player, Roland D-550 synth, Roland MKS-70 synth, Sequential Circuits Prophet VS synth, Yamaha TX1P piano module, Roland TR-626 drum machine, Roland TR-505 drum machine, Alesis HR-16 drum machine, Steinway M1926 grand piano, Hammond organ w/Leslie. **Other MIDI Equipment:** Aphex Studio Clock, Southworth Jam Box/4+, Roland SBX-80 SMPTE/MIDI converter, Macintosh IIfx w/100MB internal hard disk drive, Atari 1040ST w/20MB hard disk drive. **Video Equipment:** JVC CR-8250U 3/4" deck, Panasonic AG-1950 1/2" deck.

[24+] MODERN AUDIO PRODUCTIONS, INC.; also REMOTE RECORDING; 1650 Market St., 3rd Fl., Philadelphia, PA 19103; (215) 569-1600. Owner: Carlton Communications. Manager: Chris Quin. Engineers: Bob Schachner, Paul Byers, Jack Dyke. **Mixing Consoles:** Soundcraft TS 24 28 x 24 automated, Soundcraft TS 24 8 x 24 automated, Soundcraft 200 8 x 4. **Audio Recorders:** MCI JH-24 24-track Tascam Model 508-track, Otari MTR-123-track w/center-track, (7) Otari 5050 2-track. **Cassette Recorders/Duplicators:** (4) Aiwa F770, (2) Aiwa AD-515. **Noise Reduction Equipment:** (28) Dolby A, (8) dbx I. **Synchronization Systems:** Boss automated editor w/(3) Adams-Smith synchronizer, Adams-Smith compact controller w/(3) Adams-Smith synchronizer. **Echo, Reverb & Delay Systems:** Klark Teknik DN780, Yamaha REV7, Yamaha SPX90, Lexicon PCM60, Alesis Microverb II, Lexicon Prime Time II, Eventide 969 Harmonizer, Lexicon LXP-1, Lexicon LXP-5. **Other Outboard Equipment:** (8) dbx 160 limiter, Drawmer 201 gate, (2) Valley People gate, (2) Valley People Gain Brain, Valley People de-esser, (2) Orban de-esser, GML 8200 parametric, (2) GML mic preamp. **Microphones:** (4) Neumann TLM170, (2) Neumann U87, (2) Neumann KM84, (2) B&K 4007, E-V RE20, (2) Sennheiser MD-421, Shure 57, AKG 422, Neumann U47 FET. **Monitor Amplifiers:** (9) Hafler P-250. **Monitor Speakers:** (2) Klein & Hummel 092, (2) Yamaha NS-10, (2) ROR, (2) Fostex, (2) Sony. **Musical Instruments:** Yamaha recording drums, various amps, Tokai baby grand piano, Roland D-50, Yamaha DX7, Oberheim Matrix-1000, Roland Octapad. **Other MIDI Equipment:** Yamaha MSS1 MIDI/SMPTE synchronizer, Opcode Studio 3. **Video Equipment:** Complete post-production facility w/(2) 1" edit bay, AVA paint system, Bosch FSG-4000, Rank Cintel film-to-tape transfer, Montage picture editor plus full-service, high-speed 1/2" duplication. **Other:** (2) Technics SL-P1200 CD player, Macintosh SE.

[24+] THE MUSIC PALACE, INC.; 31-B Nassau Blvd., West Hempstead, NY 11552; (516) 481-0100. Owner: Michael Bona, Paul Scaturro. **Dimensions:** Studio 18 x 12, control room 18 x 12. **Mixing Consoles:** Neve modified 56-input w/NECAM 96. **Audio Recorders:** (2) Studer A820 24-track, Studer A820 2-track. **Cassette Recorders/Duplicators:** Nakamichi. **Synchronization Systems:** (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** EMT 250-251, Lexicon 480L, Quantec XL, Prime Time I and II, (3) PCM42, REV7, SPX90, TC Electronic Chorus, Lexicon PCM70. **Other Outboard Equipment:** (24) Simon Systems direct box, (4) Pultec EQ. **Monitor Amplifiers:** (3) Quedstedt. **Monitor Speakers:** Quedstedt, Yamaha NS-10M. **Other:** Anything you need!

[24+] NEVESSA PRODUCTION; also REMOTE RECORDING; 1 Artist Rd., Saugerties, NY 12477; (914) 679-8848. Owner: Chris Andersen.

[24+] NEW ENGLAND MOBILE RECORDING; also REMOTE RECORDING; PO Box 409; Stow, MA 01775; (508) 562-2111. Owner: Alan W. Goodrich. Manager: Jay W. Goodrich.

[24+] NEW YORK DIGITAL RECORDING, INC.; only REMOTE RECORDING; 253 W. 73rd St.; New York, NY 10023; (212) 874-4660. Owner: MacDonald Moore. Manager: Maura J. McGloin. Engineers: Nelson Wong, Charles Harbutt, Paul Zinman, Jeff Zaraya, Marie Fontaine, MacDonald Moore. **Dimensions:** Editing suite 1: 13 x 20. Editing suite 2: 12 x 15. **Mixing Consoles:** Studer 962 w/custom break-out boxes and Mogami cabling, Studer 961. **Audio Recorders:** PCM-3324 w/remote/V-clock/DABK-3003 w/rapid DAE-3000 edit/video lock/varsync, (2) DAE-3000/PCM-1630/DMR-4000/DTA-2000/DMU-30 read-after-write/tape analyzer/remeter, DAE-1100A/PCM-1630/DMR-2000/DTA-2000 offline editing system, (3) PCM-2500 Pro-DAT, (2) PCM-F1/PCM-601 F1 for-

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NEW YORK DIGITAL RECORDING, INC.
New York, NY

mat Beta/VHS-U-matic VTR, Ampex ATR-102 2-track 30/15/7 1/2/3 3/4 ips, Revox PR-99 7 1/2/15 ips. **Noise Reduction Equipment:** (2) Dolby 360, (2) dbx 180A. **Synchronization Systems:** (2) Adams-Smith Zeta-3 w/remote MIDI lock/3 transport control. **Echo, Reverb & Delay Systems:** RTW-8804 digital F1 to 1630 format transfers, DFX-2400 sample rate converter, (2) Yamaha SPX1000 digital effects multiprocessor. **Other Outboard Equipment:** (2) Yamaha DMP7D digital mixing/EQ/format transfer/RTC-1 remote/interfaces, Benchmark MIA 4 x 4 mic preamp/mixer, Massenburg 8202 parametric equalizer. **Microphones:** AKG, B&K, Schoeps, Sennheiser, etc. **Monitor Amplifiers:** P.S. Audio, Adcom, NAD, Denon. **Monitor Speakers:** Thiel, Snell, Celestion. **Video Equipment:** JVC CR-600U U-matic VTR. **Other:** VSU-3310 Vari-Sync, (2) Stax SR Lambda Pro #3 headphones, (6) Beyer DT990/DT770 headphones.

[24+] NEWBURY SOUND, INC.; 1260 Boylston St., Ste. 202; Boston, MA 02215; (617) 267-4095. Owner: Ken Kanavos. Manager: Ken Kanavos. Engineers: Jeff Dover, Drew Tomwson, Brenda Ferry, Ashley Shepherd, Brad Young, Bill Mahn. **Dimensions:** Studio 44 x 32, control room 22 x 20. Three large iso booths. **Mixing Consoles:** Harrison MR-90 40 x 24

NEWBURY
SOUND

NEWBURY SOUND, INC.
Boston, MA

automated w/Digital Creations Diskmix/IBM ST computer storage system. **Audio Recorders:** Mitsubishi X-850 32-track digital, Otari MTR-9011 24-track w/autolocator, Studer A820 2-track 1/2", Otari MX-5050B 2-track 1/4", TEAC 32-2B 2-track 1/4", Tascam 38 8-track 1/2", Sony 601 2-track digital, (2) Panasonic SV 3500 DAT. **Cassette Recorders/Duplicators:** (10) Nakamichi MR-2, Nakamichi MR-1, Onkyo TA-2600, Tandberg 3014, Tascam 122B. **Synchronization Systems:** Adams-Smith 2600 3-channel w/SMPTE generator. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Eventide SP2016 w/sampling, (3) Lexicon PCM70 w/MIDI interface, (3) Yamaha SPX90, Lexicon Prime Time II digital delay, Lexicon PCM42 digital delay, (2) Lexicon PCM41 digital delay. **Other Outboard Equipment:** Tube-Tech CLIA tube compressor, (3) UREI LA-4 compressor, (2) UREI LA-3 compressor, (2) UREI 1176LN peak limiter, (2) dbx 160 compressor, dbx 161 compressor, (6) Ashly Audio SC33 2-channel noise gate, (2) MXR 129 pitch transposer w/digital delay, Aphex B Aural Exciter, UREI 527A 1/3-octave EQ, Orban 536A de-esser, Drawmer DS201X noise gate, BBE 802 sonic processor, Aphex 303 Compellor signal processor. **Microphones:** (3) Neumann U87, Neumann U89, Neumann TLM170, (2) Neumann KM84, (2) Sennheiser MD-

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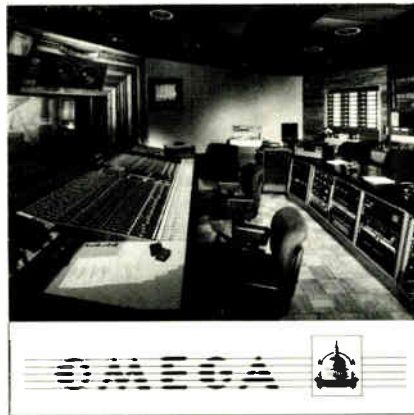
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441, AKG 414EB, AKG 451, AKG D-12, many more. **Monitor Speakers:** Realistic Minimus, UREI 813B, Altec 604-QK, Tannoy LQM-12B, JBL 4312, Yamaha NS-10, Auratone 5C. **Musical Instruments:** Roland D-550 linear synth, Tama 5-piece drum kit, Fender Rhodes "Stage 73" piano, Hammond L-100 organ w/ Leslie 122 speaker, Yamaha KX88 keyboard controller, Yamaha TX synth rack, Roland MKS-20 digital piano, E-mu SP-12 drum machine, LinnDrum w/MIDI, Moog Memorymoog Plus w/MIDI and sequencer, Emulator II synth w/library, Kawai KG-3C 6' grand piano. **Other MIDI Equipment:** Performer 2.3, Macintosh computer sequencer, Akai S900 digital sampler w/library, (2) J.L. Cooper MSB Plus switcher. **Video Equipment:** NEC PM-2571A 25" color monitor, JVC 8250 3/4" VCR, JVC HR-D140U 1/2" VCR, Fostex E2 1/4" center-track time code mastering deck. **Rates:** Please call for rates. **Specialization & Credits:** As New England's only digital 32-track facility, Newbury Sound is dedicated to fulfilling the requirements of a new generation of low-cost, high-performance, all-digital studios that will become the standard in the '90s and beyond. We feature the largest array of outboard gear in Boston, a full complement of MIDI gear, a 40-input Harrison MR-4 console with Diskmix automation, an experienced staff of dedicated engineers, and perhaps the lowest digital 32-track rates in the country. In short, Newbury offers an unequaled degree of performance for the serious recording professional faced with a limited budget. Biweekly, our facility proudly plays host to WBCN's Boston Emissions radio presentation. A live, in-the-studio broadcast featuring some of New England's most progressive, upcoming bands presented by the country's most widely recognized leader in contemporary radio—WBCN. The formation of our own all-digital music production company, Digidisc, ensures our dedication to remaining at the vanguard of the industry.



NORTHEASTERN DIGITAL RECORDING, INC.
 Southbury, MA

[24+] **NORTHEASTERN DIGITAL RECORDING, INC.;** also *REMOTE RECORDING*; 2 Hidden Meadow Ln.; Southbury, MA 01772; (508) 481-9322. **Owner:** Dr. Toby Mountain. **Manager:** Anne Shepard. **Engineers:** Toby Mountain, Jonathan Wyner. **Dimensions:** Studio A: 20 x 13, Studio B: 18 x 12, Studio C: 16 x 12. **Mixing Consoles:** Troise SA200 custom 12 x 4 x 2. **Audio Recorders:** Sony PCM-1630 2-track digital, Sony PCM-1610 2-track digital, Sony PCM-701 2-track digital, Sony PCM-501 2-track digital, Sony PCM-F1 2-track digital, (2) Sony PCM-2500 2-track digital DAT, Sony DTC-1000 DAT, Panasonic SV-3500 DAT, Sony APR-5002H 2-track analog 1/2" or 1/4". **Cassette Recorders/Duplicators:** (3) Denon. **Noise Reduction Equipment:** Dolby A, Dolby SR, dbx Type I, dbx Type II. **Synchronization Systems:** (2) Sony DAE-1100 digital audio editor **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon 480. **Other Outboard Equipment:** Digidisc Sound Tools Macintosh editing processing system. **Microphones:** Schoeps, B&K, AKG 414, Sennheiser. **Monitor Speakers:** Snell Type C. **Musical Instruments:** Yamaha DX7IID, Roland D-50, Alessis HR-16 drum machine. **Other MIDI Equipment:** Macintosh Iix, Macintosh Plus, Performer and Composer software. **Video Equipment:** (2) Sony BVU-800 for digital audio or video, Sony DMR-4000 for digital audio. **Specialization & Credits:** We specialize in live-to-2-track digital using the Sony PCM-1610/1630 system. (Also PCM-F1, etc.) We do transfers from several other digital formats as well as analog to the PCM-1610/1630 for digital editing and compact disc mastering. Full compact disc services also available. **Credits:** David Bowie, Frank Zappa, Ritchie Havens, Arlo Guthrie, Kingston Trio, Rykodisc, Rounder, Folk Era, MHS, Biograph, Chrysalis, RCA, Newport Classic, Titanic, Northeastern, Omega.



OMEGA RECORDING STUDIOS
 Rockville, MD

[24+] **OMEGA RECORDING STUDIOS;** also *REMOTE RECORDING*; 5609 Fishers Ln.; Rockville, MD 20852; (301) 230-9100. **Owner:** BoL Yesbek. **Manager:** Bill Brady. **Engineers:** Bob Yesbek, Bill Brady, Sharon Shapiro, Jack Knepley, Tom McCarthy, Brian Smith, Chris Murphy, Andy Evans, Chuck Lamb, Bill Harrison. **Dimensions:** Room 1: studio 50 x 40 x 18, control room 24 x 27, Room 2: studio 26 x 25 x 12, control room 23 x 19, Room 3: studio 22 x 20 x 9, control room 20 x 15, Room 4: 27 x 27 (MIDI room). **Mixing Consoles:** Solid State Logic 404B w/Total Recall and studio computer, API 2488 32 x 32 automated, Audionics 24 x 16 x 8. **Audio Recorders:** (2) Studer A80 MkIV 24-track, Studer A80 2-track 1/2", (2) Studer A810 2-track 1/4" w/center-track SMPTE, (6) Studer B67 2-track 1/4", Ampex A800 4-track 1/2", (4) Sony PCM-2500 4-track digital, Studer/Dyaxis direct-to-hard disk digital editor. **Cassette Recorders/Duplicators:** (9) Nakamichi MR-1 real-time. **Noise Reduction Equipment:** (2) Dolby M-24, dbx 216 24-track, (4) Dcl-by361, dbx 187. **Synchronization Systems:** (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** TC-2290, AMSRMX 16 digital reverb, EMT 251 digital reverb w/250 software, (2) EMT 140ST plate reverb, EMT 240ST Gold Foil reverb, (5) Lexicon PCM70 digital reverb, (9) Yamaha SPX90, (3) Eventide Harmonizer, dbx Boom Box low frequency processor, (3) Lexicon Prime™, (4) DeltaLab Effectron, AKG BX-20E reverb. **Other Outboard Equipment:** (12) UREI LA-4 limiter/compressor, Sontec parametric equalizer, Sontec compressor/limiter, Neve stereo compressor/limiter, (12) Allison Research Kepex, (4) Drawmer gate, (2) Orban stereo parametric equalizer, Audioarts stereo parametric equalizer, (2) dbx 110 comp/limiter, (2) dbx 162 comp/limiter, (2) Pultec equalizer. **Microphones:** (22) Neumann U62 condenser, (18) E-V RE20 dynamic, (12) Sennheiser 421 dynamic, (14) Neumann FET47 and KM83 etc. condenser, AKG The Tube, (4) Neumann U47 and U67 tube, (4) AKG C-414 condenser, (2) Sony C-48 condenser, (4) Crown PZM. **Monitor Amplifiers:** (20) Bryston/Crown. **Monitor Speakers:** (2) Westlake TM-1, (4) UREI 813/811. **Musical Instruments:** Synclavier II, Steinway grand piano, Kawai grand piano, Kurzweil 250, (3) Yamaha drums set, Roland D-50, Emulator II, Yamaha DX7/TX802, Oberheim DPX-1, (2) Akai S900, Hammond B-3 w/ Leslie. **Other MIDI Equipment:** Macintosh II w/380MB HD, (2) J.L. Cooper 16/20 MIDI patcher, Atari, IBM computers. **Video Equipment:** (2) Sony VO-5850 recorder, Panasonic professional TV monitor built in to control room. **Rates:** Studio A: \$130/hr., Studio B: \$115/hr., Studio C: \$85/hr., Studio D: \$75/hr. Package rates available for block booking. **Specialization & Credits:** Each control room and each studio separately air cond. and heated. Electrostatic air cleaners in all rooms. 48-line building-wide fibre optic system for audio and video, various music and SFX libraries and tapes available in music library and two lounges. Producer's office in control room #1. "Omega Studios" huge studio #1 is for concert bands, marching bands, stage bands, choirs and orchestras of up to 100 pieces. Omega control #1 features a 10' producer/client desk and a private producer's office. Capable of 48 inputs, #1 is equipped for up to 48 tracks. Studio #2 offers 24 tracks. Grand pianos are available in both studios, as well as Yamaha DX7s and Emulator II. Studio #3 offers 24 inputs and 24/8-track production. SFX and music libraries are available on CD, record and tape. Stud #4 is MIDI-based and features a Macintosh w/380MB hard disk. Digital editing is available using the Dyaxis direct-to-hard disk system featuring one-hour recording capability and direct-to-digital connection to the Sony PCM-2500s. Instruments include synthesizers listed under "Musical Instruments" section. Videolock to MIDI. Stud #4 is wired to dump MIDI and up to 48 channels of audio to Studio 1, 2 or 3. Omega's Recording Engineering School, now in its 14th year, offers six levels of training and is approved by the Maryland State Board for higher education and veteran's training. Omega Studios is celebrating its 22nd year in business.

[24+] **ON BROADWAY, INC.;** 1123 Broadway; New York, NY 10010; (212) 627-9600. **Owner:** Robert Gordon, Nicky Kalliongis. **Manager:** Nicky Kalliongis.

[24+] **PARIS RECORDING;** also *REMOTE RECORDING*; 466 Hawkins Ave.; Lake Ronkonkoma, NY 11779; (516) 467-5143. **Owner:** Brian Unger. **Manager:** Diana Perez.

[24+] **POWER STATION RECORDING STUDIOS;** 441 W. 53rd St.; New York, NY 10019; (212) 246-2900. **Owner:** Bob Walters, Tony Bongiovi. **Manager:** Barry Bongiovi, Bari Kaye.



POWERHOUSE STUDIOS
 Washington, DC

[24+] **POWERHOUSE STUDIOS;** 1155 21st St. NW; Washington, DC 20036; (202) 331-9600. **Owner:** Powerhouse Studios, Inc. **Manager:** Clayton Gsell. **Engineers:** Michael David, Tim Kerr, Skip SoRelle. **Dimensions:** Room 1: studio 13 x 7, control room 18 x 22, Room 2: studio 13 x 7, control room 18 x 22. **Mixing Consoles:** DDA DCM232 2 x 32 input in-line, Yamaha MR142. **Audio Recorders:** Studer A820 24-track, Studer A820 2-track, NED PostPro 8-track direct-to-hard disk. **Cassette Recorders/Duplicators:** Studer A721, Studer A727 CD player. **Noise Reduction Equipment:** Dolby SR on all tracks. **Synchronization Systems:** Alpha Audio BOSS system w/TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L, Lexicon PCM70, Quantec QRS/XL room simulator, Eventide H3000 Ultra-Harmonizer, TC Electronic TC-2290 effects processor, dbx and Valley International noise gate/compressors, Klark-Teknik DN716 digital delay, BBE 802 audio processor, Drawmer 1960 compressor, Drawmer D5201 noise gate, Aphex Compeller. **Microphones:** AKG C-414, Neumann U47. **Monitor Amplifiers:** Bryston 4BP, (2) Crown D-75. **Monitor Speakers:** Tannoy FSMU, Tannoy PBM-6.5, Klark-Teknik Jades, Auratone. **Musical Instruments:** Synclavier w/32MB, 32 Poly, 32FM, 16 outs, optical disk, Roland D-550, Yamaha TX802. **Video Equipment:** All formats (1", Beta, VHS, D-2, 3/4"), Mitsubishi 35" monitor. **Rates:** Call. **Specialization & Credits:** Powerhouse Studios is a full-service video post facility with two online editing suites, graphics and telecine services in addition to the audio recording and production rooms. Audio-for-video, music composition and audio-only mixing and recording is available. Audio 1 is the primary mix room for 24-track analog or 8-track digital direct-to-hard disk recording, editing and sweetening. Audio II features the Synclavier for music composition and digital Foley. Recent projects for audio included music, SFX and mix for *The Koppel Report* specials for ABC News, and music for Stephen King's *World of Horror*, ID and promo music for CBN/The Family Channel, sound effects for Guggenheim film's Academy Award nominated *The Johnstown Flood* and music for numerous commercial TV spots. As a recent winner of *Millimeter* magazine's Facility Planning Achievement Award, Powerhouse Studios affords its clients a beautiful and technically superior environment.

[24+] **PREMIER RECORDING, INC.;** 2121 Wisconsin Ave. NW, Ste. 250; Washington, DC 20007; (202) 333-5588; FAX: (202) 337-6928. **Owner:** Demos Chrissos. **Manager:** Lisa Giannini. **Engineers:** Demos Chrissos, Lisa Giannini, Matthew Nicholl. **Dimensions:** Studio 22 x 14, control room 26 x 21, MIDI room 16 x 11. **Mixing Consoles:** Neotek Elite 36 x 26, Yamaha M2404 (MIDI room). **Audio Recorders:** Otari MTR-90II, Otari MTR-102-track, Otari MTR-102-track w/center-track time code, Otari MX-5050 MkIII-2. **Cassette Recorders/Duplicators:** Sony PCM-2500 R-DAT, Nakamichi MR-2B, Nakamichi B-10, Nakamichi B-1. **Noise Reduction Equipment:** Dolby XP-24 Type A. **Synchronization Systems:** (3) TimeLine Lynx w/KCV keyboard controller, VAC 100PZ-2PC generator. **Echo, Reverb & Delay Systems:** Lexicon 200, Lexicon PCM70, Eventide H910, Yamaha SPX90 digital effects processor. **Other Outboard Equipment:** Drawmer DS-210 stereo noies gates, Aphex 300 stereo Compeller, Aphex Type C Aural Exciter, (4) UREI LA-4 compressor/limiter, (3) dbx 160C compressor/limiter, Symetrix TI-101 telephone interface, (2) Symetrix 528 voice processor, Technics SL-P1300 compact disc player, Music Man 210HD amplifier. **Microphones:** Neumann U87, AKG C-414EB/P48, AKG C-460B/C61ULS, AKG D-112, Shure Beta-57, Sennheiser MD-421. **Monitor Amplifiers:** UREI 6500, Crown D-75, Crown D-150A Series II headphone amplifier, Crown PSA-II (MIDI room). **Monitor Speakers:** UREI 813B, (2) ROC E3, Tannoy PBM-8. **Musical Instruments:** Kawai GS-40 acoustic grand piano, Kurzweil 250 w/advanced sampling, Kurzweil 100PX Plus, Yamaha DX7IID, Yamaha DX7, (4) TX7 module, (2) Akai/Linn MPC-60 drum machine/sampler, Dyaxis digital record/edit/mix, Roland JX-3P, Roland MIDI Octapads, Roland D-550 and P-1000 program-

mer, Korg M1R, E-mu Emax SE digital sampler. **Other MIDI Equipment:** (2) Macintosh Plus, Macintosh SE w/100MB MicrotechHD/2MB RAM, Macintosh II w/60MBHD/2MB RAM, J.L. Cooper 16/20 junction box. **Video Equipment:** Sony VO-5800 3/4" deck. **Other:** Dyaxis disk-based tapeless workstation w/analog and digital inputs, MaxMix and Q-Sheet software. **Rates:** Upon request. **Specialization & Credits:** Since 1985, Premier Recording has been giving engineers and clients a clear, accurate sound they can trust. Designed by Vin Gizzi (Benchmark/Downtown Design) with contracting and installation by Systems Development Group, we use absolutely no equalization to artificially curve the frequency response of our control room. Tests prove we don't need it. Specialization includes: 2-track and 24-track record/edit/mix, 24-track mix-to-picture, telephone patch at the console for clients who want to "listen in" and produce long distance talent sessions, Dyaxis workstation digital soundtrack assembly, in-house original music pre-and post-score-to-picture, jingles, theme songs and soundtracks, in-house original music production credits: PBS network :05-second Legal ID post-score, PBS network 1988-1990 original music soundtrack promos and affiliate station customizations, political post-scores including original music post-scores for the 1988 Presidential campaigns, local/regional/national jingles.



PRO AUDIO/BIG MO RECORDING
Wheaton, MD

[24+] PRESENCE STUDIOS; also *REMOTE RECORDING*; 461 Main St.; East Haven, CT 06512; (203) 467-9038. **Owner:** Jon Russell. **Manager:** Dana Rafiee. **Engineers:** Joe Carrano, E. Gray Fowler, R. Barone. **Dimensions:** Room 1: Studio 37 x 30, control room 20 x 18. Room 2: studio 15 x 12, control room 10 x 12. **Mixing Consoles:** SSL 4056G TR. **Audio Recorders:** Studer A80 MkIV 24-track w/16-track heads, Mitsubishi X850 32-track digital, Ampex ATR-800 2-track 1/4", Studer A820TC 2-track 1/2" w/center time code, Technics RLS-1380 2-track 1/4". **Cassette Recorders/Duplicators:** (40) Sony TC-FX150 real-time duplication. **Noise Reduction Equipment:** (2) Dolby A/SR361. **Synchronization Systems:** (3) TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L w/3.0 software, Lexicon 224XL, Lexicon PCM70 3.0, Lexicon PCM60, AKG BX-10, TC Electronic 2290, (4) Roland SDE-3000, Lexicon M87 Super Prime Time, (2) MXR digital delay, (2) Marshall 300 tape eliminator, (2) UREI 1176LN, Drawmer 1960 tube comp, dbx 162 stereo comp/limiter, (4) dbx 165 overeasy, (4) Yamaha SPX90, (2) Yamaha REV7, Eventide H3000B, Eventide H949, dbx 906 flanger/doubler, BBE 802, dbx 902 de-esser, (2) Drawmer DS-201 stereo noise gate. **Microphones:** (2) Neumann U87, Neumann U47 FET, (4) AKG C-414ULS, AKG C-414P48, (10) AKG C-451 E/EE, (4) AKG C-460ULS, AKG The Tube, (4) AKG C-501E, AKG D-12E, (4) Sennheiser MD-421, Sennheiser MD-441, (2) E-V RE20, E-V RE10, (2) Shure SM58, Shure SM57, (2) Crown PZM, (2) Sony ECM-22. **Monitor Amplifiers:** (2) Hafler DH-500, (5) Hafler DH-220, (4) Hafler DH-200. **Monitor Speakers:** (2) Westlake HR-7U, (2) Westlake TM-1, (2) JBL 4311, (2) Cizek Model 2 w/M6 27 sub, (2) Yamaha NS-10M, (2) Auratone C. **Musical Instruments:** Fairlight CMI Series III w/Waveform Supervisor and 20MB RAM, Yamaha DX5, Yamaha DX7, Yamaha DX7II, Yamaha Y CAM, Yamaha CP80 w/Forte MIDI, Yamaha G2 grand piano w/Forte MIDI, Roland D-550, Roland MKS-70, Korg M3R, Oberheim QBX-A w/MIDI, Emulator Emax, Minimoog w/MIDI. **Rates:** On per project basis. Starting at \$80/hr.

Eastridge. **Engineers:** Ed Eastridge, Jim Crenca, Peter Eller, John Brittain, Ron Freeland. **Dimensions:** Studio 26 x 32, control room 24 x 8. **Mixing Consoles:** Soundcraft 16 x 2, custom ESP 40 x 24. **Audio Recorders:** MCI JH-114 24-track, Atari MG14D 12-track, Sony 50C3 2-track w/center time code, Sony MCI JH-24 24-track, Revox PR99 2-track. **Cassette Recorders/Duplicators:** (2) Sony DC-DSM, Nakamichi, Technics. **Noise Reduction Equipment:** Dolby A 28 channels, dbx 2-track channels. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60, Roland DEP-5, Lexicon LXP-1, Lexicon M23 delay, (2) Yamaha SPX90, MXR flanger/doubler. **Other Outboard Equipment:** Audioarts stereo parametric EQ, (2) UREI LA-3A, UREI stereo graphic EQ, (7) Valley People Gain Bra n dbx 900 rack w/de-esser comp/limiter, noise gate, parametric EQ, (2) TC Electronic TC 1140 parametric EQ, dbx 160 compressor, BBE 802, (6) Valley People Kepex. **Microphones:** (2) AKG 414EBS, (3) AKG C 535EB, (6) AKG C-451, AKG D-12E, (2) Crown PZM, (2) E-V PL20, (2) Neumann U89, (4) Neumann U87, (2) Neumann KM84, (6) Sennheiser MD-421, (6) Shure SM57, (4) Shure SM58, (3) Beyer M500. **Monitor Amplifiers:** Bryston, Crown DC-300, Crown D-150A, AMP 8000. **Monitor Speakers:** (2) UREI 811 Time Align, UREI 811C (studio), (2) Yamaha NS-10, (2) JBL 4408. **Musical Instruments:** Korg DDD-1 drum synth, Yamaha KX76 MIDI controller, Yamaha 802 synth, Roland GP-8 guitar effects, Yamaha TX81Z FM synth, Roland GM-70 MIDI converter, Roland GR-300 synth guitar, Oberheim OB8 synthesizer, Kawai 9' grand piano, Akai S900 sampler, Akai S1000 sampler, Fender Vibroverb, Marshall JMC half-stack, Roland JC-120. **Video Equipment:** Panasonic WV-FZ camera, RCA camera, Vc TM13V monitor, Panasonic 15" monitor, JVC CR-850U 3/4" deck.

[24+] THE PRODUCTION BLOCK; also *REMOTE RECORDING*; 2833 North Front St.; Harrisburg, PA 17114; (717) 233-4155. **Owner:** Michael and Sarah Block. **Manager:** Porter Block.

[24+] PULSE WAVE UNDERGROUND RECORDING STUDIO; 19 Norwood Terr.; Trumbull, CT 06611; (203) 268-1018. **Owner:** John P. Mozzi. **Manager:** Fred Louis. **Engineers:** John P. Mozzi, Fred Louis. **Mixing Consoles:** Sony MXP-3036 36-channel. **Audio Recorders:** Sony JH-24 24-track, Otari MX-5050 IIB stereo, Sony F1 digital processor. **Cassette Recorders/Duplicators:** Tascam 122B. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60, (2) Lexicon LXP-1, (3) Korg SDD-3000, Korg SDD-2000. **Other Outboard Equipment:** (2) dbx 160X, dbx 166, Drawmer DS-2C1, Valley People Dyna-Mite, USAudio Gatec, Audioarts 4200A, Klark-Teknik DN360, (2) Rane ME-30, (2) BBE 822. **Microphones:** AKG C-414ULS, (2) AKG C-535, AKG D-222, Beyer MC-500, (9) Sennheiser MD-421, (2) Sennheiser MD-431, (2) Sennheiser MD-441, Sennheiser ME4b, Sennheiser ME80, (3) Shure SM57, (2) Neumann U67. **Monitor Amplifiers:** Bryston 4B, (2) Crown D-150A, Crown D-75. **Monitor Speakers:** UREI 809, Electro-Voice MS802, (2) Yamaha NS-10. **Musical Instruments:** Korg SGX1D digital piano, Korg DSS-1 digital sampler, Korg M1-R digital sound module, Kurzweil 1000PX digital sound module, Roland U-220 digital sound module, E-mu Proteus digital sound module, (2) Korg EX800C synthesizer module. **Other MIDI Equipment:** Lexicon MRC controller, Roland A880 patcher/mixer/merger, Sonus SMX200 SMPTE/MIDI interface, Sonus Macface Macintosh/MIDI interface.

[24+] PYRAMID SOUND, INC.; also *REMOTE RECORDING*; 105 E. Clinton St.; Ithaca, NY 14850; (607) 273-3931. **Owner:** John Perialis. **Manager:** Lorn Hunter.

[24+] Q DIVISION, LTD.; 443 Albany St.; Boston, MA 02118; (617) 542-0081. **Owner:** Phil Sullivan. **Manager:** Jort Lupter

[24+] QUAD RECORDING; 723 7th Ave.; New York, NY 10019; (212) 730-1035. **Owner:** Lou Gonzalez. **Manager:** Carla Cifarelli. **Engineers:** Robbie Norris, Rick Slater, Russell Elvado. **Mixing Consoles:** SSL 6455E w/G Series automation, SSL 4048E, SSL 4056E w/G Series automation and (8) G modules

Trident Series 70. **Audio Recorders:** Studer A800 24-track, (3) Studer A80 24-track, (2) Otari MTR-90 MkII 24-track, (4) Studer A80VU 2-track, (2) Otari 8-track, Otari 4-track. **Cassette Recorders/Duplicators:** Tascam 122 MkII. **Synchronization Systems:** (6) TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L, (2) Lexicon 224XL, (3) Lexicon PCM70, Lexicon 224, (3) AMS DDL, (3) AMS reverb, (5) Yamaha REV7, (4) Yamaha SPX90, (2) Roland Dimension D, (4) LA-2A compressor, (6) 1176 compressor, (15) Pultec equalizer, (4) Neve 1073 equalizer, (8) API 550 equalizer, (14) API mic pre, (15) API line amp, (8) Lexicon PCM42, (4) Lexicon PCM41, Publison delay, TC-2290, Tri chorus, (6) EMT 140. **Microphones:** (2) Neumann U47, (2) Neumann M49, (5) Neumann U67, (3) Neumann KM84, (5) Neumann U87, (4) AKG 414, AKG D-12, (11) Sennheiser MD-421, (3) Shure SM57. **Musical Instruments:** Kurzweil K-1000, Yamaha DX7II, Yamaha DX7, Roland Juno-106, Roland Juno-60, Casio CZ-101, Prophet-5, Yamaha TX81Z, Korg M1, Roland D-550, Roland Super Jupiter, Korg EX-8000, Yamaha TX7, Akai S900, Roland SBX-80, E-mu SP-12, Korg DDD-1, Roland Octapad, J.L. Cooper MIDI patch bay, Macintosh Plus w/ Performer software. **Specialization & Credits:** Projects worked on at Quad: The Jacksons, The Rolling Stones "Almost Heard You Sigh," James Lee Wild, Wommack & Wommack, Sheena Easton, K-YZE, Hugh Harris, Paul Barry, Paul Young, The Chimes, Elton John's "The Club at the End of the Street," Adeva, Prince, B-52's, Chaka Khan, Carmen, Gaeil Ann Dorsey, Rick James, Alex Bugnon, Karen White, The Way Moves, Roger Christian, Imaginations "Changes," D-MOB, Kim Mizeal, Andy Roachford, Cowboy Junkies, Victor Bailey, Sly & Robbie, Ryuichi Sakamoto, Bonnie Pointer, Rod Stewart's "Crazy About Her," Kadomatsu, New Kids on the Block, Jocelyn Brown, Omar Hakim, John Lennon's "Restoration," Marc Cohn, Inner City's "What You Gonna Do With My Lovin'," Will Downing, Britny Fox, Skipworth & Turner, Grace Jones, Fat Boys, Bob Marley, Benny Diggins, Seduction, Cover Girls, Trouble Tribe, Dixie Doughboys, Technotronic's "Pump Up the Jam," Pointer Sisters, Buster Poindexter, The Ramones, Melba Moore, Freddie Jackson, Berone Harris, Keith Robinson, India.

QUANTUM SOUND STUDIOS

QUANTUM SOUND STUDIOS
Jersey City, NJ

[24+] QUANTUM SOUND STUDIOS; 512 Paterson Plank Rd.; Jersey City, NJ 07307; (201) 656-7023. **Owner:** Reggie Lucas. **Manager:** Gary Salzman. **Engineers:** Bill Klatt, Doc Dougherty, Jay Mark, John Patterson, Don Peterkofsky, Steve Sisco, Dave Carpenter, Jeff Ford, Jim Wallace. **Mixing Consoles:** SSL 4000E, Neve 8048, Sound Workshop Series 34. **Audio Recorders:** (2) Studer A800 MkII 24-track, Studer A820 24-track, Studer A820 2-track, (2) Studer A80 2-track, Otari 5050 MkII 2-track, 3M 79 24-track. **Cassette Recorders/Duplicators:** (6) Nakamichi MR-1B, Nakamichi DMP-100. **Synchronization Systems:** (2) TimeLine Lynx, (2) Roland SBX-80. **Echo, Reverb & Delay Systems:** Lexicon 224XL, EMT 252, EMT 140, Quantec QRS, (2) AMS DMX 15-80, (3) Lexicon PCM70, (3) TC-2290, Yamaha REV5, Yamaha REV7, (3) Yamaha SPX90II, (5) Lexicon PCM42, Eventide 910, Lexicon PCM60. **Other Outboard Equipment:** (4) Tube-Tech PE1B, (5) Drawmer DS201, Lang PEQ-4, Lang PEQ-2, (3) UREI 1176, UREI 1178, (5) dbx 165, (7) Kepex II, (4) Gan Brain, (2) Valley People DSP, (2) Orban 622, (4) Maxi-Q. **Microphones:** Neumann 47 tube, Neumann U87, Neumann U47, Neumann KM84, AKG Tube, AKG 414, AKG 451, AKG D-12, Sennheiser 421, Shure SM7, Shure SM57, Shure SM58, Beyer M160, Sony C-48, E-V RE20. **Monitor Amplifiers:** (2) Bryston 4B, (2) Haller 500, BGW750, (4) Adcom 555. **Monitor Speakers:** UREI 813C, UREI 809, Yamaha NS-10, E-V Sentry 100, Auratone. **Other:** Synclavier w/11MB RAM and 56 voices (32 sampling 24 FM), Yamaha C7 grand piano.

[24+] QUEEN VILLAGE RECORDING STUDIOS; 800 S. 4th St.; Philadelphia, PA 19147; (215) 463-2200. **Owner:** William Kahn. **Manager:** David Simpson.

[24+] RBY RECORDING AND VIDEO; also *REMOTE RECORDING*; 920 N. Main St.; Southbury, CT 06488; (203) 264-3666. **Owner:** Jack Jones, Evan Jones. **Manager:** Margorie Jones.

[24+] PRIME CUTS STUDIOS; 1600 Broadway, Ste. 704; New York, NY 10019; (212) 265-1800. **Owner:** Tuta Aquino, Mark Kamins. **Manager:** Tuta Aquino. **Engineers:** Tuta Aquino, Rick Van Benschoten, Chanin Warakulnukroh, Shawn James. **Dimensions:** Room 1: studio 12 x 9, control room 18 x 16. Room 2: control room 12 x 9. **Mixing Consoles:** Trident Series 65 Model 24 28 x 24 x 24. **Audio Recorders:** Otari MK-80 24-track, (2) Otari MTR-12 2-track 1/2" and 1/4". **Cassette Recorders/Duplicators:** (2) Nakamichi MR-2, Nakamichi MR-1, Sony DTR-1000ES DAT, Sony DTR-100 DAT. **Synchronization Systems:** Roland SBX-80. **Echo, Reverb & Delay Systems:** (2) Yamaha SPX90II reverb, Alessi Quadraverb reverb, (2) Lexicon LXP-1 reverb, Lexicon MRC controller, Lexicon PCM42 delay, Ibanez SDR-1000+ reverb. **Other Outboard Equipment:** (2) API 550B parametric EQ, (2) dbx 160X compressor, Aphex expander/noise gate, (2) Valley People Gatec noise gate, Rane ME30 3-band graphic EQ. **Microphones:** **Monitor Amplifiers:** Yamaha P2150, Yamaha P2250, Crown D-40, Sansui Aug7XXII. **Monitor Speakers:** (2) Yamaha NS-10M, Tannoy 6.5, Auratone 5C, UREI 813, Yamaha NSW2 subwoofer. **Musical Instruments:** Akai MPC60 drum machine/sequencer, Yamaha DX7IIIF keyboard controller, Moog minimoog w/MIDI retrofit, Akai S950 sampler, Korg M1R MIDI keyboard, Roland D-550 MIDI keyboard, Roland MKS-80 Super Jupiter MIDI keyboard, Roland programmer for MKS-80, Roland MKS-70 Super JX MIDI keyboard, Roland D-110, Yamaha TX802, Yamaha TX81Z, Oberheim Matrix-1000, Casio C21000, Roland TR-808 drum machine, Roland TR-707 drum machine, TR-303 bassline MIDI keyboard, E-mu Proteus MIDI keyboard. **Other MIDI Equipment:** Atari 1040ST sequencer, Macintosh SE30 sequencer, Opcode MIDI interface. **Video Equipment:** Other: (2) Technics SL-1200 turntable, Sony CDP-370 CD player. **Rates:** Studio A 24-track MIDI w/engineer \$85 per hour. Studio B 2-track editing w/o engineer \$40 per hour.

[24+] PRO AUDIO/BIG MO RECORDING; also *REMOTE RECORDING*; 11264 Triangle Ln.; Wheaton, MD 20902; (301) 946-7364. **Owner:** Ed Eastridge, John Sprung. **Manager:** Ed

N O R T H E A S T
24+ TRACK
 S T U D I O S

[24+] **RECORDED SOUND LTD.**; also *REMOTE RECORDING*. 922 W. North Ave.; Pittsburgh, PA 15233; (412) 322-7779. Owner: Jack Givens. Manager: Jack Givens.

[24+] **RED ROCK RECORDING**; also *REMOTE RECORDING*. Rd #4, Box 4135; Saylorsburg, PA 18533; (717) 992-5777. Owner: Kent Heckman. Manager: Lois Brownsey. Engineers: Kent Heckman, Mark Heath. Dimensions: Studio 25 x 30, control room 18 x 20. **Mixing Consoles:** Amek/TAC Magnum 36 x 24 x 8 x 2. **Audio Recorders:** Sony/MCI JH-24 24-track, MCI JH-110 2-track, Panasonic SV-3500 DAT. **Cassette Recorders/Duplicators:** (2) TEAC-3RX. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon LXP-1, Lexicon LXP-5, Lexicon 200 digital reverb, Roland SRV-2000 digital reverb, Alesis Quadraverb, Ibanez SDR-1000 digital reverb, Yamaha SPX90, Eventide H949 Harmonizer. (2) Korg SDD-2000 digital delay, ADA 1.28l digital delay. **Other Outboard Equipment:** (2) UREI/Teletronix LA-3A compressor, (2) UREI 1176LN compressor, (4) dbx 160 compressor, (2) Symetrix 501 compressor, Klark-Teknik DN510 dual noise gate, (2) Valley People Dyna-Mite dual noise gate, Peavey Gate Keeper, Studio Technologies Mic-Preeminence mic preamp, BBE 802 Sonic Maximizer, Aphex Type B Aural Exciter, Studio Technologies AN-1 stereo simulator, Korg DVP-1 digital voice processor. **Microphones:** Neumann U47 tube, (2) Neumann U87, (2) AKG C-14EB, Audio-Technica AT-4031, Audio-Technica ATM-25, Sennheiser 421, Sennheiser 441, (2) Electro-Voice RE20, (2) Shure SM81, (5) Shure SM57, (3) Stewart active direct box. **Monitor Amplifiers:** Hafler DH-500, (2) Carver PM-175 headphone amp, Eumig M-1000. **Monitor Speakers:** JBL 4425, Tannoy PBM-6.5, (10) Fostex T-20, (4) AKG K-240. **Musical Instruments:** Yamaha C7F 7'6" grand piano, (2) Yamaha DX7 synth, Synergy digital synth, Korg M3R synth, Oberheim Matrix-1000 synth, Korg Poly 800 synth, Yamaha TX7, E-mu SP-12 drum machine, Korg DDD-1 drum machine. **Other MIDI Equipment:** Lexicon MRC remote controller, Southworth Jam Box/4 Mac interface, Macintosh Plus w/45MB HD, Yamaha MJC8 patch bay. **Rates:** \$60 per hour.



REEL PLATINUM STUDIOS, INC.
 Lodi, NJ

[24+] **REEL PLATINUM STUDIOS, INC.**; 259 Paterson Ave.; Lodi, NJ 07644; (201) 471-3464. Owner: Bob Allecca. Manager: Bob Allecca. Engineers: Bob Allecca, Bill Zircher. **Mixing Consoles:** Trident Series 80 32 x 24 x 24 automated. **Audio Recorders:** MCI JH-24 24-track w/Autolocator III w/16-track head stack, TEAC 80-8 8-track w/DX8 NR, TEAC A3440 4-track w/RX8 NR, Technics 1500 2-track, Sony PCM-F1 2-track digital. **Cassette Recorders/Duplicators:** (2) TEAC 122. **Echo, Reverb & Delay Systems:** Ecoplate III, (2) Lexicon Prime Time w/MEQ, Lexicon PCM42 w/MEQ, Eventide H949 Harmonizer, Eventide instant flanger, (2) Yamaha D1500, (2) Yamaha REV7, Lexicon 200, Roland 2000, Ibanez 1000, (4) Yamaha SPX90, (2) Lexicon LXP-1 w/LARC. **Other Outboard Equipment:** dbx 26-channel noise reduction, Kexpe II, dbx 900 signal processing rack, gates/compressors/de-essers, (2) dbx 160 compressor/limiter, Orban 622B parametric EQ, TEAC GE-20 graphic EQ, Symetrix noise gates, White Instruments 1/3-octave room EQ, (2) Aphex Aural Exciter, (4) dbx 166 compressor/limiter. **Microphones:** Neumann U87, AKG 414, Sennheiser 441, Sennheiser MD-421, E-V RE20, E-V RE15, E-V 635A, Beyer 201N, Shure SM57. **Monitor Amplifiers:** Yamaha 2200, Yamaha 2050. **Monitor Speakers:** JBL 4411, Yamaha NS-10M, Auratone. **Musical Instruments:** Yamaha acoustic pi-

ano, Yamaha DX7, Tama full drum set, Roland SBX-80, Yamaha RX11 digital drum machine, Roland MSQ-700, Akai S900 sampler, Roland D-550, Oberheim Matrix-1000, Emax HD, SE. **Rates:** Call (block rates available). **Specialization & Credits:** We offer in-house production, arranging, lead sheets, full keyboard and drum machine programming. Credits: Mic Mac Records: EXO, Nancy Otero, Brian Brian, Soave, Johnny O, Cynthia, Solid, Rios, Shattered Glass, Body & Style & More; Next Plateau Records: C-Bank; Profile Records: Judy Torres, Routine 6; MGEM Prod., Inc.: Mickey Garcia, Elyn Molina; Jubo Prod.: Julian Hernandez, Bob Allecca; RCA Records: K.C. Flight.

[24+] **REMOTE RECORDING SERVICES, INC.**; only *REMOTE RECORDING*. PO Box 334; Lahaska, PA 18931; (215) 794-5005. Owner: David Hewitt. Manager: Phil Gittomer. Engineers: David Hewitt and friends. Dimensions: Silver truck 9 x 44. **Mixing Consoles:** API 48 x 48 w/560 EQ/Massenberg faders/auto reset, (2) Audio Scopes Display 96 meter all discrete, Studer 961 10 x 2 (available separately in flying case), Studer 962 14 x 4 (available separately in flying case). **Audio Recorders:** (2) Studer A820 24-track, (2) Sony 3324 or 3348 available, (2) Studer A810 2-track w/center-channel time code, Sony PCM-1610 digital w/Apogee filters and flight case, Sony BVU-820 VCR and flight case, Sony PCM701 digital w/video sync, (2) Sony SL-HF900+300 VCR, Sony DAT available. **Cassette Recorders/Duplicators:** (2) Nakamichi Noise Reduction Equipment; (24) Dolby SR available. **Synchronization Systems:** (2) Timeline Lynx. **Echo, Reverb & Delay Systems:** Lexicon 480L digital reverb, Lexicon PCM60 digital reverb, Yamaha REV7 digital reverb. **Other Outboard Equipment:** (4) UREI LA-3A compressor/limiter, (5) UREI 1176 limiter, Aphex Compeller, (7) dbx 903 limiter in 900 frame, (2) Dynaflex dynamic noise filter, (4) Dyna-Mite gate, (5) API 525 compressor/limiter, (2) API 550A EQ, (2) API 550B EQ. **Microphones:** (72) Jensen mic splitter, AKG, Beyer, Countryman, E-V, Neumann, Sennheiser, Shure, Sony, Wahnenbrock P2M. **Monitor Amplifiers:** (4) Bryston 4B, Bryston 3B. **Monitor Speakers:** (2) KFK, (2) CSI MDM-4, (2) Harlike M-18, (2) Yamaha NS-10, (2) Auratone. **Video Equipment:** (4) Mitsubishi 13" multisynch monitor, NEC 25" monitor, (3) Sony 5" monitor, (2) NEC 12" monitor, Sony CD color camera, (2) Sony B&W camera, (3) Videotek PAs, (2) Panasonic 6 x 1 switcher, extensive patch bay, Hub Buck coils, Videotek sync generator. **Other:** Extensive cable for the large tours and shoots, 1610 mastering system and Studer console package available separately. **Rates:** Please call for a quote.

[24+] **ROCKIN' REEL RECORDING STUDIO**; only *REMOTE RECORDING*; 636 Larkfield Rd.; East Northport, NY 11731; (516) 368-5689. Owner: David Greenberg. Manager: David Greenberg. Engineers: Bob Lessick, David Greenberg, Scott Kersey. Dimensions: Studio 25 x 30, control room 20 x 25. **Mixing Consoles:** Amek Matchless 36 x 24. **Audio Recorders:** Otari MTR-90 24-track, Ampex ATR-102 1/2" and 1/4" master, Sony PCM-2500, Tascam 80-8 8-track w/dbx, Tascam #32 1/2-track 1/4", TEAC 2300SX 1/4-track 1/4". **Cassette Recorders/Duplicators:** (2) Tascam 122 MkII. **Noise Reduction Equipment:** dbx 216 26 channels. **Synchronization Systems:** Roland SBX-80 SMPTE reader/generator, J.L. Cooper PPS-100 SMPTE reader/generator. **Echo, Reverb & Delay Systems:** AMS reverb, (2) Lexicon PCM70, Eventide H3000, (2) Lexicon LXP-1, Lexicon 224, (2) Yamaha REV7, Korg DRV-3000, (2) Lexicon PCM41 digital delay, (3) ADM 1024 Efectron digital delay. **Other Outboard Equipment:** Valley People rack Kexpe II/Gain Brains, Valley People rack Kexpe II/Gain Brains, (2) dbx 900 Series rack compressors/EQs/etc., (2) UREI 1176 limiter, UREI 1178 stereo limiter, Yamaha 31-band stereo graphic EQ. **Microphones:** (2) Neumann U47, (2) Neumann U87, Neumann U89, (2) Neumann KM84, Neumann KM88, RCA 77-DX, Sony C-37P, (5) Sennheiser MD-421, Sennheiser MD-441, AKG 451EB, (2) AKG 414EB, AKG D-12, (2) Electro-Voice RE20, (2) Shure SM57. **Monitor Amplifiers:** UREI 6500, Crown DC-300, BGW 750, BGW 600, BGW 50. **Monitor Speakers:** (2) UREI 813B, (2) Yamaha NS-10, (2) JBL 4312. **Musical Instruments:** Emulator III (8 meg), Yamaha DX7II, Roland D-550, Roland Super JX, Oberheim Matrix-1000, Roland M-32, Emulator SP-12, LinnDrum, Roland Octapad, Steinway Model M grand piano, Fender Rhodes 73 suitcase piano, Hammond B-3. **Other MIDI Equipment:** Macintosh SE30 5/80, Macintosh SE, Macintosh Plus, Opcode StudioPlus MIDI interface, J.L. Cooper MSB MIDI patch bay, Performer V. 3.3 software. **Other:** Roland Jazz Chorus guitar amp, Mesa/Boogie guitar amp, Fender Bandmaster (pre CBS), Fender Super Reverb (pre CBS).

[24+] **SABELLA RECORDING STUDIOS**; also *REMOTE RECORDING*; 49 Oakdale Rd.; Roslyn Heights, NY 11577; (516) 484-0862. Owner: James Sabella. Manager: Tracy Cruz. Engineers: Jim Sabella, Chris Albert. Dimensions: Studio 17 x 22, control room 14 x 16. **Mixing Consoles:** Neve 8068 MkII w/VCA grouping. **Audio Recorders:** Studer A8024-track, MCI JH-110 2-track, (2) Ampex AG350 2-track w/15 and 30 ips, Sony DTC-1000ES DAT digital. **Cassette Recorders/Duplicators:** (2) Harman Kardon CD-491. **Echo, Reverb & Delay Systems:** Lexicon 200 reverb, Eventide H3000 Harmonizer, TC Electronic TC-2290, EMT 140 reverb, EMT 240 reverb, Bel delay, Yamaha SPX90, Korg DRV-3000. **Other Outboard Equipment:** (4) Drawmer dual noise gate, (9) Pultec equalizer, (2) UREI 1176 limiter, UREI LA-175B, (2) Neve limiter, (2) Neumann limiter. **Microphones:** (5) Neumann U87, (2) Neumann M49B, (2) Neumann U67, (2) Neumann U47, Neumann KM86, Neumann KM84, (2) AKG 414, (2) AKG 451, AKG D-12, (6) Shure SM57, (4) Sennheiser 421, (2) Sony C-37, (2)

M-1

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SABELLA RECORDING STUDIOS
Roslyn Heights, NY

Beyer M160, (2) Beyer M88, E-V RE20. **Monitor Amplifiers:** Preaux 8000B, (2) Hafler, Holmar. **Monitor Speakers:** (2) Alico Elec Red, Tannoy PBM-6.5, Yamaha NS-10. **Musical Instruments:** Baldwin baby grand piano, Gibson Les Paul, Gibson L5 guitar, Jackson tele guitar, Fender Stratocaster guitar, Fender Precision bass, Fender Telecaster guitar, Rickenbacker guitar, Guild acoustic guitar, Fleta nylon string guitar, Ludwig drum set, Matrix-1000, DX7, 802, EPS sampler keyboard, Aleis HR-16 drum machine, LinnDrum, Groove Tube studio series guitar amp, Marshall 100-watt guitar amp. **Other MIDI Equipment:** Macintosh SE w/Studio Band Performer software, IBM AT. **Video Equipment:** JVC 1/2" recorder. **Other:** (2) Simmons direct box, James Demeter direct box. **Rates:** Available upon request. **Specialization & Credits:** Offering complete recording services including television and film scoring, narration, radio spots and jingles, editing and dubbing, high-speed duplication of all master needs, and Macintosh SE computer with complete MIDI workstation. Also... produce with contacts with major record labels like Atlantic, PolyGram, Geffen, CBS, Warner Bros., etc., and also many independent labels, offering services to talented artists and bands. He will help you record, arrange and produce your material to shop to these record labels and open doors and get your music heard. We are offering you the complete package at a price you can afford. Call now for details, Monday through Friday, 1:00-6:00 pm. Ask for Tracy



SHEFFIELD AUDIO-VIDEO PRODUCTIONS
Phoenix, MD

[24+] **SHEFFIELD AUDIO-VIDEO PRODUCTIONS; 13816 Sunnybrook Rd.; Phoenix, MD 21131; (301) 628-7260.** Owner: John J. Ariosa. Jr. Manager: Richard Van Horn. **Engineers:** William Mueller, Fred Derby, Marty Wachler, Frank Grande. Garth Michael. **Mixing Consoles:** Solid State Logic G computer, Neve 8068 MkII, Trident 80B, Neve 5104, Neve 8036. **Audio Recorders:** (2) Sony PCM-3324, (2) Otari MTR-90 MkII, Studer A80 16/24-track, (2) Sony PCM-3202, Sony PCM-1630 DMR-4000, (2) Sony PCM-2500 DAT, (5) Studer B76. **Synchronization Systems:** TimeLine Lynx, CMX O CASS I Echo, **Reverb & Delay Systems:** Eventide Ultra-Harmonizer, TC Electronic, Drawmer M-500, Lexicon 224XL, EMT 140S, Yamaha REV5, Yamaha REV7, AMS RMX 16, AMS DMX 15-80S, (12) Sontec mic preamps/EQ, Sontec compressor/limiter, WaveFrame digital workstation. **Microphones:** AKG Sennheiser, Neumann, Crown, Shure. **Monitor Amplifiers:** UREI 6500, Crown, BGW. **Monitor Speakers:** (4) UREI 813B, Yamaha NS-10M. **Musical Instruments:** WaveFrame four hours of storage, Kurzweil 250, Sonor drums. **Other MIDI Equipment:** Automated outboard equipment via MIDI and SMPTE. **Video Equipment:** (9) Ampex 1" VTR, Ampex Digital Optics (ADO) w/Perspective and Rotation, NEC System 10, Thompson 601 cameras, Ampex still store, Chyron Scribe, Ampex VPR-5 1" portable, Sony BVW-10 Betacam, Ampex CVR 75-SP Betacam, Ampex 4100L switcher w/2 MEs, Ampex AVC-33 switcher w/2 MEs, Ampex ESS-5 graphics composition and still store, (8) Sony 3/4" recorder, (16) JVC 1/2" duplicator, Paint Box. **Rates:** Upon request.

[24+] **HOWARD M. SCHWARTZ RECORDING, INC.; also REMOTE RECORDING; 420 Lexington Ave., Rm. 1934; New York, NY 10170; (212) 687-4180.** Owner: Howard M. Schwartz. Manager: Beth Levy. **Engineers:** Roy Latham, R. Zhe Becker, Joe Vagnoni, John Alberts, Ralph Kelsey, Michael Ungar, Larry Fane, Bar Smith. **Mixing Consoles:** (2) SSL 5048 w/Total Recall, (5) Sony MXP-3036 w/ADS automation. **Audio Recorders:** (2) Sony PCM-3348 48-track digital, (5) Sony PCM-3324 24-track, Studer A820-24 24-track, (6) Otari MTR-90 MkII 24-track, (2) Studer A820 2-track w/center-track time code, Nagra IVs T.C. recorder, (12) Otari MTR-10 2-track w/center-track time code, (8) MCI JH-110C 4-track, (6) MCI JH-110B 2-track, Sony D-10 F-DAT, Panasonic SV255 R-DAT. **Cassette Recorders/Duplicators:** (16) Nakamichi MR-1, (4) Sony TLD5M, (2) Magnaflex high-speed duplicator. **Noise Reduction Equipment:** (2) Dolby SR-XP 24 channel, (2) Dolby XF-A 24-channel, (5) Dolby A 24-channel, (10) Dolby 361 2-channel, Dolby SR 2-channel. **Synchronization Systems:** Adams Smith 2600 AV editor/sync system, (2) Adams-Smith 2600 compact control system, (2) Adams-Smith Zeta-1, (3) EECO MQS-100A, (3) EECO time code generator. **Echo, Reverb & Delay Systems:** EMT 250 digital reverb, (2) EMT 140S stereo plate, Lexicon PCM70 digital reverb, (4) Lexicon PCM60 digital reverb, (6) Lexicon PCM42 digital delay, (8) Yamaha SPX90 digital reverb, (2) Yamaha REV5 digital reverb, (4) Yamaha REV7 digital reverb. **Other Outboard Equipment:** (8) Pultec EQ, (5) LA-2A limiter (18" dbx 160X limiter, Roland E-360 digital EQ, (2) Eventide-Harmonizer, (2) Otari paragrah EQ, UREI Little Dipper, (4) Aphex 612 noise gate. **Microphones:** (24) Neumann complete assortment, (9) AKG C-414, (18) Sennheiser complete assortment, (4) RCA ribbon. **Monitor Amplifiers:** Complete assortment. **Monitor Speakers:** (30) complete assortment. **Musical Instruments:** Steinway concert grand piano, Yamaha Studio Series drums, Yamaha DX7 synth, (4) Fender, Roland and Ampex amps, (2) Fender Rhocoes. **Other MIDI Equipment:** (6) Studer Telephone Hybrid, CompuSonics digital workstation, (7) Magra-Tech film doubler, stereo digital satellite uplink and downlink. **Video Equipment:** (3) Sony DVF-10 digital recorder (D2 format), (2) Sony BVH-3100 1" C-format recorder, (2) Sony BVH-2000 C-format, (2) Sony BVU-780 3/4" recorder, (4) JVC CR550 3/4" recorder, (3) JVC CR8250 3/4" recorder, (8) Tektronix assorted monitors, (7) Sony 25" XER pro monitor, Ikegami 13" high-resolution monitor, (4) GVG distribution, Tektronix 1750 video generator, (4) Ampex VCR-1 serial remote control.

[24+] **SEAR SOUND; 353 W. 48th St.; New York, NY 10036; (212) 582-5380.** Owner: Walter Sear. Manager: Jim C. Riley



SIGMA SOUND STUDIOS OF NEW YORK
New York, NY

[24+] **SIGMA SOUND STUDIOS OF NEW YORK; also REMOTE RECORDING; 1697 Broadway, 10th Fl.; New York, NY 10019; (212) 582-5055.** Owner: Sigma Acquisition Corp. Manager: Steve Bramberg. **Engineers:** Michael Scalcione, Brian Sperber, Dan Mormando. **Dimensions:** Room A: studio 20 x 30, control room 18 x 17. Room B: studio 28 x 44, control room 18 x 18. Room C: studio 17 x 15, control room 24 x 18. **Mixing Consoles:** Neve VR 60-input w/Total Recall and flying faders, SSL 6000E 40-input w/Total Recall and E computer, SSL 6000E 56-input w/Total Recall and G computer. **Audio Recorders:** (3) Studer A800 MkII 24-track, (2) Studer A80RC 2-track, (4) Studer A820 2-track, Otari MTR-90 MkII, (6) Ampex ATR-100 4/2-track, (2) Mitsubishi X-850 32-track digital, (2) Mitsubishi X-862 2-track digital, Sony PCM-2500 R-DAT, Panasonic 3500 R-DAT. **Cassette Recorders/Duplicators:** Nakamichi MR-1, (6) Sony MR-1. **Awa Noise Reduction Equipment:** Dolby A, Dolby SR. **Synchronization Systems:** (5) TimeLine Lynx. **Echo, Reverb & Delay Systems:** (8) EMT 140/240 mono and stereo plates, (2) Lexicon 224X/224XL reverb, Lexicon 200 reverb, Lexicon PCM42, Lexicon PCM41, Lexicon...

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con PCM70, Lexicon Prime Time II delay, Klark-Teknik DN780 reverb, EMT 250 digital reverb, Yamaha REV7 reverb, Yamaha SPX90 reverb, AMS RMX reverb, AMS DMX digital delay, Roland Dimension D, TC 2290, Eventide 3000 Ultra-Harmonizer, Eventide 949 Harmonizer, Roland SRV-2000, Roland DEP-5, Publison DHM-89, API graphic EQ, Massenburg mic preamps, dbx 902 de-esser. **Other Outboard Equipment:** Panscan. Drawmer gate, Neve compressors, Pultec assorted EQs. **Microphones:** Shure, Neumann, etc. **Monitor Amplifiers:** Perreux 9000B, Crown PSA-2, Haller, Marantz. **Monitor Speakers:** Tannoy FSM-U, Fostex 3-way, Tannoy 6.5, (3) Yamaha NS-10, Electro-Voice 100A, (2) Visonik Little David. **Musical Instruments:** Hammond C-3 organ w/Leslie, Sternway grand piano, Yamaha grand piano, Yamaha DX7 synthesizer, Yamaha drum kit, Ludwig drum kit, LinnDrum computer. **Other MIDI Equipment:** Roland SBX-80. **Video Equipment:** JVC 8250 3/4" recorder, Sony BVU-800. **Other:** Mesa/Boogie guitar amp, (4) Fender guitar amp, Ampeg bass amp, Roland Jazz Chorus guitar amp. **Specialization & Credits:** Sigma Sound Studios of New York is a full-service, 24/48-track analog and 32-track digital audio recording facility catering to the needs of major clientele. We do any type of recording and mixing as well as video pickup for audio post, editing and tape duplication. In its 15-year history, Sigma has hosted such clients as Billy Idol, Madonna, Talking Heads, Steely Dan, Whitney Houston, Ziggy Marley, Lou Reed, Joe Cocker, Lisa Lisa & Cult Jam, and Full Force. Call Steve Bramberg for rates and info.

[24+] **SKYLINE STUDIOS; 36 W. 37th St.; New York, NY 10018; (212) 594-7484. Owner:** Paul Wickliffe, Lloyd Donnelly. **Manager:** Barbara Moutenot.



SONIC IMAGES PRODUCTIONS, INC.
 Washington, DC

[24+] **SONIC IMAGES PRODUCTIONS, INC.; also REMOTE RECORDING; 4509 MacArthur Blvd. NW; Washington, DC 20007; (202) 333-1063. Owner:** John Ramo, Jolie Barbieri, Zenon Slawinski. **Manager:** Dave Mackin. **Engineers:** Zenon Slawinski, John Ramo, Dave Mackin, Sheldon Steiger, Radomir Dikosavljevic. **Dimensions:** Room 1: studio 16 x 14, control room 22 x 14. Room 2: studio 12 x 12, control room 12 x 9. Room 3: video edit suite 10 x 12. **Mixing Consoles:** Neotek Series II 28 x 8 x 2, Sound Workshop Logex 8 20 x 8 x 2. **Audio Recorders:** MCI JH-24 24-track, Otari MX-5050 MkIII-8 8-track, MCI JH-110 4-track, Sony PCM F1 2-track digital, Otari MTR-12 2-track w/center-track time code, Otari MX-5050 MkIII-2 2-track, (2) Otari MX-5050BII 2-track, Otari MX-5050 2-track. **Cassette Recorders/Duplicators:** (2) NAD 6050C, TEAC W4040C. **Noise Reduction Equipment:** (4) dbx 150X 2-channel, dbx Type I 8 channels. **Synchronization Systems:** Audio Kinetics 4 10 w/Eclipse head. **Echo, Reverb & Delay Systems:** (2) Yamaha REV7 digital reverb, Yamaha SPX90 digital effects unit, MXR digital delay. **Other Outboard Equipment:** Aphex Type C Aural Exciter, dbx 166 2-channel compressor/limiter/gate, (2) Symetrix CL-100 compressor/limiter. **Microphones:** (2) Neumann U87, (4) Sennheiser 421, (2) Electro-Voice RE20, (2) AKG C-460B. **Monitor Amplifiers:** Yamaha M60, Yamaha M40. (4) Yamaha P2075C, Yamaha P2050, Crown DC-300A Series II. **Monitor Speakers:** (2) KEF 104.2, (4) KEF 103.2. (4) Auratone cube. **Musical Instruments:** Kurzweil 250 digital sampler w/extensive Macintosh, Yamaha DX7 FM synthesizer, Yamaha TX7 FM sound module, Roland Planet P keyboard module, Roland Juno-6 analog synthesizer, Ibanez MIDI guitar controller. **Other MIDI Equipment:** Southworth Jam Box 4+, Macintosh Plus w/Mark of the Unicorn Performer/Composer, Opcode/Laurie Spiegel's Music Mouse, Farallon Mac Recorder, DX editor/Albanian. **Video Equipment:** Sony VO-5850 3/4" VCR,

Sony VO-5800 3/4" VCR, Sony VO-5600 3/4" VCR, Sony RM-440 editor, Tektronix WaveFrame monitor and vector scope, JVC monitor, JVC VHS Hi-Fi duplicator, Macintosh II w/8MB RAM 60MB HD, Mass Micro Color Space II NTSC video board, Macromind Director w/accelerator, Paracom Swivel 3D and Electronic Arts Studio 8, NEC monitor, Panasonic monitor. **Other:** Pyxis digital video effect generator w/TBC, (4) Macintosh Plus computer, (2) Technics SL-P720 CD player, Fast Forward F-21 time code reader/generator/window dub unit, EECO time code reader. **Rates:** 24-track A/V Q.lock synchronization \$120/hr. 24-track mix \$90/hr. 24-track record/mix—nights and weekends \$75/hr. 8-track \$55/hr. 3/4" offline editing \$60/hr. **Specialization & Credits:** Sonic Images specializes in award-winning music productions for all AV presentations and broadcasts. All styles and techniques are used from solo instruments to orchestral instruments to orchestral scores. Working in our LEDE-designed control rooms by Neil Muncy ensures you the most accurate audio image available today. With state-of-the-art audio/video synchronization tools on hand, we can offer you show the highest quality audio production at affordable prices. Our award-winning team produces a wide range of documentaries. We also offer complete audio production for radio, album, cassette or CD. Call us for a bid on your next project, whether it be music, a script, talent, or a complete presentation. Ask us about our current CD-1 project with American Interactive Media (AIM) a Philips/PolyGram Corporation. You'll like what you hear.

[24+] **SORCERER SOUND; 19 Mercer St.; New York, NY 10013; (212) 226-0480. Manager:** Vera Beren. **Specialization & Credits:** Sorcerer Sound is a full-service, two-room facility using the finest equipment, customized by Acoustilog for peak operation. We offer in-house, top-quality maintenance, with a fully stocked shop. Our environment is totally unique, and the rates are sensible. Please call to arrange a tour.

[24+] **SOUND LAB PRODUCTIONS, INC.; also REMOTE RECORDING; 1203 Yellowstone Dr.; Newark, DE 19713; (302) 731-0204. Owner:** Roger Holman. **Manager:** John Sarro.

[24+] **SOUND ON SOUND RECORDING, INC.; 322 W. 45th St.; New York, NY 10036; (212) 757-5300. Owner:** David Amlen, Seymour Amlen. **Manager:** Zack Davis.

[24+] **SOUND TECHNIQUES; 1260 Baylston St.; Boston, MA 02164. Owner:** Sound Techniques, Inc. **Engineers:** Jim Anderson, Lance Duncan. **Dimensions:** Room 1: studio 30 x 20, control room 18 x 27. Room 2: studio 20 x 20, control room 18 x 27. Room 3: studio 10 x 10, control room 15 x 17. **Mixing Consoles:** SSL 4056 G Series 48 inputs w/Total Recall, Neve V Series 36-input, TAC Scorpion 30-input. **Audio Recorders:** (2) Sony PCM-3324A 24-track digital, Sony APR-24 24-track analog, Otari MX-70 16-track analog, Mitsubishi X-86 2-track digital, Sony/MCI JH-110C 2-track analog, Sony 5003 3V 2-track analog w/time code, Mitsubishi X-850 32-track digital. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Nakamichi BX-100, Nakamichi BX-125. **Noise Reduction Equipment:** dbx Type I 16 channels. **Synchronization Systems:** (2) Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Quantec QRS-XL digital processor, Klark-Teknik DN780, Dynacord DRP-20, Lexicon 224 V, 4.4, (2) Yamaha REV5, EMT 240 stereo plate, Lexicon PCM70, (2) Eventide H3000, (2) Yamaha SPX90II, Yamaha SPX90, Lexicon LXP-1, Lexicon LXP-5, Lexicon MFC MIDI controller, Yamaha D1500, Roland SRV-2000, (2) DeltaLab DL-4, (2) Lexicon PCM42. **Other Outboard Equipment:** dbx 900 rack w/902/903/904/905/907 26-ch., (2) dbx 165A comp/limiter, (4) Kepex II noise gate, Aphex Compeller level processor, (5) dbx 166 comp/noise gate, Dynedged 4-channel exciter, BBE Sonic Maximizer, UREI 539 1/3-octave EQ, (2) Orban 622B EQ, dbx 160X comp/lim. **Microphones:** (4) Neumann U87A, (2) Neumann U67, Neumann U47, Neumann U47 FET condenser, AKG C-24 stereo tube condenser, (8) AKG C-414 EBULLS, (4) AKG C-460ULS, (2) Beyler MC-740N large-diaphragm condenser, PML DC96 condenser, (2) Neumann KM84i small-diaphragm. **Monitor Amplifiers:** (4) Bryston 6B, (2) Bryston 2B, (8) various Crown, AB. **Monitor Speakers:** (2) Westlake BBSM series, Tannoy LGM. **Musical Instruments:** Young Chang 7" concert grand piano, Roland JX-10, Akai S900, Roland D-550, Yamaha DX7. **Video Equipment:** (2) Sony VO-9850 3/4". **Other:** Digidesign Sound Tools w/1-hour stereo capacity, Macintosh ILC w/Portrait monitor, (2) Macintosh SE20FD HD, Macintosh SE30 w/80MB HD. **Rates:** Upon request. **Specialization & Credits:** Sound Techniques offers the highest-quality recording services in a newly constructed three-room complex located in downtown Boston. The complex features two large recording areas. The third room has been designed specifically for MIDI production and voice-over recording. Good room design and high-quality monitoring systems ensure accuracy throughout the recording process. Sound Techniques is equipped for both music recording and mix-to-tape work.

[24+] **SOUNDESIGN; Main Street Gallery, 181 Main St.; Brattleboro, VT 05301; (802) 257-1555. Owner:** Billy Shaw. **Manager:** Joanne Singer. **Engineers:** Billy Shaw, Joe Podlesny, Al Stockwell. **Dimensions:** Studio 28 x 30 w/separate iso room, control room 28 x 18. **Mixing Consoles:** Sound Workshop 28 x 32. **Audio Recorders:** Sony/MCI JH-24 24/16/8-track, MCI JH2-track, Otari MX-5050 8-track, (3) Otari MX-5050B 2-track, Revox A77 2-track, Audiotronics AV132B 2-track reel-to-reel high-speed duplicators, Panasonic RV-3500 DAT. **Cassette Recorders/Duplicators:** Nakamichi, (10) Akai FX71, Otari DP-

4050 high-speed duplicators. **Noise Reduction Equipment:** (24) dbx. **Echo, Reverb & Delay Systems:** Yamaha REV7, (2) Yamaha SPX90, Lexicon digital reverb, Master-Room XL-2 10 stereo reverb, Korg sampling digital delay, Effectron DDL, (2) MXR DDL. **Other Outboard Equipment:** (8) Valley People Kepex, (2) UREI 1176N limiter, (2) Teletronix LA-2A tube compressor, (2) dbx overeasy compressor, (2) Ashley Audio stereo parametric EQ, (4) Omni Craft noise gate, (4) Ashley Audio limiter, Alect Voice IIE 27-band stereo graphic EQ, MXR 15-band EQ. **Microphones:** (4) Neumann U87, Neumann KM84, Neumann KM81, AKG C-414, AKG 451 E, (8) Sennheiser 421, (2) Sennheiser 441, (2) Sennheiser 403, AKG D-12, (4) AKG SE-10, Shure SM57, Shure SM58, Shure SM85. **Monitor Amplifiers:** Crown DC-300A, BGW, Soundcraft. **Monitor Speakers:** JBL 4311, Yamaha NS-10M, Auratone, custom air-suspension system. **Musical Instruments:** IBM computer for automation w/music software, Yamaha C 6'6" grand piano, Ludwig drum kit, Oberheim DMX drum machine, Fender Twin, Fender Princeton, (2) Crale amplifier, Ampeg B15, Yamaha DX7, Roland JX-3P, Kurzweil K1000. **Rates:** Block book and pre-pay discounts available. 24-track \$50/hr., 16-track \$40/hr., 8/2-track \$30/hr.

[24+] **SOUNDMIRROR, INC.; also REMOTE RECORDING; 76 Green St.; Boston, MA 02130; (617) 522-1412; FAX: (617) 524-8377. Owner:** John Newton. **Specialization & Credits:** Conveniently located in downtown Boston, Soundmirror's two new studios offer complete digital (and analog) post-production services for the world's most discriminating clientele. Our expertise, which dates back to the Soundstream days, has resulted in five Grammy nominations this year, besides landing us regularly on the *Billboard* classical and crossover listings. We're the East Coast's premier CD mastering facility, home of a Lexicon Opus capable of 24-track digital mixing/editing and brilliant video post-production work. Our popular Sony CD mastering system has enhanced hundreds of folk, jazz, classical and acoustic music projects. Had enough indoors? Our location recording team goes anywhere in the U.S. and Europe, at prices competitive with others who have outrageously less to offer. Write, call, fax for details; once you've tried Soundmirror, you won't want your music in anyone else's hands!

[24+] **SOUNDSCAPE; 284 Ashland Ave.; Buffalo, NY 14222; (716) 884-3576. Owner:** James V. Calabrese. **Manager:** James V. Calabrese.

[24+] **SOUNDSCAPE RECORDING STUDIO, INC.; also REMOTE RECORDING; 29 Hammersley Ave., PO Box 176; Poughkeepsie, NY 12602; (914) 465-2202. Owner:** Rob and Susan Sanderson. **Manager:** Rob Sanderson. **Engineers:** Rob Sanderson, Noel Gould (assistant), guests welcome. **Dimensions:** Studio 20 x 40, control room 18 x 18, (2) iso booths 10 x 10. **Mixing Consoles:** Soundcraft 6000 24 x 24. **Audio Recorders:** Tascam ATR-80/24 24-track analog, Tascam MS16 16-track analog, Otari 5050B2 2-track analog, Panasonic SV-255 2-track digital. **Cassette Recorders/Duplicators:** (2) Yamaha C300, Telex Copyette duplicator. **Noise Reduction Equipment:** dbx 150 Type I 2-ch., (2) dbx DX-8 Type I 16-ch. **Echo, Reverb & Delay Systems:** Klark-Teknik DN780 digital reverb, Yamaha REV7 digital reverb, ART DR-2A digital reverb, (4) Korg SDD-2000 digital delay, ADA D640 digital delay, Eventide H949 Harmonizer. **Other Outboard Equipment:** BBE 802 aural exciter, Aphex Type B Aural Exciter, (2) dbx de-esser, Soundcraftman TG3044R 1/3 and 2/3-octave equalizer, Valley People 6.10 4-channel compressor/expander/limiter. **Microphones:** AKG The Tube, AKG C-414 condenser, (4) AKG C-460 condenser, AKG C-451 condenser, (4) Sennheiser 421 dynamic, Sennheiser 441 dynamic, E-V RE20 dynamic, (4) Shure SM57 dynamic, (2) AKG D-112 dynamic, assorted omni lavaliers, RCA 77-DX ribbon, (2) Beyler Dynamic 88, (2) Countryman direct box. **Monitor Amplifiers:** Perreux 9000B C.R., Perreux 6000B studio, (2) Rane HC6 headphone amp. **Monitor Speakers:** Tannoy LGM-15B studio, Tannoy LGM-12B studio, (15) AKG C-240 headphones, (4) Fostex T-20 headphones, (5) Koss headphones, JBL 4313 studio, (2) Tannoy C150 subwoofer. **Musical Instruments:** Fender Rhodes 73 suitcase piano, Korg digital sampling grand piano, Simmons SDS9 electronic drums, Simmons SDS1 electronic drums, Ampeg B-15 bass amp, Fender Bassman bass amp, Marshall JCM800 small guitar amp stack, BBE drum triggers. **Other MIDI Equipment:** Simmons MTM trigger, Akai MT35 audio trigger/MIDI interface, Akai S1000 digital sampler (12 sec.). **Video Equipment:** Associated w/Ballantine Communications & Staging. **Other:** Rentals as requested, 72-hour notice. **Rates:** \$55/hr. 24-track (10 hr. blocks \$450 each), \$45/hr. 16-track (10 hr. blocks \$350 each).

[24+] **SOUNDWAVE INC.; also REMOTE RECORDING; 2000 P St., NW; Washington, DC 20036; (202) 861-0560. Owner:** Jim Harmon. **Manager:** Sabina Emerson.

[24+] **SOUNTEC STUDIOS; also REMOTE RECORDING; 25 Van Zant St.; E. Norwalk, CT 06851; (203) 853-3433. Owner:** Richard Hodgson. **Manager:** Melissa Cooper.

[24+] **STARDUST RECORDING STUDIO; 615 Valley Rd.; Upper Montclair, NJ 07043; (201) 746-2359. Owner:** George Louvis. **Manager:** George Louvis.

[24+] **STUDIO 900; 900 Broadway, Ste. 905; New York, NY 10003; (212) 529-3190. Owner:** Anthony Battaglia, Willa Bassen. **Manager:** Willa Bassen. **Engineers:** Anthony Batta-

gla, Julio Pena. **Dimensions:** Studio 40 x 25, control room 24 x 20. **Mixing Consoles:** D&R 8000 32 x 24 w/Megamix automation. **Audio Recorders:** Sony/MCI JH-24 24-track w/ALIII, Sony APR-5002 2-track w/1/2" heads, MCI JH-110 2-track, Panasonic SV-3500 DAT. **Cassette Recorders/Duplicators:** Tascam 122 MkII, Technics RST dual deck. **Synchronization Systems:** (2) Adams-Smith Zeta-3 audio/video/MIDI/SMPTE, Yamaha MSS1. **Echo, Reverb & Delay Systems:** Quantec digital reverb, Lexicon 200 digital reverb, Lexicon PCM70, Lexicon PCM60, Yamaha REV7, Lexicon PCM41 digital delay, (2) Yamaha SPX90II, (4) dbx 160 compressor/limiter, UREI 1176N limiter, (4) Dyna-Mite noise gate, (4) Gatec noise gate, Ashly Audio SG33 limiter, Pultec EQ. **Microphones:** (2) Neumann U87, (2) Neumann KM84, (2) AKG 414, Sennheiser 441, (2) Sennheiser 421, Sony ECM-55, AKG D-12E, (2) Shure SM57. **Monitor Amplifiers:** Hafler P-500, Hafler P-230, Yamaha 2200, Yamaha 1002. **Monitor Speakers:** (2) Tannoy FS-N, (2) Yamaha NS-10M. **Musical Instruments:** Yamaha DX7, Roland D-550, Oberheim Matrix-6R, Akai S900 sampler w/full library, Linn Drumbox w/MIDI, Roland Octapads, Yamaha custom pro recording drum kit, Baldwin C7 grand piano, Yamaha CS80. **Other MIDI Equipment:** Yamaha MJC8 mixer, Opcode System II interface, Performer 3.1 sequencer. **Video Equipment:** JVC CR8250 3/4" VCR recorder/editor, Sony Trinitron 20" color monitor. **Other:** Macintosh SE, Atan 1040ST w/20MB HD, Atari color monitor.



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SWEETFISH RECORDING STUDIOS
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pickers: (2) Denon DRM-30HX. **Noise Reduction Equipment:** dbx 150X Type II 2-channel. **Echo, Reverb & Delay Systems:** Alesis Quadraverb multi-effects, Ibanez SDR-1000 reverb, Korg SDD-2000 digital delay, Lexicon PCM41 digital delay, Yamaha SPX90II multi-effects. **Other Outboard Equipment:** Audio Logic MT66 compressor/gate, dbx 166 compressor/limiter, dbx 163X easy-over compressor, dbx 463X noise gate, dbx 263X de-esser, (4) Rane ME30 graphic equalizer, Gaines Audio and Pro Go patch bays. **Microphones:** (2) AKG 414ULS, AKG D-320B, (2) AKG D-12, (2) AKG D-330BT, AKG D-112, Carvin CM67, Carvin CM68, E-V n/dyn 408, (2) Sennheiser 421, (2) Shure SM81, Shure PE588, (2) Shure SM58, (5) Shure SM57. **Monitor Amplifiers:** Rockford Fosgate. **Monitor Speakers:** T.A. Advent. Peavey. **Musical Instruments:** Ensoniq EPS, Hamilton upright piano, guitars by Gibson, Fender, Gretsch and Ibanez, basses by Ibanez and Fender, Slingerland drums (5-piece), Roland electronic drums, various imported percussion. **Rates:** In-house 24-track: \$45 per hour. In-house 12-track: \$20 per hour. Remote 12-track: \$30 per hour. **Specialization & Credits:** Sweetfish Recording Studios is a 24-track facility nestled in the foothills of the Adirondacks, just 45 minutes northeast of Albany. Built within the existing frame of a late 19th century post-and-beam barn complex, the rooms

have a spaciousness and unique acoustic quality all their own. Low prices, a comfortable working environment, and our highly trained staff have kept our clients satisfied time after time. Our separate rehearsal hall with full P.A., as well as overnight accommodations allow artists the room to create without outside pressures. Block rates, full production packaging, and 12-track remote recording make Sweetfish the right choice for any project.

[24+] **SYNC SOUND, INC.:** 450 W. 56th St.; New York, NY 10019; (212) 246-5580. **Owner:** Bill Marino, Ken Hahn. **Manager:** Sherr Tantleff. **Engineers:** Ken Hahn, Grant Maxwell, Regina Mullen, Pam Bartella, John Purcell, Michael Ruschak, Ray Palagy, David Jauna. **Dimensions:** Room 1: studio 11 x 14, control room 23 x 22. Room 2: studio 10 x 16, control room 16 x 14. Room 3, 4 and 5: AMS editing rooms. Room 6: studio 22 x 15, control room 18 x 15. **Mixing Consoles:** SSL 6000 G Series automated w/stereo modules, SSL 4000 E Series automated. **Audio Recorders:** AMS AudioFile digital editing w/4-hour memories, Sony PCM-3324 24-track digital, Sony PCM-1630 2-track digital, Sony PCM-F1, R-DAT digital, Otari MTR-90 24/16/8-track, Otari MTR-20 4-track, Nagra center-track TC stereo and mono. **MTM 16/35mm magnetic film recorder, cart machines. Cassette Recorders/Duplicators:** Nakamichi. **Noise Reduction Equipment:** Dolby SP-2, Dolby CAT 43, Dolby SR/A, TTM NR frames w/CAT 22 cards. **Synchronization Systems:** Proprietary edit system allowing lockup, edit rehearsal and editing to subframe accuracy of all audio, video and digital machines. CMX compatible auto conform. **Echo, Reverb & Delay Systems:** Lexicon 224X w/LARC, Lexicon PCM60, Lexicon PCM42, Lexicon Prime Time II, EMT 140 stereo tube plate, Lexicon PCM70, AMS 15-80S, Yamaha SPX90, Yamaha REV7, Marshall tape eliminator, Roland EQ. **Other Outboard Equipment:** Dolby Surround mixing, Neve stereo limiter, dbx subharmonic synthesizer, Tube-Tech PE-1B, Sontec EQ, UREI 1176, Dynallex DX-1, Dynallex DX-2, AN1 stereo simulator, dbx de-essers, Orban de-essers, UREI notch filters, Audio & Design selective limiter, Gain Brain II, Kepex II, dbx subharmonic synthesizer. **Microphones:** Neumann U89, Neumann U87, E-V RE20, Sanken, Shure SM57. **Monitor Amplifiers:** Ashly Audio 500FET, Ashly Audio 200FET, Yamaha, Crown D-150, Crown D-75, Symetrix A-220. **Monitor Speakers:** UREI 813, Auratone, JBL 4411, Fostex. **Musical Instruments:** Yamaha DX7. **Video Equipment:** Sony BVH-2000 1" w/Dolby, Sony BVH-2830 1" w/digital audio, Sony D-2, Sony BVU-850SP, JVC 8250, VHS Hi-Fi, Betacam SP, Panasonic 100" video projection system, Sony monitors, monitor switches in all areas for multiview. **Specialization &**
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[24+] **STUDIO UNICORN;** also REMOTE RECORDING; Greenwich, CT; (203) 333-0736. **Owner:** Robert W. and Paul Avgerinos. **Manager:** Paul Avgerinos.

[24+] **SUPERDUPE;** 295 Madison Ave.; New York, NY 10017; (212) 683-6854. **Owner:** Gordon Media Companies. **Manager:** Jon Adelman. **Engineers:** Gary Arnold, Tony Brainard, Lew Hahn, Henry Perotti, Mitch Raboy, Arnie Rosen, Bill Smith, Brian Tarnier. **Dimensions:** Room 1: studio 10 x 6, control room 22 x 17. Room 2: studio 10 x 6, control room 22 x 17. Room 3: studio 10 x 6, control room 22 x 17. Room 4: studio 10 x 6, control room 19 x 15. Room 5: studio 10 x 6, control room 20 x 18. Room 6: studio 10 x 6, control room 20 x 18. **Mixing Consoles:** Neve 8058 series, Sony 3036, (2) Sound Workshop Series 34, (2) Harrison Raven, custom. **Audio Recorders:** (6) Otari MTR-90, (36) Otari MTR-10, (6) Studer A80. **Cassette Recorders/Duplicators:** (25) Tascam 122 MkII. **Noise Reduction Equipment:** Dolby. **Synchronization Systems:** (2) Adams-Smith 5-machine system, (4) TimeLine Lynx 2/3-machine system. **Echo, Reverb & Delay Systems:** (4) Yamaha SPX900, (2) Lexicon 224 reverb, (6) Lexicon PCM42. **Other Outboard Equipment:** (6) Orban EQ, (18) dbx 160 limiter, (6) Drawmer noise gate, (8) Technics CD player. **Microphones:** (15) Neumann U87, (8) AKG C-414. **Monitor Amplifiers:** (6) Bryston 4-B, (6) Hafler P-500. **Monitor Speakers:** (3) UREI 813B, (3) UREI 813C, (6) Yamaha NS-10M, MSM-4, (8) Auratone. **Musical Instruments:** (19) synthesizers and samplers, full digital recording sequencers. **Video Equipment:** (2) Sony BVH-3100 1", Sony BVU-950 3/4", Sony BVU-850 3/4", (6) JVC 8250 3/4", JVC VHS, IBM and Macintosh sequencing. **Other:** High-speed reel-to-reel duplication and computerized labeling, 24-track MIDI recording studio.

[24+] **SUSQUEHANNA SOUND;** also REMOTE RECORDING; 48A St.; Northumberland, PA 17857; (717) 473-9733. **Owner:** Ascension, Inc. **Manager:** Scott W. Berger. **Engineers:** Bret Alexander, Tink Abraham, Dave Goodermuth. **Dimensions:** Room 1: studio 28 x 32, control room 17 x 20. Room 2: studio 30 x 19, control room 30 x 22. **Mixing Consoles:** Audiotronics 532 automated. **Audio Recorders:** Otari MTR-90 24-track, Otari MX-80 32-track, Studer A80 2-track, Otari MX-5050 2-track, Sony PCM-2500 digital. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Telex high-speed duplicator. **Noise Reduction Equipment:** Dolby SR32 tracks, (2) TimeLine Lynx. **Echo, Reverb & Delay Systems:** Lexicon 224XL digital reverb, Lexicon PCM42 digital delay, Lexicon Prime Time digital delay, Yamaha SPX90II, Yamaha SPX90, Aphex Aural Exciter Model 602B, Gatec noise gate, Electrospac Strate gate, (2) Eventide Omnipressor, Universal Audio 1176LN peak limiter, (2) dbx 166 compressor/gate, Orban/Parasound sibilance controller. **Other Outboard Equipment:** Goldline real-time analyzer. **Microphones:** (4) Neumann U87, (2) Neumann U47, Neumann U67, (2) Neumann KM64, (2) AKG C-414, (2) Shure SM81, (4) Shure SM57, (2) Shure SM59, (2) Beyers M160, (2) Beyers M201, (2) E-V CS15E, (2) RE20, (2) Crown PZM, (2) Audio-Technica AT-813R, (2) Audio-Technica AT-814A. **Monitor Amplifiers:** Crown Macrotech 2400, (2) Hafler P-230. **Monitor Speakers:** UREI 813, E-V Sentry III, E-V Sentry 100. **Musical Instruments:** Kawai concert grand piano, Emulator II+, Ludwig timpani, Yamaha DX7, Alesis HR-16. **Video Equipment:** JVC S-VHS BR-810U recorder, (2) JVC S-VHS BR-610U recorder, Crosspoint Latch 6119YC switcher, Paltex Abner AB roll editor, Pinnacle V-1000 workstation, Panasonic 300CLE-3CCD color camera, Panasonic BT-M1310Y color monitor. **Other:** AKG K240 headphones. **Rates:** Call for rates and availability.

[24+] **SWEETFISH RECORDING STUDIOS;** also REMOTE RECORDING; R.D. 2 Box 2351; Argyle, NY 12809; (518) 692-2976. **Owner:** Rees Shad. **Manager:** Brian McAlonie. **Engineers:** Tim Ploss, Rees Shad, Brian McAlonie. **Dimensions:** Room 1: studio 17 x 37, control room 16 x 29. Room 2: studio 18 x 16. Also two iso booths. **Mixing Consoles:** Peavey AMR-2400 36 x 24, Akai MPX820, Akai MG1212. **Audio Recorders:** Otari MX-80 24-track, Otari MX-5050II 2-track, Tascam 42B 2-track, Akai MG1212 12-track. **Cassette Recorders/Du-**

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 S T U D I O S

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Credits: Sync Sound is a full-service audio post production house ready to meet your audio needs with experience and enthusiasm. Our facilities are specifically designed to accommodate editing and mixing-to-picture (digital or analog), dialog replacement, Foley, overdubs-to-picture, sound effects design, audience sweetening and Dolby Surround mixing. Sync Sound also provides technical consultation, Nagra and Mag dubs, an extensive SFX library and videotape laybacks.

[24+] SYNCRO SOUND STUDIOS; 331 Newbury St.; Boston, MA 02115; (617) 424-1062. Owner: Andy Mendelson, Richard Mendelson. **Manager:** John Wall, Paula Phillips.

[24+] TAMARAND DIGITAL RECORDING; Garnerville, NY 10923-0368; (914) 639-1000. Owner: Bill Horwitz. **Manager:** Julie Bouchet. **Mixing Consoles:** DDAAMR 24 52 inputs. **Audio Recorders:** Sony 3324, Digidesign Sound Tools 600MB disk, Sony 2500 DAT (D-D interface w/hard disk). **Echo, Reverb & Delay Systems:** Lexicon 480. **Other Outboard Equipment:** Necam automation, dbx, Lexicon, Yamaha. **Microphones:** B&K, Neumann, AKG, Shure, et al. **Monitor Amplifiers:** Gauss. **Monitor Speakers:** Hafler, UREI/JBL. **Musical Instruments:** Steinway B w/Forte MIDI, NED Synclavier. **Other:** Macintosh II w/5MB, TOPS network of Mac Pluses. **Specialization & Credits:** Built by Jim Falconer, Ted Rothstein. All digital recording (Sony 3324, Digidesign Sound Tools (600MB disk), Sony 2500 DAT, all interfaced in digital domain), Necam automation in DDR AMR 24 52-input console. Steinway B w/MIDI, Kurzwel, Synclavier, TX816, D-550, et al. MIDI fluent: Performer-Composer, Synclavier, Sound Designer, Opcode Ed-Libs, et al understood and spoken. 25 acres, 45 minutes from 57th Street, 20 x 40 heated pool, health food and junk food available. A splendid time is guaranteed for all.



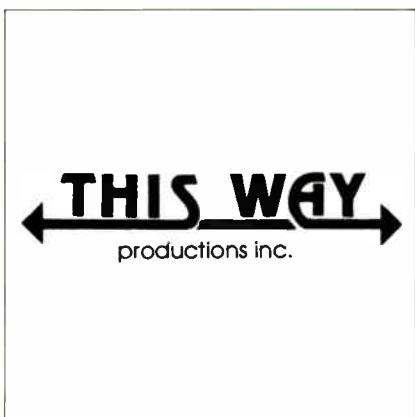
TAYLOR-MADE PRODUCTIONS
 Caldwell, NJ

[24+] TAYLOR-MADE PRODUCTIONS; Box 309; Caldwell, NJ 07006; (201) 226-1461. Owner: Glenn M. Taylor. **Manager:** Pauline Taylor. **Engineers:** Glenn M. Taylor, Hannah A. Taylor, Blackos Taylor, Michele Michaud. **Dimensions:** Studio 23 x 18, control room 18 x 18, MIDI room 37 x 12. **Preview room/lounge** 10 x 8. **Vocal booth** 8.5 x 4. **Mixing Consoles:** Harrison Raven 64 x 32 w/M-Wank mod. **Audio Recorders:** Otari MX-80 24-track 2", Otari MkIII 8/4-track 1/2", Otari MX-5050 4-track 1/4", (2) Otari MX-552-track 1/4", Studer A80VU MkIV 2-track 1/2", Sony PCM-501ES (F1) 2-track digital processor. **Cassette Recorders/Duplicators:** (1) Tascam 122. **Noise Reduction Equipment:** Dolby SR/A 30 channels, dbx Type I Pro 28 channels. **Synchronization Systems:** (4) TimeLine Lynx, Roland SBX-80, J.L. Cooper PPS-100 SMPTE/MIDI event generator/GPI. **Echo, Reverb & Delay Systems:** Roland R-880 digital reverb, (2) Lexicon 224/224XL, Lexicon PCM70 w/3.0 software, Yamaha REV7, EMT stereo plate w/custom electronics, Yamaha SPX90, Lexicon Prime Time stereo DDL, Lexicon PCM41 DDL, ART MultiVerb DDL/reverb/FX, DeltaLab Super Time-Line DDL, Yamaha 1500 DDL, Korg SDD-3000 DDL, MXR DDL. **Other Outboard Equipment:** Focusrite ISA 115-HD dual-channel mic preamp/EQ, Eventide H949 Harmonizer, Eventide stereo Ultra-Harmonizer SE, Audio & Design Panscan, BBE 802 exciter, Aphex Type III Aural Exciter, Aphex 602B Aural Exciter, Valley Audio rack, Ashly Audio SC66 stereo parametric EQ, (8) Alesis Micro EQ, (2) White Instruments 1/3-octave room EQ, (2) Omni Craft 4-channel noise gate, (2) Drawmer noise gate, Valley People GateX 4-channel noise gate, Valley People Dyna-Mite stereo dynamics processor/gate, Pultec EQH-2 tube EQ, Aphex 612 stereo expander/gate, (3) Orban de-esser, B.A.S.E. Bedini Audio Spacial Environment

stereo enhancement, Aphex Compellor, (2) dbx 165A comp/lim, (2) dbx 161 comp/lim, MXR chorus/doubler, (2) MXR mini-rack/flangers, Scholz Rockman, Groove Tube guitar preamp. **Microphones:** (2) Neumann U87, (2) AKG 414, (6) Sennheiser 421, AKG The Tube and assorted others. **Monitor Amplifiers:** (4) Hafler P-230. **Monitor Speakers:** UREI 813C, Yamaha NS-10M, Auratone 5C Super Sound Cube. **Musical Instruments:** Over 35 MIDI keyboards and modules...you name it! Large collection of vintage acoustic and electric guitars and basses. **Other MIDI Equipment:** Roland MC-500 MkII sequencer/recorder. **Video Equipment:** Otari 1" audio-for-video layback deck, JVC 8250 U-matic 3/4" deck, (2) NEC color monitor. **Other:** Technics SL-P1200 pro CD player, (3) Optical Media "Universe of Sound" CD library for Emulator II, huge assortment of CD music and SFX libraries. **Rates:** Reasonable rates, per project and hourly. Call to discuss your needs. **Specialization & Credits:** Taylor-Made Productions is the sound source for all media. We are a full-service original music scoring house w/sync-to-picture capability as well as a production source for bands and individual artists. Additionally, we are a complete audio-for-video post-production studio, with stock music and a huge SFX library at the client's disposal. We offer extensive MIDI programming and music production. We also offer our clients a large talent pool of vocalists, narrators and voice-over talent, as well as in-house creative and scriptwriting services for corporate, industrial, comedy and commercial purposes. Our product includes work for AT&T, Lorus Watches, Universal Pictures, World Federation of Wrestling, Hertz, Jersey Central Power and Light, Nando Sparking Wine, WWOR-TV, Schlott Real Estate, New York Airlines, National Public Radio, Fresh Air Radio, Volvo-White Trucks, Warner-Lambert, Parke-Davis, Lederle and Johnson & Johnson Pharmaceuticals, Clairall and Nabisco Brands to name more than a few. Please call us for complete details on how TMP can help you in your next production.

[24+] 39TH STREET MUSIC; 260 W. 39th St., 17th Fl.; New York, NY 10018; (212) 840-3285; FAX: (212) 840-3923. Owner: Michael Karp. **Manager:** Jack Malken. **Dimensions:** Studio 30 x 30, control room 25 x 20. **Mixing Consoles:** Solid State Logic SL4056 G Series w/Total Recall. **Audio Recorders:** Studer A80VU MkII 24-track, Studer A80VU MkII 2/4-track 1/2", (4) Studer B67 2-track 1/4", Panasonic SV-3500 DAT. **Cassette Recorders/Duplicators:** (6) Tascam 122B. **Noise Reduction Equipment:** Dolby A M16 rack 24 channels, (4) Dolby A 361. **Synchronization Systems:** (2) TimeLine Lynx, Roland SBX-80, Garfield Masterbeat. **Echo, Reverb & Delay Systems:** Lexicon 224 digital reverb, (2) Lexicon PCM70, (2) Lexicon PCM42, Lexicon Prime Time 95, Publison Infernal Machine 90, Yamaha SPX90, Yamaha SPX90II, Yamaha SPX1000, (2) Yamaha D1500 DDL, TC Electronic 2290, Eventide H3000BS Harmonizer, Eventide FL201 instant flanger, (2) Korg SDD-2000 digital delay, EMT 140 mono. **Other Outboard Equipment:** (4) dbx 160 compressor, Aphex Compellor, (4) Drawmer DS201 noise gate, Teletronix LA-2A, (2) Pultec EGH-2, Drawmer 1960 vacuum tube compressor, Orban 516EC dynamic sibilance controller, Orban 674A parabolic equalizer, UREI 535 graphic equalizer, (4) Valley People Kepex II. **Microphones:** (2) Neumann U87, Neumann U47 FET, Neumann U67 tube, (4) AKG C-414EB, many others. **Monitor Amplifiers:** QSC 1400, (2) Crown PSA-2 (bridged), (2) Crown D-150. **Monitor Speakers:** UREI 813C, (3) Yamaha NS-10M, Tannoy PBM-6.5, Auratone cubes. **Musical Instruments:** E-mu Proteus, Roland D-550, Minimoog w/MIDI (MPU101), Akai S950 and S900, Korg M1R, Yamaha DX7IIIF, Hammond B-3 w/Leslie 122, Ludwig drum kit w/Greetsch toms, Yamaha baby grand piano, Emulator II w/Sound Designer, Oberheim Matrix-12, E-mu SP-12 drum machine, Yamaha TX816, percussion kit, tympani 25" and 28". **Other MIDI Equipment:** J.L. Cooper MSB 16/20 switcher, J.L. Cooper MSB+. **Video Equipment:** Sony VO-5800 3/4" deck. **Other:** Macintosh SE w/46MB HD, Mark of the Unicorn Performer 3.3, Leading Edge Model D w/20MB HD, Voyetra Sequencer Plus MkIII V. 3.0, Opcode DX7II/D-50 editor/ibrarian.

[24+] THISWAY PRODUCTIONS, INC.; 503-11 Broadway, Rm. 519; New York, NY 10012; (212) 431-5894. Engineers: Danny Caccavo, Paul Special, Robert Agnello, Stuart Kollmorgen. **Dimensions:** Studio 11 x 19, control room 12 x 19, MIDI room 10 x 16. **Mixing Consoles:** Soundcraft 1600 24 x 24 w/Megamix automation, Allen and Heath CMC-24 24 x 16, Hill Multimix 16 x 4. **Audio Recorders:** Soundcraft 762 MkIII 24-track, Tascam MS-16 16-track w/dbx NR, Ampex ATR-102 2-track, Ampex ATR-104 4-track, Ampex 300 2-track w/440 electronics, Tascam 42 2-track, Fostex 20 w/center-track time code. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Eventide 2016, Eventide H3000 Ultra-Harmonizer, Yamaha REV7, Eventide 969 Harmonizer, Ursal Major Space Station, (3) Yamaha SPX90, (2) Roland SRV-2000, Roland DEP-5. **Other Outboard Equipment:** Dynatronics cyclosync panner, (3) ADR Complex II compressor/expander, UREI 1176 limiter, dbx 160X limiters, (4) Aphex Type C, (4) Valley People Dyna-Mite. **Microphones:** Neumann TLM170, AKG 414, (4) AKG 451, AKG D-12, (5) Sennheiser MD-421, (2) PZM. **Monitor Amplifiers:** Crown Micro-Tech 600, Crown DC-300, Phase Linear 400. **Monitor Speakers:** UREI 809A, Yamaha NS-10M. **Musical Instruments:** Kurzwel MidiBoard, Korg M1, (2) Akai S950, (3) Yamaha DX7 w/E software, (3) Yamaha TX7 modules, (2) Emulator II, Emax, Korg digital grand piano, Roland Super-JX rack, Roland Super Jupiter, Roland D-550, Roland Octapad, Sequential Studio 440, Linn-Drum, Alesis drum machine, Prophet-5 w/MIDI, Syntrivox vocoder, Korg organ, Minimoog, Mellotron 400, Ludwig drum



THISWAY PRODUCTIONS, INC.
 New York, NY

kit. **Other MIDI Equipment:** Macintosh w/45MB internal hard drive, Roland SBX-80, Yamaha MEP4, J.L. Cooper MSB+ 8 x 8 patcher, Performer V. 3, Sound Designer, Q-Sheet. **Video Equipment:** (2) JVC 6650 3/4" deck, NEC 26" monitor. **Other:** Mesa/Boogie Studio. 22, Marshall Lead 100 w/4 x 12 cabinet, Ampex reverb rocket, Ampex SVT bass amp. **Rates:** \$90/hr. w/engineer, \$115/hr. w/video lock and engineer. Call for after-hours rates. **Specialization & Credits:** Now in its third year, This Way Productions is a comfortable, mid-priced facility for quality recording in both the audio post-production and music fields. Recently we've upgraded our facilities to include a 16-track MIDI production studio complete with iso-booth and a full array of synthesizers, and Megamix console automation for our 24-track control room. We specialize in creative custom sound designing, scoring, music recording, and feature a comfortable, relaxed atmosphere in which you can produce high-quality work—the kind of environment we think is unmatched by other studios in our price range. Some of our recent clients include: MCA Records, MTV, Turner Network Television, Nickelodeon, RCA Records, Saatchi & Saatchi, Burger King, The Stein Group, Showtime, Roadrunner Records, Tom Poppo's Productions, Swatch, Nike, Boomer Pictures, POP Radio, King Bisquit Television, Jon Kane Productions, AT&T, Chat/Day, Little Monsters.

[24+] TIKI RECORDING STUDIOS, INC.; 186 Glen Cove Ave.; Glen Cove, NY 11542; (516) 671-4555. Owner: Fred Guarino. **Manager:** Inge Palmieri.

[24+] TWIN RECORDING; 18 Hiawatha Pass; West Milford, NJ 07480; (201) 697-7540. Owner: Robert Both. **Manager:** Robert Both.

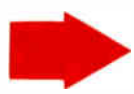


UNIQUE RECORDING STUDIOS, INC.
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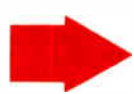
[24+] UNIQUE RECORDING STUDIOS, INC.; 701 Seventh Ave.; New York, NY 10036; (212) 921-1711. Owner: Joanne and Bobby Nathan. **Manager:** Tony Drootin, Susan Heagney. **Engineers:** Roey Shamir, Angela Piva, Acar Key, Richard Joseph, George Karrus, Ken Collins, Peter Robbins, Tony Smalios, Andrew Cardenas. **Dimensions:** Studio A 12 x 15, Studio B 40 x 20, Studio C 22 x 14, Studio D 25 x 20, Studio E 25 x 20. **Mixing Consoles:** (2) SSL 4000E G Series 56-channel w/Total Recall, SSL 6000E E Series 48-channel w/Total Recall. (2) Trident Series 24 28 x 24 x 2. **Audio Recorders:** (4) Studer A800 MkIII 24-track, Otari MTR-90 MkII 24-track, (3) Studer A820 2-track 1/2", (2) Studer A810 2-track 1/4", (2) Studer A80 MkII 2-track, (2) Otari MTR-12 2-track 1/2", (5) Panasonic SV-3500 Pro DAT. **Cassette Recorders/Duplicators:** (5) Nakamichi MR-1. **Synchronization Systems:** (3) Adams-Smith w/2600 remote. **Echo, Reverb & Delay Systems:** (2) Publison Infernal 90 (2 seconds), (2) Sony DRE-2000A, (3) Lexicon 480L, (3) Lexicon 224XL, (3) AMS RMX 16, (3) AMS DMX 15-80S, (3)

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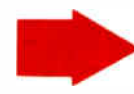
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005	035	065	095	125	155	185	215	245	275
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007	037	067	097	127	157	187	217	247	277
008	038	068	098	128	158	188	218	248	278
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027	057	087	117	147	177	207	237	267	297
028	058	088	118	148	178	208	238	268	298
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 - 3. Production & Direction—Producer, director, etc.
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 - 5. Artist/Performer—Recording artists, musicians, composers, and other creative functions.
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- 3 Please check the statement below that best describes your role in the purchasing of audio, video and musical equipment, supplies and/or services:**
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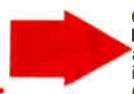
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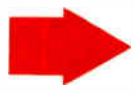
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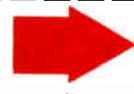
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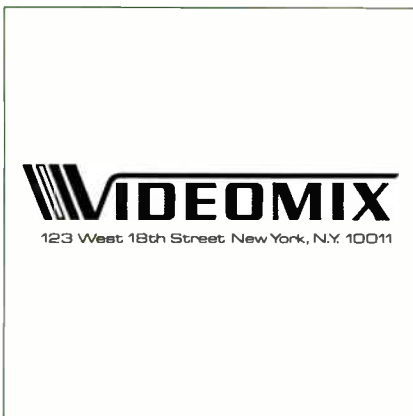
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Eventide H3000 Studio Elite, (3) Klark-Teknik DN780, (3) AKG ADR-16 4.0, (2) Yamaha REV1, (3) Yamaha REV7, (3) Yamaha SPX1000, (6) Yamaha SPX90, (3) Lexicon PCM70, (14) Lexicon PCM42, (3) Roland Dimension D, (3) Eventide H910. **Other Outboard Equipment:** (6) UREI LA-3A, (6) UREI LA-2A, (6) dbx 165A, (6) dbx 160, (8) dbx 160X, (8) Drawmer DS-201, (12) Valley People Dyna-Mite, (6) dbx 902 de-esser, (6) Pultec EQU-2, (6) Pultec EQP-1A, (3) Pultec MEO-5, (24) Neve 1077 mic pre EQ, (12) API 550A, (12) API 560A, (8) API 512B, (8) Focusrite EQ, (3) Panscan. **Monitor Amplifiers:** (3) Perreux 6000, (3) Perreux 3000, (4) Crown Macro-Tech, (2) Yamaha P5002M. **Monitor Speakers:** (2) UREI 813, Gauss, (2) UREI 813, (8) Yamaha NS-10M studio. **Musical Instruments:** (2) Yamaha conservatory grand w/MIDI. **Other MIDI Equipment:** (4) Yamaha TX802, (4) Yamaha TX81Z, (3) Roland D-50, (4) Roland D-550, (4) Roland MKS-80/MPG-80, (6) Akai S950/S900, (4) Korg M1R, (3) Yamaha DX7IID, Oberheim Matrix-12, Oberheim Matrix-1000, Akai MPC-60, (2) Roland TR-808 w/MIDI, Moog Minimoog w/MIDI, Atari 1040ST. **Other:** (3) Macintosh SE, Macintosh Ixx 8MB w/650MB drive, IBM PC 286 16MHz. **Specialization & Credits:** Credits include: Aerosmith, A.B. Sure!, Al Green, Bananarama, Billy Idol, Billy Ocean, Book of Love, Carly Simon, Chaka Kahn, Cher, Cover Girls, Diana Ross, Dionne Warwick, Donald Newkirk, Don Johnson, Donny Osmond, Duran Duran, E.U., Electric Angels, En-Touch, Exposé, Freddie Jackson, Full Force, Hall & Oates, Heavy D, and D-Boyz, Henry Lee Summer, Information Society, James Brown, Jimmy Cliff, Joe Cocker, Joe Lynn Turner, Johnny Kemp, Joyce Simms, Keith Sweat, Kool Moe Dee, Levert, Living Colour, Melba Moore, Motley Crue, New Edition, New Kids on the Block, Nona Hendryx, O'Jays, Omar Hakim, Oran "Juice" Jones, Patti LaBelle, Paul Schaffer, Pet Shop Boys, Public Enemy, Ric Ocasek, Robert Palmer, Roberta Flack, Rod Stewart, Rolling Stones, Run-D.M.C., Sa-Fire, Salt-n-Pepa, Samantha Fox, Seduction, Shannon, Sheena Easton, Soul II Soul, Steve Winwood, Stevie Nicks, Sweet Sensation, Sybil, Tabu Combo, Ted Nugent, The Cars, The Ocean Blue, The System, The The, Third World, Tiffany.

[24+] **VAN GELDER RECORDING STUDIO, INC.**; also REMOTE RECORDING; 445 Route 9W; Englewood Cliffs, NJ 07632; (201) 567-4145. **Owner:** Rudy Van Gelder. **Manager:** Rudy Van Gelder.



VIDEOMIX
New York, NY

[24+] **VIDEOMIX**; 123 W. 18th St.; New York, NY 10011; (212) 627-7700; FAX: (212) 727-3075. **Owner:** CP Sound. **Manager:** Pat Witcosky. **Engineers:** Noel Smith, Dick Maitland, Steve Dwork. **Dimensions:** Room 1: studio 20 x 23, control room 23 x 30. Room 2: studio 25 x 25, control room 25 x 30. Room 3: studio 10 x 13, control room 13 x 20. Room 4: studio 10 x 15, control room 15 x 20. **Mixing Consoles:** Sony 3000 32 x 24, API 24 x 16, Trident A 40 x 24, Sony 2000 16 x 4. **Audio Recorders:** Otari MTR-90 24-track, (2) Otari MTR-70 16-track, (3) Otari MTR-14/20 2-track CTTC, Otari MTR-14/20 4-track, Foxtex D-20 DAT. **Cassette Recorders/Duplicators:** (10) KABA real-time system, (3) Panasonic 3500 DAT, (5) Magnafax open-reel. **Noise Reduction Equipment:** (24) Dolby SR, (24) Dolby A, (16) dbx1, dbx11, dbx929. **Synchronization Systems:** (2) Soundmaster 8 system. **Echo, Reverb & Delay Systems:** Lexicon 480L, Lexicon PCM70, Ursa Major 8 x 32 II. **Other Outboard Equipment:** dbx 900, Eventide 3000, Rane EQ, (2) UREI 1178, (6) UREI 545 parametric EQ, (4) Technics 1200 CD player, Dolby SDU4 Surround decoder. **Microphones:** Neumann, Sony, E-V and more. **Monitor Amplifiers:** Crown, Meyer, Carver. **Monitor Speakers:** Meyer 500, JBL 4425, Yamaha NS-10, Auratone 5CU8, Tannoy NF-8, Digital Design. **Musical Instruments:** E-mu II w/CD-ROM, E-mu III w/CD-ROM, Yamaha DX7II, Macintosh II w/Accelerator/Sound Designer/Alchemy, Akai S950, other misc. **Video Equipment:** (2) Ampex VPR-6 1", (4) JVC 850 3/4" w/digital 270 TBC, (2) JVC 1/2", (2) Mitsubishi 36" monitor, ADX time code analyzer. **Other:** MTM 16/35 dubber/recorder, turntables 78 to DAT, A/V cassette and reel-to-reel recorders, full kitchen, executive bath. **Specialization & Credits:** Certified Dolby Surround encoding and decoding. Audio-for-video post specializing in SFX and music scoring. World's finest SFX collection and Foley stage.

Audio-for-AV productions with scoring room and conference. Duplication and dubbing, international. Multitracks our secret specialty. Interformat D-16 24-32 dbx/Dolby dubbing.

[24+] **VOICES STUDIOS; 16 E. 48th St.; New York, NY 10017; (212) 935-9820.** **Owner:** Rich Leonard. **Manager:** Phil Gordon. **Specialization & Credits:** Voices offers: a 24-track 3/4" SMPTE interlock suite with a Sound Workshop Series 34 board with automation, an NED Direct-to-Disk PostPro suite with 3/4" SMPTE and VITC interlock, one-inch video layback facilities, high-speed tape duplication with a computer-assisted traffic system, your own coffee mug.

[24+] **WATER MUSIC RECORDERS; 201 Grand St.; Hoboken, NJ 07030; (201) 420-7848.** **Owner:** Rob Grenoble, James MacMillan. **Manager:** Lane Steinberg.

[24+] **WENDELL RECORDING STUDIO; Box 61; Wendell, MA 01379; (508) 544-8288.** **Owner:** Jeffrey Bauman. **Engineers:** Rick King, Bruce Kahn, Jeffrey Bauman. **Dimensions:** Studio 25 x 25 x 19, control room 18 x 14. **Mixing Consoles:** Trident 24 56-channel w/32 channels of MegaMix VCA automation. **Audio Recorders:** Otari MTR-90II 24-track, 3M M79 16-track, 3M M79 2-track 1/2" Saki heads, Otari 5050 2-track 1/4", Sony 501 2-track digital. **Cassette Recorders/Duplicators:** Nakamichi 480i, Aiwa. **Noise Reduction Equipment:** dbx 150 Type I 2 tracks. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60, Yamaha SPX90 digital effects processor, DeltaLab Super Prime Time digital delay, Teletronix LA-2A limiter, (2) Pultec MEQ-5 equalizer, UREI 1176 compressor, Valley People 610 stereo compressor/expander, dbx 166 stereo compressor/limiter, Orban co-operator compressor/expander, Aphex Type C Aural Exciter, Ashly Audio SE66 stereo parametric equalizer, Klark-Teknik DN360 stereo equalizer, Foxtex 330 stereo equalizer, Scholz Rock Module, Ashly Audio stereo noise gate. **Microphones:** Neumann U47 tube, Neumann TLM170, Beyer M740, AKG 451, (2) AKG C-501, AKG CK-22 capsule, (2) Beyer 500, Beyer M69N, Beyer M201N, (2) Sennheiser 421, (2) Sony ECM-23F condenser, (2) Crown PZM, (2) Shure SM58, (2) Shure SM57, (3) Shure SM81 condenser, E-V PL20, E-V 635A, ATM 1-R, ATM 8501. **Monitor Amplifiers:** Ashly Audio MOSFET stereo, Crown 300 stereo, Yamaha P2050 stereo, McIntosh 250 tube stereo. **Monitor Speakers:** (2) Gauss 7258, (2) Altec 604E, (2) E-V, (2) Auratone T-6, (2) Auratone, (2) ADSL700. **Musical Instruments:** Yamaha conservatory grand piano, Fender Super guitar amp, Gibson 1947 guitar amp, Fender guitar reverb, Yamaha RX15 drum machine, Martin OM 1933 guitar, Gibson Sunburst 335 1959 guitar. **Other MIDI Equipment:** Performer software on Macintosh Plus w/20MB HD. **Video Equipment:** Sony U-matic 3/4" recorder/player, Panasonic OmniVision VHS recorder/player. **Other:** (10) AKG headphones. **Specialization & Credits:** Wendell Recording Studio is a deluxe residential facility designed for artists who desire total control over their working environment. Located on 12 acres of stoned walled woodlands near the Vermont border, we are 3 hours drive from N.Y.C. and 1.5 hours from Boston. People love recording here because our resort-like location, beautiful accommodations and superb cuisine make it more like a vacation than work. Projects are often completed here at one-third the cost of recording in NYC. Clients stay in a beautiful seven-room woods contemporary equipped with Swedish sauna and decorated with Oriental rugs and antique furniture. Gourmet chefs are available to serve your needs. Artists often walk down the footpath to the studio, ready to record in a relaxed, centered mood. If you are looking for a beautiful, total-service environment for your next project, this is the place for you.

[24+] **WESTRAX RECORDING STUDIOS LTD.; 484 W. 43rd St.; New York, NY 10036; (212) 947-0533.** **Owner:** Peter Link. **Manager:** Jeremy Harris. **Engineers:** Jeremy Harris—chief engineer, Jesse Plumley, Todd Anderson, Laura Fried, Steven Anthony Wilds. **Dimensions:** Room 1: studio 17 x 24, control room 17 x 20, MIDI room 16 x 16. **Mixing Consoles:** Sound Workshop 30, Soundcraft 200B, Roland M-240, Roland M-160. **Audio Recorders:** Otari MX-80 24-track 2", Tascam 85/16B 16-track 1", Otari 5050 MkIII 8-track 1/2", Otari MTR-12 2-track 1/2", Otari MTR-12 2-track 1/4", Technics 1520 2-track 1/4", Sony SL-HF 650 Beta w/Sony PCM-501 digital audio processor. **Cassette Recorders/Duplicators:** (2) Tascam 122, Tascam 122 Mill. **Noise Reduction Equipment:** (28) dbx Type I 150 2/816-track. **Synchronization Systems:** Roland SBX-80. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon LXP-1, (2) Yamaha REV7, Yamaha SPX90II, Ibanez SDR-1000+, Ecoplate III, Lexicon PCM42, Korg SDD-2000. **Other Outboard Equipment:** Aphex Aural Exciter, Aphex Compeller, Pultec EQH-2, dbx 160X, UREI 1176LN peak limiter, Orban 622B parametric EQ, (2) Drawmer noise gate, RSP Hush 2000. **Microphones:** (2) Neumann U87, (2) AKG C-12, (2) AKG 414, AKG 451, (2) AKG 535, E-V RE20, E-V 666, (3) Sennheiser 421, (2) Shure SM57. **Monitor Amplifiers:** Hafler 230, Hafler 220, Ashly Audio 200. **Monitor Speakers:** (2) Tannoy LGM-12, (4) Yamaha NS-10M, (2) JBL 4313. **Musical Instruments:** Kurzweil 1000PX Plus, E-mu Proteus, Korg M1R, (2) Roland D-550, Roland S-550, Roland S-50, Yamaha DX7, Yamaha DX7IID, (8) Yamaha TX816, Oberheim OBXa, E-mu SP-12, Alesis HR-16, Alesis HR-16B, Korg Poly-800II. **Other MIDI Equipment:** (2) IBM PC/AT w/20MB HD, Macintosh SE, J.L. Cooper MSB 16/20, Voyetra Sequencer Plus V. 3.3, Opcode Vision V. 2. **Video Equipment:** VHS, Beta. **Other:** Yamaha C3 6' grand piano, Gretsch drums. **Rates:** 24-track \$110, 16-track \$65, 8-track \$45, 2-track and MIDI room \$40.



WHITE CROW AUDIO
Burlington, VT

[24+] **WHITE CROW AUDIO; also REMOTE RECORDING; 19 Marble Ave.; Burlington, VT 05401; (802) 658-6475.** **Owner:** Todd Lockwood. **Manager:** Douglas Jaffe. **Engineers:** Todd Lockwood, Tom Walters, Douglas Jaffe, Chris Bailely. **Dimensions:** Room A: studio 29 x 38, control room 19 x 21. Isoroom A-1: 15 x 17, Isoroom A-2: 10 x 11. **Mixing Consoles:** Neotek Series I 16 x 4 remote, Neve 8068 MkII 44 x 16 w/4ML automation. **Audio Recorders:** (2) Sony PCM-2500 DAT, Studer AB0RC 2-track 1/4", Studer A810 2-track 1/4" w/SMPTE, Studer A820 2-track 1/2", (2) Studer A820 24-track **Noise Reduction Equipment:** (54) Dolby SR for all Studer machines. **Synchronization Systems:** (3) TimeLine Lynx SMPTE. **Echo, Reverb & Delay Systems:** AMS DMX 15-BOS DDL/sampler, AMS RMX 16, (5) API 550A EQ, Barcus-Berry BBE 802, dbx 165A limiter, (4) dbx 903 limiter, (2) dbx 905 parametric EQ, dbx 906 flanger, DeltaLab DL-3 DDL, (2) Drawmer DS-20 2" dual gate, EMT 24 Gold Foil, EXR exciter 4 channels, Lexicon 480L w/(2) LARC, Lexicon PCM70, Lexicon PCM42 (4,800ms), Neve 33609 stereo limiter, Studio Technologies AN-2 stereo simulator, (4) Summi: Audio TLA-100A tube limiter, Trois DQ520 dynamic EQ, Tube-Tech PE-1B EQ, (2) UREI 1176, Valley People 610 stereo limiter, Valley People Gain Brain II, (4) Valley People Kexex II, Valley People Leveller, (3) Valley People Maxi Q. **Microphones:** (2) AKG C-414EB, (2) AKG C-451E, (2) AKG C-460/CK61 ULS, AKG D-12, AKG D-12E, (2) Beyer M740N, (2) Bruel & Kjaer 4006, (2) Crown PZM30, (3) E-V RE20, Foxtex M88RP ribbon, (2) Neumann KM84, Neumann TLM170, Neumann U47 tube Stephen Paul-modified, (2) Neumann U87 Stephen Paul-modified, (2) Neumann U89, Sanken CMS-2 stereo, (6) Sennheiser 421, Shure SM53, (3) Shure SM57, (3) Shure SM58, (3) Shure SM81, Sony ECM-989. **Monitor Amplifiers:** (2) Bryston 4B, (2) Crown D-150. **Monitor Speakers:** Tannoy NFM-B, UREI E13, Yamaha NS-10M Studio. **Video Equipment:** Sony VO-5800 3/4" VCR. **Other:** (4) AXE DI-100 +4dBm direct box, Crown SASS/B stereo mic frame, (2) John Hardy M-1 mic preamp, Sony 601ES CPM/F1 modulator, (5) White Crow artist cue system, (5) White Crow/Jensen direct box, (4) White Crow/Jensen guitar amp input box. **Specialization & Credits:** White Crow serves discriminating clients from the greater New York and Los Angeles areas who desire privacy and elegance at competitive rates. Our clientele covers a wide range of musical territory, from Alice Cooper to Odetta. Our large, quiet studio enables us to accommodate acoustically oriented projects not feasible at many other facilities. Producers looking for a classic, "warm" sound will appreciate our combination of Neve, Studio and Dolby SR. We invite producers and artists to come and enjoy one of the Northeast's most entertaining small cities while recording at White Crow.

[24+] **WINTHROP PRODUCTIONS; also REMOTE RECORDING; 156 W. 94th St.; New York, NY 10025; (212) 662-8685.** **Owner:** Susan Winthrop.

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16 TRACK

STUDIOS

[16] **ANCIENT SPRINGS STUDIO (PRIVATE);** also *REMOTE RECORDING*; 4 Cool Springs Rd. S., PO Box 590; Charlotte Hall, MD 20622; (301) 884-8484. **Owner:** Ancient Springs Music. **Manager:** Buster Tate, Dom Mamanna.

[16] **ATLANTIC CITY ENTERTAINMENT STUDIOS;** 2718 Atlantic Ave.; Atlantic City, NJ 08401; (609) 344-2835. **Owner:** John Mulhern. **Manager:** Bob Kimmel. **Engineers:** Bob Kimmel (chief eng), John Mulhern (staff eng), Greg Pardon (assistant eng). **Dimensions:** Room A: studio 30 x 23, control room 10 x 23. Room D: studio 35 x 50. **Mixing Consoles:** Audioarts 24 x 8 x 24. **Audio Recorders:** Fostex B-16 16-track 1/2" w/Dolby C, TEAC 80-8 8-track w/dbx NR, Otari MX-5050 1/2-track, Sony 501 ES w/Sony Hi-fi Beta. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Nakamichi MR-2, Awa AD-WX707. **Noise Reduction Equipment:** dbx 157 Type I stereo. **Echo, Reverb & Delay Systems:** Lexicon PCM60 digital reverb, (2) Yamaha SPX90 multi-effects processor, Lexicon PCM41 digital delay, (2) DeltaLab Effectron II digital delay. **Other Outboard Equipment:** dbx 160X compressor/limiter, (2) dbx 165 compressor/limiter, dbx 166 stereo compressor/limiter/gate, (2) dbx 161 compressor/limiter, Aphex Type C Aural Exciter, (2) Ashly Audio stereo parametric EQ, Symetrix 544 4-channel noise gate, Omni Craft GT-4 4-channel noise gate. **Microphones:** Several Neumann, AKG, Sennheiser, Shure, Electro-Voice. **Monitor Amplifiers:** Yamaha P2200, Rane HC6 headphone amp. **Monitor Speakers:** (2) E-V Sentry 500, (2) Toa 265ME, (2) Auratone 5C. **Musical Instruments:** Ludwig, Slingerland, Rodgers & Fibes drum sets; Fender, Peavey, Roland, Yamaha and Acoustic guitar and bass amps; Steinway grand piano; Emulator II+ and Yamaha DX7 synthesizers.

[16] **AUDIO RECORDING TECHNOLOGY INSTITUTE;** also *REMOTE RECORDING*; 756 Main St.; Farmingdale, NY 11735; (516) 454-8999. **Owner:** James J. Bernard. **Manager:** Jeanne Smith.



AURA: THE AMERICAN UNIVERSITY RECORDING ASSOCIATES
Washington, DC

[16] **AURA: THE AMERICAN UNIVERSITY RECORDING ASSOCIATES;** Physics Dept., Audio Tech. Program; 4400 Mass. Ave., NW; Washington, DC 20016; (202) 885-2759; (202) 885-2743. **Owner:** The American University. **Manager:** Student Management. **Engineers:** Staff engineers are drawn from the pool of Audio Tech. students who have qualified through the program's studio courses. **Dimensions:** Room 1: studio 18 x 20, control room 10 x 15. Room 2: studio 15 x 18. Room 3: studio 18 x 20. **Mixing Consoles:** TAC Scorpion 24 x 16, (2) Yamaha 8 x 4, Allen and Heath 12 x 2. **Audio Recorders:** Ampex MM1000 16-track, (2) Revox B77 2-track, Tascam B-track, Tascam 3440 4-track. **Cassette Recorders/Duplicators:** BIC, Tascam, Sony Beta Hi-fi. **Noise Reduction Equipment:** (2) dbx 180 stereo. **Synchronization Systems:** Southworth Jam Box, Horita time code reader/generator/window doubler. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM70, (2) Roland DEP-5, (2) DeltaLab Effectron, (2) Yamaha REV1000, Lexicon LPX. **Other Outboard Equipment:** Aphex Aural Exciter, (2) Valley People Galax, (5) Rane graphic EQ, (2) Valley People Dyna-Mite compressor/limiter, Audioarts parametric EQ, (2) Ashly Audio compressor/limiter, Symetrix gate/expander, Rane headphone

console. **Microphones:** Neumann, AKG, Sennheiser, Electro-Voice, Shure, Beyer. **Monitor Amplifiers:** QSC, Crown, JBL. **Monitor Speakers:** UREI Time Align, JBL, Bose, Electro-Voice, Auratone. **Musical Instruments:** Moog System 55 modular cosine synthesizer, Yamaha DX7 w/EI expansion, Yamaha RX11. (2) Yamaha CX5M, Kawai K5 Fournier synthesizer, Akai S612 sampler, (2) Oberheim Matrix-6, Yamaha TX7, Akai S900 sampler, Roland D-550, Kurzweil MIDIboard keyboard controller. **Other MIDI Equipment:** J.L. Cooper MSB+, Yamaha MJC8, Akai MIDI-controlled mixer, Opcode Studio Plus Two. **Other:** Apple Macintosh, Atari 1040ST, Commodore 64. **Rates:** Negotiable. **Specialization & Credits:** AURA is one of three studios serving The American University's Audio Technology program, the first degree program of its kind on the East Coast. Included in the equipment listings are the facilities of the electronic music studio and the AU Music Lab, an interdisciplinary performance project that has appeared at the Kennedy Center's Terrace Theater.

[16] **BACKTRACKS LOCATION DIGITAL;** also *REMOTE RECORDING*; 5 School Ave.; Montpelier, VT 05602; (802) 223-2551. **Owner:** Mike Billingsley. **Manager:** Geoff Brumbaugh. **Specialization & Credits:** We love music and sound, and specialize in all the wonderful nuances of 44.1kHz digital recording...both remote in good halls and on location with DC power. As inventors and patent holders of Crown's Stereo Ambient Sampling System (SASS) microphone, we continue our pioneering work with stereo imaging, using the SASS-P and SASS-B plus our own designs for both ultracompact location work and a special 4-channel SASS-plus-digital recorder configuration. We use all the best components for accuracy and detail, including John Hardy preamps, modified B&K mics and power supplies, Star-Quad cable and Apogee filter sets. We lovingly record acoustic ensembles (ethnic, folk and classical), percussion, location samples and sound effects, environmental ambience (including 4-channel) and live performances. CD premastering/editing and digital domain modifications in-house give us full control of the final stereo or 4-channel image. We create audio environments for museums and galleries. Artist commissions are welcome.

[16] **BEBOP PRODUCTIONS;** also *REMOTE RECORDING*; 1006 Brice Rd.; Rockville, MD 20852; (301) 279-0937. **Owner:** Bob DeWald. **Manager:** Marco Delmar.

[16] **BOB CAT RECORDING STUDIOS;** also *REMOTE RECORDING*; PO Box 2342; Seabrook, NH 03874; (603) 394-7416. **Owner:** New Klear Productions. **Manager:** Bob Catalano. **Specialization & Credits:** Bob Cat Recording Studios is a complete in-house recording facility offering creative audio production in a comfortable, professional atmosphere. We specialize in assisting songwriters, lyricists, musicians and conceptual artists in the production of their artistry. We also provide the artist with a full array of state-of-the-art signal processing, musical instruments and computer-assisted sequencing and sampling for the most up-to-date productions. Basically, if it is in your head, we can get it on tape. We also work with a staff of local professional musicians and songwriters providing us with the musical and technical know-how needed for great production. Please call or write for equipment list, rates and further details.

[16] **CABIN FEVER RECORDING;** also *REMOTE RECORDING*; PO Box 735; Fishers, NY 14453; (716) 924-8408. **Owner:** Bob Potter. **Manager:** Bob Potter.

[16] **COTTON HILL STUDIOS, INC.;** also *REMOTE RECORDING*; 18 Walker Way; Albany, NY 12205; (518) 869-1968. **Owner:** Stephen Campito, Ray Rettig. **Manager:** Stephen Campito.

[16] **COUNTDOWN STUDIOS;** 122 W. 26th St., 2E, 2R; New York, NY 10001; (212) 691-9279. **Owner:** Rhea Nierenstern. **Manager:** Ilona Nierenstern.

[16] **DEKAR STUDIOS;** also *REMOTE RECORDING*; 2500 New Rd.; Northfield, NJ 08225; (609) 383-9037. **Owner:** Rick Dekarski, Jim Travis. **Manager:** Jim Travis. **Engineers:** Gary Pinckney, James Travis. **Dimensions:** Room 1: studio 23 x 18, control room 13 x 15. Room 2: studio 9 x 8. **Mixing Consoles:** Soundtracs MRX32-input. **Audio Recorders:** Tascam MS-16, Sony PCM-2500 R-DAT, Tascam 42 half-track w/dbx. **Cassette Recorders/Duplicators:** Tascam 122 MkII, TEAC W450R. **Noise Reduction Equipment:** dbx Type I 16 channels. **Synchronization Systems:** SMPTE time code, FSK, Echo, Reverb

& Delay Systems: Lexicon LXP-1, Lexicon LXP-5, (2) Yamaha SPX90, Alesis Quadraverb, dbx 166 compressor, Ashly SC-50 compressor, (4) Alesis MIDverb II, ART SGE, Rockman sustainer, DeltaLab ADM 1020, Ibanez DM-1000, Furman parametric EQ, dbx de-esser. **Other Outboard Equipment:** Rane HC6 headphone amp, (2) ARTHD-31 graphic EQ, Bamp 230 graphic EQ. **Microphones:** (2) AKG C-414BULS, E-V RE20, Sennheiser 441, Sennheiser 421, AKG C-451E, Shure SM57, Shure SM58. **Monitor Amplifiers:** Hafler P-230, Crown D-75. **Monitor Speakers:** (2) UREI 809 Time Align, (2) JBL Model 4406. **Musical Instruments:** Kurzweil K-1000, Kurzweil HX-1000, Kurzweil PX-1000, Kurzweil SX-1000, Ensoniq ESQ-1, Ensoniq Mirage, Ensoniq EPS, Korg M1R, Oberheim DPX-1, Oberheim Matrix-1000, Yamaha DX7II w/amped piano module, E-mu Proteus, Roland A-50 controller, Alesis HR-16, Roland TR-626, Roland TR-505. **Other MIDI Equipment:** Epson Apex PC-compatible, 12-tone Cakewalk 256-track sequencer, Voyetra MkIII Plus sequencer, 360 Systems 8 x B patcher, Lexicon MRC, Roland Octapad. **Rates:** On request.

[16] **DEREK STUDIOS;** also *REMOTE RECORDING*; 850 Main St., PO Box 304; Dalton, MA 01226-0304; (413) 684-0198. **Owner:** Gregory K. Steele. **Manager:** Gregory K. Steele. **Engineers:** Greg Steele, Chris Mattoon. **Dimensions:** Room 1: studio 45 x 30, control room 18 x 16. Room 2: studio 10 x 8. Room 3: studio 8 x 8. **Mixing Consoles:** AneK/TAC Scorpion II 32 x 16 w/monitor EQ, Tascam 8 x 2, custom 12 x 4. **Audio Recorders:** Tascam MS-16 16-track w/autolocator and dbx, Tascam 58 8-track w/autolocator and dbx, Otari MX-5050B MkII 2-track w/remote and dbx, Revox B-77 2-track, Ampex 351 2-track. **Cassette Recorders/Duplicators:** (2) Tandberg TCD-310 MkII, Awa WX-220, Awa AD-F350, (2) AKG GX-F31. **Noise Reduction Equipment:** (2) Tascam DX-8DS, (2) Tascam DX-4D, dbx 150. **Echo, Reverb & Delay Systems:** Lexicon PCM70 Rev. 3.01, Lexicon PCM60, Lexicon 95 Prime Time II, Lexicon PCM42 DDL, ADA STD-1 stereo taped delay, ADA D-1280, Loft 450 delay/flanger. **Other Outboard Equipment:** Valley People 430 dual Dyna-Mite, Valley People Galax quad noise gate, Valley People 415 dynamic balance processor, dbx 166 gated comp/lim, dbx 160x comp/lim, dbx 118 comp, UREI LA-4 comp/lim, Audioarts CL-1200 comp/lim, Symetrix 528 vocal processor, (2) API 550 equalizer, Aphex Type B Aural Exciter, MXR Dual 15-band EQ, (2) MXR Min-Limiter, (2) MXR AutoFlanger. **Microphones:** AKG C-414EB, ATR-12E, Beyer MC-734, (2) Beyer M201, Beyer M250, (2) Countryman EM-101, (2) Countryman Isomax III, E-V RE20, (2) Sennheiser MD-421, Sennheiser MD-441, (2) Shure SM53, (2) Shure SM57, (2) Shure SM81. **Monitor Amplifiers:** Yamaha P2200, Harman Kardon Citation Twelve. **Monitor Speakers:** JBL 4425 bradial, KEF 103.2, Auratone 5C. **Musical Instruments:** Yamaha DX7IID, Korg DSS-1, Roland D-110, Roland S-10, Oberheim Matrix-6R, E-mu SP-12 turbo sampling drum machine, 360 Systems MIDI Bass, Casio CZ-101, ARP 2600, Chickering baby grand piano, Hammond B-3 w/122 Leslie, Rockman sustainer/chorus rack-mount, Fender Precision Bass, Gibson Les Paul. **Other MIDI Equipment:** (2) Apple computer/interface, C-Thru patcher/router.

[16] **EASTWIND RECORDING;** 6820 Ellicott Dr.; East Syracuse, NY 13057; (315) 463-6759. **Owner:** Michael Jaffaran. **Manager:** Ken Hoston.

[16] **ELECTRO-NOVA STUDIOS;** 342 Madison Ave.; New York, NY 10017; (212) 687-5838. **Owner:** Mark Z. Sydorak. **Manager:** Roger Kaniewski. **Engineers:** Mark Z. Sydorak, Alex Buzdzak. **Dimensions:** Room 1: studio 28 x 17, control room 16 x 12. Room 2: studio 16 x 12, control room 16 x 15. **Mixing Consoles:** Roger Mayer custom 22 x 16 x 4, Studer 900 Series 12 x 4. **Audio Recorders:** Studer A-80 MkIV 16-track 2", Studer A-80 MkIV 4-track, (3) Studer A-810 2-track, Studer Revox PR99 MkII 2-track, (2) Studer Revox HS77 2-track, Ampex ATR-100 2-track, Crown 700 2-track, (2) Ampex 351 2-track, Panasonic SV3500 digital, Panasonic SV250 digital. **Cassette Recorders/Duplicators:** Telex 6120 stereo duplicator w/11 slaves, (11) Proton. **Noise Reduction Equipment:** dbx 154. **Synchronization Systems:** Audio Kinetics Q.Lock 3-10 w/interlock to 35mm and video. **Echo, Reverb & Delay Systems:** AKG BX-10 MkII, Lexicon PCM70 digital reverb, Lexicon PCM60 digital reverb, Lexicon Prime Time DDL, Eventide 910 Harmonizer w/keyboard, (2) Echoplexes, Ursa Major Space Station. **Other Outboard Equipment:** (2) UREI LA-3A, UREI 1178 stereo limiter, (2) Roger Mayer limiter, UREI stereo parametric equalizer, UREI digital click, Eventide PS101 phase shifter, Mutron stereo flanger, Roger Mayer noise gate, Roger Mayer custom cue system w/8 x 2 mixer. **Microphones:** (2) Neumann U87, (2) Neumann KM84, Neumann U47 tube, (2) AKG C-451, (2) AKG D-1000, AKG D-202E, AKG D-12, (2) E-V RE20, Beyer MC736 shotgun, (2) Beyer M260 ribbon, Beyer M160 double ribbon, (2) Beyer M500 ribbon, (2) Beyer XIN, B&O stereo ribbon. **Monitor Amplifiers:** Yamaha P2200, Studer A-68, Crown D-75, Harman Kardon HK-200, (2) Dynaco 120/70. **Monitor Speakers:** (2) Studer 2706, (2) Altec 9849B, (4) Toa, (4) Auratone. **Musical Instruments:** Kurzweil 250 w/full Mac support, Akai S900 sampler, Electro-Comp EML 101/200/416 w/PolyBox, Moog Minimoog w/MIDI etc., Yamaha DX7, Casio CZ-101, Baldwin 6'3" grand etc., Pearl drums. **Video Equipment:** (2) JVC 8250 3/4" U-matic, Sony 2860A 3/4" U-matic, (20) Panasonic AG-1230 commercial 1/2" VCR for duplication, (2) Panasonic SW100 switcher w/DA-100 distribution amp. **Other:** Magna-Tech 2036, (25) music libraries, (2) NEC 650 CD player, etc.

[16] **FAST TRAX RECORDING STUDIOS;** also *REMOTE RECORDING*; 116 Chestnut Ln.; North Wales, PA 19454; (215) 643-6427. Owner: Greg Kollar. Manager: Keith Painton.

[16] **FILMSPACE, INC.;** 615 Clay Ln.; State College, PA 16801; (814) 237-6462. Owner: Tom Keiter. Manager: Mike Knight. Engineers: Mike Knight. Dimensions: Studio 18 x 22, control room 11 x 15. **Mixing Consoles:** TAC Matchless 26 x 24. **Audio Recorders:** Tascam 85-16B 16-track, Otari 5050 4-track, Otari 5050 2-track. **Cassette Recorders/Duplicators:** Tascam 122. **Noise Reduction Equipment:** (3) dbx Type I. **Synchronization Systems:** BTX. **Echo, Reverb & Delay Systems:** Lexicon PCM60, Yamaha SPX90II, Aphex Type C Exciter, dbx 166 stereo compressor, (2) dbx 161 compressor, (2) DeltaLab Effectron 1024, (2) Kepex expander, dbx 902 de-esser. **Microphones:** Neumann U87, (2) AKG 414, (2) Sennheiser 421, (3) Shure SM81, (4) Shure SM57, AKG D-112. **Monitor Amplifiers:** Hafler 500, Hafler 200, Carver PM-200T, Phase Linear 200. **Monitor Speakers:** JBL 4425, Tannoy PBM-6.5. **Musical Instruments:** Yamaha electric piano. **Video Equipment:** JVC 6650 3/4", (2) Sony U-matic 3/4", Ampex Betacam SP, Hitachi CA-C2 camera.

[16] **FIRST IMPRESSIONS;** also *REMOTE RECORDING*; 15 Perkins Ave.; Brockton, MA 02401; (508) 580-1844. Owner: Mark Mantell. Manager: Mark Mantell. Engineers: Mark Mantell, John Foster. Dimensions: Studio 14 x 24, control room 14 x 14. **Mixing Consoles:** Tangent 3216A 24 x 24 x 2. **Audio Recorders:** Tascam MS-16 w/autolocator, Tascam 322-track, Sansui 5050 4-track. **Cassette Recorders/Duplicators:** (2) Sanyo D-62. **Noise Reduction Equipment:** (2) Rocktron Hush II, assorted gates. **Echo, Reverb & Delay Systems:** Lexicon LXP-1, Roland SDE-3000, Roland SDE-1000, Roland DEP-3, ART DRI. **Other Outboard Equipment:** (2) dbx 165A, dbx 166, (2) Valley People Dyna-Mite, (2) Valley People Dyna-Mic, BBE 802, Rocktron 2HX exciter/imager, Rane 5-band parametric EQ, Furman 3-band, MXR dual 15-band graphic, Marc MX1 6-channel drum trigger interface, Phi Tech analog-to-MIDI converter. **Microphones:** Sennheiser D-441, (2) Sennheiser D-421, AKG D-12E, AKG D-112E, E-V 408, (2) Audio-Technica 33R cond., (2) Audio-Technica ATM63, (3) Shure SM57. **Monitor Amplifiers:** Crest FA800, Rane 6-channel headphone amp. **Monitor Speakers:** (2) Tannoy Gold Line 12", (2) JBL Control 1, (2) AR3, (2) Altec- and JBL-loaded cabinets. **Musical Instruments:** Roland D-50 synth, Roland MKS-20 digital piano, Alesis HR-16 drum machine, Roland R-8 drum machine, (5) Slingerland acoustic drums, Gibson Les Paul Deluxe, Gibson ES335, Fender Strat w/EMGs, Fender Concert 30 ampli-

fier, Sound City 50 amplifier. Other: Anything by request. Rates: On request.

[16] **GRAMPA STUDIOS;** 502 Warren St.; Brooklyn, NY 11217; (718) 260-9803. Owner: Mick Cantarella. Manager: Skip Rubber.

[16] **GREGMAR STUDIOS;** Eatontown, NJ; (201) 542-5116. Owner: Gregmar Productions, Inc. Manager: Marcelo Oliveira. Engineers: Marcelo Oliveira, Gregory LaSorsa. Dimensions: Room 1: studio 10 x 10, control room 11 x 19. Room 2: studio 12 x 12. Room 3: studio 6 x 6. **Mixing Consoles:** Ramsa WRT-820B. **Audio Recorders:** Tascam MS-16HS 16-track 30 ips w/dbx and autolocator/remote, Tascam ATR-60-2THS 2-track 30 ips w/Dolby A/SR and remote, Sony PCM-2500R-DAT, Sony TCD-D10 R-DAT. **Cassette Recorders/Duplicators:** TEAC V-670. **Noise Reduction Equipment:** RSP Hush 2000 single-ended 2-channel. **Echo, Reverb & Delay Systems:** Lexicon LXP-1, Lexicon LXP-5, Alesis Quadverb, Alesis MIDVerb II, (2) Alesis Microverb, Yamaha SPX90, (2) Ibanez SDR-1000+. **DigiTech DSP-128, ADA S-1000 delay. Other Outboard Equipment:** Lexicon MRC w/V. 3.0 software, (2) Symetrix 525 2-channel comp/lim/expander/gate, Roland E-660 D/A I/O stereo 4-band parametric EQ, ART HD-15 stereo 15-band graphic EQ, BBE 422A Sonic Maximizer 2-channel, Aphex Type C Aural Exciter, Alesis Micro Enhance. **Microphones:** Neumann U87A, Shure SM58, E-V RE20, E-V PL20, (2) E-V BK1 condenser, (10) E-V 757 N/Dym, (2) E-V 457 N/Dym, (6) E-V 408 N/Dym. **Monitor Amplifiers:** Hafler P-125. **Monitor Speakers:** Tannoy PBM-6.5, (6) Toa SM-25M monitor/cue. **Musical Instruments:** Kurzweil K-1000SE, Roland D-110, Yamaha SP60M piano, Korg P-3, Hohner D-6 clavinet, Rogers 5-pc drums w/3 roto toms and Istanbul cymbals, Alesis HR-16/HR-16B combo. **Other MIDI Equipment:** Alesis MMT8 sequencer, Alesis data disk. **Video Equipment:** Panasonic PVS-350 1/2" S-VHS D/FX camcorder, JVC HRS8000-U 1/2" S-VHS Hi-fi D/FX VCR. **Other:** Other equipment available (instruments, outboard, amps) by prior arrangement.

[16] **HBS/HONEYBEAR PRODUCTIONS, INC.;** only *REMOTE RECORDING*; 56 Aberdeen Ave.; Cambridge, MA 02138; (617) 661-1971. Owner: HBS Productions, Inc. Manager: Alan Mattes.

[16] **HEARTSONG;** 2529 Main St., lower level; Pittsburgh, PA 15235; (412) 795-3375. Owner: Henry Yozer.

[16] **HIGHLAND STUDIOS;** 225 Ross St.; Pittsburgh, PA 15219; (412) 456-6661. Owner: Highland Studio Associates. Manager: Mark S. Valenti.

[16] **ISLAND RECORDING STUDIOS;** also *REMOTE RECORDING*; U.S. Rt. 2 (RR 1 Box 291C); North Hero, VT 05474; (802) 372-5824. Owner: M.C. Singer. Manager: Phillip Graziano.

[16] **LAKEWEST RECORDING STUDIO;** also *REMOTE RECORDING*; 200 Mishnock Rd.; West Greenwich, RI 02816; (401) 397-4828. Owner: Jack Gauthier. Engineers: Jack Gauthier, John Mailoux, Rick Latina. Dimensions: Room 1: studio 30 x 13, control room 30 x 10. Iso room 20 x 11. **Mixing Consoles:** Amek/TAC Scorpion 24 x 16. **Audio Recorders:** Tascam MS-16 w/AQ65 autolocator, Panasonic SV3500 R-DAT, Revox 2-track. **Cassette Recorders/Duplicators:** Nakamichi MR-1 and BX-1. **Noise Reduction Equipment:** dbx DX-8DS Type I 16 channels. **Echo, Reverb & Delay Systems:** Lexicon LXP-1, Lexicon LXP-5, Lexicon MRC controller, Alesis Quadverb, Alesis MIDVerb, ART DR2. **Other Outboard Equipment:** dbx 160X, Ashly Audio SC50 compressors, Ashly Audio SG33 noise gates, Aphex Exciter, dbx 263X de-esser. **Microphones:** Neumann U87, AKG D-112, Shure SM57, Audio-Technica AT853 unipoint, Sennheiser 421, Realistic P2M. **Monitor Amplifiers:** Ashly Audio, Hafler, Crown. **Monitor Speakers:** Tannoy PBM-6.5, Yamaha NS-10, Altec. **Musical Instruments:** Roland RD-300 88-key digital piano, Oberheim Matrix-1000, Fender Esquire 1954, Fender Telecaster 1966, Ovation Adamas 1981, Yamaha RBX550 bass, Vox AC30 amp, Slingerland drums.

[16] **LEVELHEAD RECORDING/STUDIO AT SOUNDSCAPE;** also *REMOTE RECORDING*; 500 W. 52nd; New York, NY 10019; (212) 644-1033. Owner: Gary Wade, John Dee. Manager: Gary Wade, John Dee. **Specialization & Credits:** Levelhead/Soundscape is a 24-hour recording and rehearsal facility offering 2" 16-track, 1/2" 8-track, 1/4" 4-track, and 1/4" 2-track recording. We have over 2,000 square feet of space as well as a large selection of instruments, amps, and outboard gear. Our staff features experienced engineers with major engineering and production credits. We also offer in-house music production, from jingles to soundtracks to albums. Past clients have included: CBS Records, Famous Music Publishing, Ted Nugent, Tommy Shaw (Styx), Chris Stein (Blondie), Terence Trent D'Arby, Jack Blades (Night Ranger), Peter Noone (Herman's Hermits), Aztec Two Step, Dave Liebman, Yomo Toro, Richard X. Heyman (Cypress Records), The Triplets (Epic Records), Miller Beer and Miller Concert Series, Bed & Bath, National Dance Company of Senegal, Aid to Afghanistan Relief Fund Committee, Helen Slater (Supergirl), Peter MacNicol (Ghostbusters II), Mary Stuart Masterson (Immediate Family), Fisher Stevens (Short Circuit I & II).

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**New Products (AES) Issue
DEADLINE: JULY 17**

N O R T H E A S T 16 TRACK S T U D I O S

[16] LIVING SOUND PRODUCTIONS; also REMOTE RECORDING; 22 Crescent Rd.; Westport, CT 06880; (203) 226-6908. Specialization & Credits: Living Sound offers up to 16-track audio production with SMPTE locking for video sweetening, original music production and complete audio/visual production services. In soundtracks, radio and all other areas of our work, our attention to detail and commitment to quality is why our clients come back again and again. You are cordially invited to visit our facility and meet our staff. Please call Jane Stewart for an appointment. We will be pleased to offer you a quick tour and one hour of free studio time as an incentive to try Living Sound on your next project.

[16] MIDNIGHT MODULATION; also REMOTE RECORDING; 2211 Pine Ln.; Saugerties, NY 12477; (914) 246-4761. Owner: Michael Bitterman. Manager: Michael Bitterman. Engineers: Michael Bitterman. Dimensions: Studio 20 x 20, control room 10 x 8. **Mixing Consoles:** Sound Workshop Series 30 20 x 8. **Audio Recorders:** Tascam 85-16B 16-track w/dbx, Tascam 80-8 8-track w/dbx, Otari 5050B 2-track w/dbx, Sony PCM-501 2-track digital w/Beta, Sony TCD-D10 DAT. **Cassette Recorders/Duplicators:** Tascam 122, Sansui D-W10. **Noise Reduction Equipment:** dbx Echo, Reverb & Delay Systems; Lexicon LXP-1 w/MRC, Yamaha REV7, Yamaha SPX90, Lexicon PCM41, Marshall time modulator, Ursa Major 8 x 32. **Other Outboard Equipment:** dbx 160X limiter/compressor, UREI 1176LN limiter, Valley People Dyna-Mite, Orban 622B parametric EQ, Aphex Aural Exciter, Drawmer gates. **Microphones:** (2) Neumann U87, AKG 414EB/P48, (2) Sennheiser 421U, (2) Shure SM57, (2) Crown PZM, E-V RE20, RCA 77-DX, (2) Shure SM81. **Monitor Amplifiers:** BGW 750B, Symetrix. **Monitor Speakers:** JBL 4411, Yamaha NS-10M, Klipsch Heresy, Toa cubes. **Musical Instruments:** Yamaha 6' grand piano, Yamaha DX7IID synth, Akai S900 sampler, Roland Super Jupiter, Kawai K1M, Alesis HR-16B drum machine, LinnDrum, Gibson J-200 acoustic guitar, ARP 2600. **Other MIDI Equipment:** Atari 1040ST, Notator recorder, Sound Works S900 editor. **Video Equipment:** JVC GR-60U camcorder, Toshiba Hi-8 VHS VCR. **Other:** Sound Ideas CD sampler library, (5) AKG headphones. **Rates:** \$40/hour—call for special deals. **Specialization & Credits:** We offer full production services. We are songwriters and musicians and can produce from a demo session to a fully produced CD project. We are celebrating our sweet 16 in the Woodstock area. Past clients include The Band, Karl Berger, Warren Bernhardt, The Fugs, John Hall, NRBC, John Sebastian, Jules Shear, Mick Ronson, Jorma Kaukonen and many more. We are the most intimate and relaxed studio in the Hudson Valley, and we are sure you'll find Midnight Modulation a creative and stimulating environment to work in. Full kitchen and satellite TV always available.



MULTIMEDIA PRODUCTIONS, INC.
Baltimore, MD

[16] MULTIMEDIA PRODUCTIONS, INC.; 1201 W. Pratt St., Ste. J; Baltimore, MD 21223; (800) 229-0355. Owner: Erik Steensen, Michael Cochran. Manager: Erik Steensen, Michael Cochran.

[16] THE MUSIC FACTORY; also REMOTE RECORDING; 107 Canal St.; Rome, NY 13440; (315) 336-2151. Owner: Alec Serway. Manager: Rick Montalbano. Engineers: Rick Montalbano, Al Serway. Dimensions: Studio 25 x 13, control room 13 x 18, isolation room 7 x 14. **Mixing Consoles:** Trident Series 65 24 x 16 w/custom patch bay. **Audio Recorders:** Otari MX70 16-track, Tascam 580B 8-track w/dbx NR, Otari 5050B 2-track w/dbx 180 NR, Panasonic 3500 2-track DAT. **Cassette Recorders/Duplicators:** Tascam 122 MkII, (2) Nakamichi MR-2. **Noise Reduction Equipment:** (8) dbx 150, (2) dbx 180. **Echo, Reverb & Delay Systems:** Lexicon LXP-1 digital reverb w/MRC

MIDI remote, Lexicon PCM60 digital reverb, (2) ART Multiverb II, Master-Room XL305 spring stereo reverb, DeltaLab ADM-2048 delay, Aphex Type C Aural Exciter, Orban 516EC sublimance controller, (6) dbx 160X compressor/limiter, Drawmer DS201 dual gate, MXR 31-band graphic EQ (room), Carvin 31-band graphic EQ (room), GateX 4-channel noise gate. **Other Outboard Equipment:** Tascam MX80 8 x 2 line/mic mixer, Tascam PE40 4-channel parametric EQ. **Microphones:** E-V RE20, AKG 414EB, (2) AKG-C-451, Shure SM81, (2) Sennheiser MD-421, (4) E-V ND408 AKG C-535, AKG D-12, (4) E-V BK1, (2) Crown PZM. **Monitor Amplifiers:** SCS 700W MOSFET, QSC 300W MOSFET, Hill 300W MOSFET. **Monitor Speakers:** (2) JBL 4411 control 3-way, (2) Tannoy PBM-6.5 near-field. **Musical Instruments:** Baldwin 7'3" grand 1984, Yamaha recording series drum kit, all forms of Latin percussion instruments, Ensoniq EPS sampler w/80MB SCSI and huge patch lib., Roland D-50 synth, Moog Memorymoog w/MIDI, Yamaha DX7 w/FB01, Roland MC-500 MIDI sequencer, Alesis HR-16 drum machine, Sequential Circuits Drum Trax, Hammond B-3 organ w/Leslie speaker. **Other:** Studio room has variable acoustics, control room has LEDE design. **Rates:** \$38 per hour. Day rate is \$275. Block booking rate will be quoted on request.

[16] MUSIC FACTORY ENTERPRISES, INC.; also REMOTE RECORDING; Ford & Washington Sts., Ste. 300; Norristown, PA 19401; (215) 277-9550. Owner: Jeffrey Calhoun. Manager: Jamie Bones.

[16] NEW YORK AUDIO PRODUCTIONS; also REMOTE RECORDING; 140 W. 22nd St.; New York, NY 10011; (212) 243-6826. Owner: NYAP, Inc. Manager: Bob Donian.

[16] PARADOX PRODUCTIONS, INC.; also REMOTE RECORDING; 50 Anna Ct.; Gaithersburg, MD 20877; (301) 869-9122. Owner: Mark L. Crowe, William B. Baker. Manager: Mark L. Crowe.

[16] P.P.I. RECORDING; also REMOTE RECORDING; 147 W. 33rd St., Ste. 308; New York, NY 10001; (212) 279-1631. Owner: Chip M. Fabruzzi. Manager: M. Mellia, T. Tyler.

[16] PRO LAB; also REMOTE RECORDING; 149 North End Blvd.; Salisbury, MA 01952; (508) 462-9020. Owner: E. J. Ouellette. Manager: Judy Cordiner.

[16] RED APPLE WORX, INC.; also REMOTE RECORDING; PO Box 441532; Fort Washington, MD 20744; (301) 292-4415. Owner: Carl W. Fletcher. Manager: Ralph E.C. Maunder. Engineers: Ralph E.C. Maunder (principal engineer), Jeff Martin, Dave Mackin, Dave Kramnic, Jesse A. Merman, Joseph Cascio. Dimensions: Room 1: studio 23 x 18, control room 13 x 11. Room 2: studio 7'6" x 7'6", control room 5' x 5'6". **Mixing Consoles:** Allen and Heath CMC-32 32 x 16, Sound Workshop 1280-B 12 x 8. **Audio Recorders:** Fostex E-16 16-track w/Dolby C, Fostex E-2 3-track, Tascam 234-Syncassette 4-track. **Cassette Recorders/Duplicators:** Technics RS-B905 w/Dolby B, C, dbx. **Noise Reduction Equipment:** Valley People Kepex II, Ashly Audio SG-33 noise gate, BBE aural processor. **Synchronization Systems:** Fostex 4030/4035 synchronizer and remote. **Echo, Reverb & Delay Systems:** Alesis Xtc digital reverb, Orban 1113B dual reverb, Biamp MR 140 pro reverb, RDS digital delay system, Valley People Gain Brain II, Yamaha analog delay, MIDIverb II, Korg DRV-3000 digital reverb system, Yamaha SPX90, DSP 128+. **Microphones:** (2) AKG C-414B-ULS acoustic condenser, (10) Electro-Voice N/D357, (2) Nakamichi CM-100, (2) AKG D-12E, (4) Yamaha ME50. **Monitor Amplifiers:** McIntosh 2105, McIntosh 2100, Bose 1801. **Monitor Speakers:** (2) Gauss 7258 studio, (4) Toa 280-ME 3-way reference, (2) Toa 265-ME 2-way reference. **Musical Instruments:** Fender Chroma Polaris, Ensoniq ESQ-M synthesis module, Korg EX-8000 synthesis module, Yamaha TX81Z FM tone generator, E-mu SP-1200 digital sampling percussion system, Akai S900 digital MIDI sampler, Akai VK90, Moog Source, Korg M1 digital workstation. **Other MIDI Equipment:** Voyetra sequencer Plus MkIII 3,000-track recorder, Yamaha KX88 keyboard controller, Korg RK-100 remote MIDI controller. **Other:** IBM XT Turbo. **Rates:** \$45/hour, studios A or B.

[16] REEL WORLD MUSIC STUDIOS, LTD.; 12 Bardonia Mall; Bardonia, NY 10954; (914) 627-3025. Owner: E. and O. Melendez, Gil Camacho. Manager: Ernie Melendez.

[16] ROAR PRODUCTIONS RECORDING & MUSICAL SERVICES; also REMOTE RECORDING; 6655-H Dobbin Rd.; Columbia, MD 21045; (301) 596-2600. Owner: Steven and Jerome Rosch. Manager: Andrea Weatherhead, Mike Hamilton.

[16] RPL; also REMOTE RECORDING; 1100 State St.; Camden, NJ 08105; (800) 966-3001. Owner: Ron Olano. Manager: John Miller. **Audio Recorders:** Synclavier 3200 and Direct-to-Disk, Digidesign Sound Tools/DAT I/O hard disk, (2) Sony PCM-2500 DAT, Panasonic SV255 portable DAT, 3M M56 8-track 1", Otari MTR-12ILX/VX Pro, Webster-Chicago "Memory Courier" wire recorder. **Cassette Recorders/Duplicators:** Electro-sound 64:1, Electro-sound 32:1, Ampex custom, Liberty 16:1/8:1, Ampex custom 4-track, (3) Concept Designs cassette winder, (3) customized broadcast/other cartridge winder, Apex direct imprinter, (12) King cassette winder. **Noise Reduction Equipment:** Dolby A/B, Dolby SR, dbx. **Echo, Reverb & Delay Systems:** (2) SPX90, (2) Alesis MIDIverb, Orban stereo, EMT stereo plate tube/solid-state switchboard, EMT mono plate,

outrageous live room, Audio Instrument 44A tube-driven 7-head loop delay, Orban stereo delay, **Other Outboard Equipment:** (4) Pultec EQP-1, Pultec MEQ, (3) Pultec MB-1 mic preamp, (4) Universal Audio 175-B compressor, RCA BA6A compressor. **Musical Instruments:** Korg M1, (2) Roland D-50, Yamaha KX88 controller, (4) Roland D-50 module, Yamaha DX7. **Other MIDI Equipment:** Roland S-330, Roland SKS-20.

[16] SAINTS AND SINNERS SOUND STUDIO; also REMOTE RECORDING; 432 Western Ave.; Albany, NY 12203; (518) 454-5278. Owner: College of St. Rose. Manager: Mary Anne Nelson.

[16] SHUSTER SOUND; also REMOTE RECORDING; 29 Burt Ct.; Valley Stream, NY 11581; (516) 791-2985. Owner: Bob Shuster. Manager: Bob Shuster.

[16] SILVER LININGS, INC.; 25 Huntington Ave.; Boston, MA 02116; (617) 262-9289. Owner: Arklay King. Manager: Arklay King.

[16] SING SING SING STUDIOS, INC.; also REMOTE RECORDING; 37 Iroquois Rd.; Ossining, NY 10562; (914) 941-9476. Owner: Ira Lichtenstein. Manager: Ira Lichtenstein.



60 SECOND STREET PRODUCTIONS
York, PA

[16] 60 SECOND STREET PRODUCTIONS; PO Box 3098; York, PA 17402; (717) 757-4989. Owner: Leash & Associates, Inc. Manager: David Sansoucie. Engineers: David Sansoucie, Michael Leash, Andy Waits. Dimensions: Studio 22 x 17, control room 20 x 14. **Mixing Consoles:** Trident Series 65 24 x 16 x 2, Yamaha DMP7 8 x 2. **Audio Recorders:** Otari MX70 16-track, (2) Otari MX-5050 2-track. **Cassette Recorders/Duplicators:** Tascam 122 MkII. **Noise Reduction Equipment:** dbx Type I 2 tracks, Symetrix 511A single-ended. **Synchronization Systems:** Yamaha MSS1 MIDI/SMPTE. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60 digital reverb, Yamaha SPX90, DSP128 Plus. **Other Outboard Equipment:** UREI LA-4 compressor/limiter, Aphex compellor/limiter/compressor/leveler, Aphex Type C Aural Exciter, BBE 822 Sonic Maximizer, Roland E-660 digital parametric EQ, Orban 787A programmable mic processor, Valley People Gate noise gate. **Microphones:** AKG C-414, Neumann U87, (4) Sennheiser MD-421, (2) E-V RE10, E-V RE20, (2) E-V PL76B, (4) Shure SM57. **Monitor Amplifiers:** Bryston 4B, QSC 1100, Peavey Deca 700, Kenwood 8006 stereo. **Monitor Speakers:** (2) JBL 4412, (2) Tannoy PBMB, (2) Auratone 5C, (2) Yamaha S3208H. **Musical Instruments:** Yamaha DX7, Yamaha TX16W sampler, Yamaha PF80 keyboard/MIDI controller, Yamaha TX1P piano module, Yamaha RX5 drum machine, Yamaha RX11 drum machine, Yamaha RX21L drum machine, Yamaha PTX8 percussion tone generator w/pads. **Other MIDI Equipment:** Yamaha QX5 sequencer, Digital Music Corp. MX-8 MIDI patch bay/processor, Yamaha MDFI MIDI filter. **Other:** Sony compact disc player, Aphex Model 124-10/+4 audio interface. **Rates:** Available upon request. **Specialization & Credits:** From writing and producing award-winning jingles, radio and television commercials, for local, regional and national advertisers, to providing a creative atmosphere for serious musicians, the team at 60 Second Street Productions does it all. Located in a relaxed, rural setting, we're less than one hour from Baltimore, and only two hours from Philadelphia and Washington, D.C. Our staff of talented writers, arrangers and producers combined with our high level of engineering excellence will make your next musical project sizzle!

[16] SOUNDWORKS; only REMOTE RECORDING; 10 Wheeler Ct.; Watertown, MA 02172; (617) 924-0065. Owner: Brian Capouch, Ken Selcer. Manager: Brian Capouch, Ken Selcer.

[16] SPIDER SOUND STUDIOS; also REMOTE RECORDING; Box 1144, Turnpike Rd.; Auburn, NY 13021; (315) 253-7591. Owner: Mike Dwyer, Ron Thompson. Manager: Ron Thompson.

[16] STAR BASE STUDIO; 41-53 53rd St.; Woodside, NY 11377; (718) 476-0665. Owner: Chuck Thompson. Manager: Chuck Thompson. Engineers: Chuck Thompson. Dimensions:

Studio 17 x 15, control room 25 x 20. **Mixing Consoles:** Amek Tac Scorpion 32 x 8 x 8 x 2, Roland M-160 16 x 2, UREI 1620. **Audio Recorders:** Otari MX-70 16-track, Otari 2-track, TEAC 3340S 4-track, Tascam 322-track, Technics 2-track. **Cassette Recorders/Duplicators:** Sony TC WR-930 double deck, Bang & Olufsen BE2200, Marantz 5420. **Noise Reduction Equipment:** (4) Symetrix 511A, dbx 150. **Synchronization Systems:** Akai MPC-60. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon PCM60, Yamaha REV7, (2) Yamaha SPX90, Alesis MIDVerb II, DeltaLab Super Time Line, DeltaLab Effectron II, Furman RV2 spring reverb, Roland SRV-2000, Roland SRV-3000, (2) dbx 160X, (2) Drawer DS-201 dual gate, (2) dbx 166, UREI 1176LN, Loft 400 quad gate/limiter, Furman PQ-6 parametric EQ, MXR 1/3-octave graphic EQ, (2) MXR 2/3-octave graphic EQ, Eventide H3000 Harmonizer, Aphex Type C Aural Exciter, BBE 802. **Microphones:** Neumann U891, Neumann U87, AKG 421, AKG 414, (5) Shure SM58, (2) Shure SM57, Shure SM77, (4) E-V DO54, E-V RE20. **Monitor Amplifiers:** Crown Micro-Tech 1200, Crown Micro-Tech 600, Crown DC-300, Crown D-75, JBL 6260, QSC 5.1, QSC 3.7. **Monitor Speakers:** (2) E-V MS-802, (2) Yamaha NS-10, (2) JBL 4412. **Musical Instruments:** MPC-60 sequencer/drum machine sampler, Casio FZ-1 sampler, Yamaha DX7, Casio CZ-1000, Yamaha TX812, (2) Yamaha FB-01, Roland MKS-20, Roland MKS-10, Roland MKS-70, Korg M-1, Roland D-50, 360 Systems Pro MIDI bass, Roland MT-32. **Video Equipment:** (2) Panasonic AG-7500A editing VCR-S-VHS, Panasonic AG-A750 editing controller. **Other:** (2) Technics 1200 turntable.

[16] **STARLITE RECORDING;** also REMOTE RECORDING; 28 Starlight Dr.; Norwalk, CT 06851; (203) 847-2321. **Owner:** Fred Palumbo, Jr.

[16] **STONEWALL RECORDING COMPANY;** also REMOTE RECORDING; 6783 Stonewall Ct.; Adamstown, MD 21710; (301) 874-2406. **Owner:** Charles F. Baker. **Manager:** Charles F. Baker.

[16] **STRATA STUDIOS;** 1215 MacDade Blvd.; Folsom, PA 19033; (215) 237-8134. **Owner:** Dennis Nardi. **Manager:** Dennis Nardi.



STRONG ISLAND RECORDS, INC.
Massapequa Park, NY

[16] **STRONG ISLAND RECORDS, INC.;** PO Box 453; Massapequa Park, NY 11762; (516) 798-2308; FAX: (516) 541-6264. **Owner:** Robert La Serra. **Manager:** Robert La Serra.

[16] **SUNSET RIDGE RECORDING;** 194 Kensington Rd.; Hampton Falls, NH 03844; (603) 926-2907. **Owner:** Christopher Biggi. **Manager:** Christopher Biggi. **Engineers:** Christopher Biggi. **Dimensions:** Studio 15 x 25, control room 13 x 13. **Mixing Consoles:** Ramsa WRT-820. **Audio Recorders:** Tascam MS-16 1", (2) Toshiba DX9000 PCM (VHS), Fostex A2 1/2-track. **Cassette Recorders/Duplicators:** (2) Tascam 122. **Noise Reduction Equipment:** (2) dbx DX8DS, Rocktron Hush IICX. **Synchronization Systems:** SMPTE trac. **Echo, Reverb & Delay Systems:** Lexicon PCM70, (2) Lexicon LXP-5, TC Electronic 2290 digital delay, TC Electronic 1210 chorus/flanger, (4) Digi-Tech Smart Shift, Alesis QuadraVerb, Alesis MIDVerb II, Yamaha SPX90II, Barcus-Berry 802 signal processor, Roland SRV-2000 reverb. **Other Outboard Equipment:** (2) Audio Logic SC-31 equalizer, (2) Audio Logic MT44 quadgate, (2) dbx 163x compressor/limiter, dbx 166 compressor/limiter, Symetrix 525 stereo compressor/limiter, dbx 463X noise gate, dbx 263X de-esser, Rane HC6 headphone amp. **Microphones:** Neumann U87, (2) AKG C-414BULS, (2) E-V RE20, (3) E-V ND308, (2) E-V RE11, (3) Audio-Technica 813R, (2) Beyer M160, (3) Shure SM57, (3) Audio-Technica 33R. **Monitor Amplifiers:** AB Electronics 900A, Crown 1000. **Monitor Speakers:** (2) UREI 809, (2) Yamaha NS-10M studio, (2) Auratone, (2) Snell Acoustics Modela. **Musical Instruments:** Alesis HR-16 drum machine, Korg M1, Roland D-50 linear synth, Roland JX-8P polyphonic synth, Roland Octapad, Baldwin Spinnet, Ludwig 1972 5-piece drum kit, Hohner "Jack" bass, Korg DSM-1 sampler/synth. **Other MIDI Equipment:** Atari 1040. **Video Equipment:** Minolta V10R camcorder, (2) Kodak MVS-5000 8mm audio/video recorder. **Other:** Country setting. **Rates:** \$40/hr., call for block rates.

[16] **SYNTONE;** 85 Carl St.; Newton, MA 02161; (617) 244-1265. **Owner:** Rob Ames. **Manager:** Rob Ames.

[16] **TARGET STUDIOS;** also REMOTE RECORDING; 801 Valley Rd.; Newark, DE 19711; (302) 731-4431. **Owner:** Marc Moss. **Manager:** Keith Moss.

[16] **TECHNISOUND;** 140 Madison Ave.; Westfield, NJ 07090; (201) 233-2026. **Owner:** Stephen Kay. **Specialization & Credits:** Independent producer/programmer Stephen Kay's private studio—available for select projects including records, film scores, jingles, demos and session work. The studio features a fully loaded Fairlight Series III, (16-bit digital sampler/synthesizer/audio production). Recently updated with REV8 software and hardware, the system features 16MB WRAM, direct-to-hard disk recording, and over 400MB of storage. **Orchestral to dance/pop/rap sound library.** 16-track studio/MIDI control center, 48-input TAC Scorpion, Tascam 1" MS-16 w/ dbx, digital FX rack, UREI 811c monitors, DX7IID, TX802, Prophet-VS, 7"4" Yamaha grand, two ARP 2600s, Macintosh Plus w/Passport and Opcode software, digital mxdown, more. Complete your master-quality project in-house (production/composition/arrangement available) or pre-produce for transfer at a larger facility. Fairlight III and rack will travel for session work. Credits include Charlie Singleton's *Man On a Mission* (Epic), NBC (Olympics, Wimbledon and more), Gianettino & Meredith, Sid Woloshin. Call for more information.

[16] **THREE COMMUNICATIONS PRODUCTIONS;** also REMOTE RECORDING; 116 Bretton Rd.; Middletown, CT 06457; (203) 347-8439. **Owner:** Michael Araleh. **Manager:** Michael Araleh.

[16] **THURSDAY PRODUCTIONS, INC.;** 189 Norman Rd.; New Rochelle, NY 10804; (914) 235-7505. **Owner:** Daniel M. Welsh. **Manager:** Susan J. Welsh. **Engineers:** Daniel Welsh, Len Fassett. **Dimensions:** Studio A: 23 x 16 w/movable ceiling-to-floor gobos, drum booth 11 x 6 w/floating floor, control room 12 x 11. Studio B: voice booth/studio 10 x 8, control room 10 x 12. **Mixing Consoles:** Tascam M16 24 x 24 x 8, Ramsa WRT-812 12 x 8, Carvin MX-1202 (remote board). **Audio Recorders:** Tascam TSR-88-track, Tascam 80-88-track, Otari MX-70 16-track, Otari MTR-10 2-track, Ampex 440C 2-track, Ampex 440C 4-track, Otari MX-5050 MkII 2-track, (2) Otari MX5050 mono full-track. **Cassette Recorders/Duplicators:** Tascam 122B, Tascam 112, Sony TCM-5000 mono, (3) Telex CDM 4-cassette duplicator. **Echo, Reverb & Delay Systems:** Lexicon PCM60, Lexicon Prime Time, Master-Room XL-305, Orban stereo reverb, MXR System II, ART Proverb, Alesis MIDVerb II, Yamaha SPX90, ART Multiverb EXT, Effectron II. **Other Outboard Equipment:** dbx 160, UREI limiters, (2) Aphex Studio Dominator limiter, Ashly Audio parametric EQ, Orban 245F, Aphex Exciter C, Rane and MXR graphic EQ. **Microphones:** Neumann U87, AKG 414ULS, Shure SM80, Sennheiser 421, (5) Electro-Voice RE80, Shure, Beyer, Crown PZM, etc. **Monitor Amplifiers:** McIntosh 2120, Halfer, JVC JAS 41. **Monitor Speakers:** JBL 4312, Yamaha NS-10M, Tannoy PBM-8, Auratone 5C. **Musical Instruments:** Baldwin custom upright, Yamaha DX7FD, Korg M1 workstation, Roland MKS digital piano, Korg DD-1, Roland Juno-106, Yamaha TX rack, Korg DVP, Ludwig full set of drums (three snares). **Other MIDI Equipment:** Atari 1040ST, many multitrack programs available, CD effects libraries. **Rates:** Available upon request. Project rates available. **Specialization & Credits:** Thursday Productions offers a relaxed yet professional recording environment capable of handling a wide variety of audio-visual projects. Our engineers are not just tweekers...they are solid, creative people dedicated to making the best possible audio product available. Attention to detail is the working standard—no aspect of the production process is overlooked. Thursday has become a leader in making soundtracks for education...many of which have won major awards for their clients. It's gratifying to know that some of these same clients have been filling the datebooks for over ten years. They recognize our studios' ability to deliver consistently clean products year after year. Perhaps one of our long-term clients sums it up best...and they seem to be able to rate everything. Says executive producer Ed Partikian for the radio version of *Consumer Reports Magazine*: "Thursday has produced our nationally distributed radio feature since 1985. Obviously they're pros. But more than that, they are dedicated to the project...and our program is the happy beneficiary."

[16] **T.M.P. RECORDING;** Rt. 73 and Jackson Rd.; Berlin, NJ 08009; (609) 768-2226. **Owner:** Tom DiGangi. **Manager:** Anthony Riccobono. **Engineers:** Anthony Riccobono, Lenny DiGangi, Mark Eskey, Brian McMahon, Tom Traub. **Dimensions:** Room 1: studio 16 x 16, control room 20 x 20. Room 2: studio 8 x 8. Room 3: studio 6 x 8. **Mixing Consoles:** Tascam M3500 32 x 8 x 24. **Audio Recorders:** Tascam MS-16 16-track, Tascam 322-track. **Cassette Recorders/Duplicators:** (2) Tascam 112. **Noise Reduction Equipment:** dbx DX8DS 16-track, (2) dbx 224. **Synchronization Systems:** Yamaha MSS-I, J.L. Cooper PSS-1, Atari computer w/Dr. T's Phantom. **Echo, Reverb & Delay Systems:** Yamaha SPX900, Lexicon LXP-1, Roland SRV-2000, Korg DRV-2000, Korg SDD-2000, Lexicon LXP-5, Lexicon PCM42, Korg DRV-3000. **Other Outboard Equipment:** Orban Model 424A de-esser, Roland VP-70 voice processor, (2) ART 172 EQ, (7) Tascam PB-32 patch bay, (2) dbx 160X compressor, dbx 166 compressor, (8) Audio Logic gate, Barcus-Berry Sonic Maximizer, Scholz Rockmodules, Roland GP-8, Rane SP15 parametric. **Microphones:** (2) AKG 414, (14) Shure, (4) Sennheiser MD-

421, (2) Toa K3, (2) Toa K4, (2) Toa K2, (2) E-V ND308, (2) E-V ND357, (2) E-V VND757, (2) E-V BK1. **Monitor Amplifiers:** (2) Soundcraft RA5502. **Monitor Speakers:** Tannoy SRM-12B, Toa 312ME, Tascam CM4, Tannoy PBM-6.5. **Musical Instruments:** Yamaha DX7IID, Korg M1, Korg DSM-1, Yamaha TX802, Yamaha TX812, Yamaha 2000, Roland D-550, Roland S-550, Yamaha RX5, Roland S-50, Yamaha SY77, Peavey DPM3, HR-16B, Alesis HR-16, Tama 8-piece drum set, Yamaha TX16W, Roland P-330, Roland D-110, Roland R-8, Roland U-220. **Other MIDI Equipment:** Yamaha MJC8 8-track, J.L. Cooper MSB, Roland VP-70, Roland MC-500. **Other:** (8) AKG K2400DE, IBM and Atari computer w/sequencing software. **Rates:** Block rate available, call for information.

[16] **WESTRAX RECORDING STUDIOS LTD.;** 484 W. 43rd St.; New York, NY 10036; (212) 947-0533. **Owner:** Peter Link. **Manager:** Jeremy Harris.

[16] **WINGS AS EAGLES;** also REMOTE RECORDING; 151 Keeley Ave.; Warwick, RI 02886; (401) 738-6914. **Owner:** Bill Montella, Jr.

[16] **WOLFMAN'S RECORDING STUDIO;** 1100 Massachusetts Ave.; Arlington, MA 02174; (617) 641-3838. **Owner:** Bob Wolfman. **Manager:** Rob Lehman.

[16] **W3 SOUND PRODUCTIONS;** also REMOTE RECORDING; 2309 Babcock Blvd.; Pittsburgh, PA 15237; (412) 821-8273. **Owner:** Warren W. Winger. **Manager:** Warren W. Winger.

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2-8 TRACK

STUDIOS

[4] **ACCELERATION**; also *REMOTE RECORDING*; 5914 Overbrook Ave.; Philadelphia, PA 19131; (215) 473-3757. Owner: Gus Constant. Manager: Kathryn Heal. Dimensions: Studio 26 x 22. **Mixing Consoles**: Yamaha DMP7D 8-track digital. **Audio Recorders**: Studer-Dyaxis 2+2 4-track digital hard disk recorder/editor, Panasonic SV-255 portable R-DAT, Sony portable R-DAT. **Synchronization Systems**: Studer-Dyaxis 2+2 SMPTE. **VTC**, etc. **Echo, Reverb & Delay Systems**: Eventide H3000 Ultra-Harmonizer, Roland R-880 digital reverb/EQ/delay/compressor, Gatec noise gate/expander. **Microphones**: Neumann RS-190 stereo shotgun, (2) AKG 460 omni/cardioid condenser, (8) various lavalier/PZM. **Monitor Amplifiers**: Haller P-500 stereo. **Monitor Speakers**: (2) Yamaha NS-10M. **Musical Instruments**: Emulator III stereo sampler, Prophet 2000 sampler, various percussion, acoustic. **Other MIDI Equipment**: Macintosh Iicx, Macintosh SE. **Video Equipment**: Panasonic S-VHS camcorder, various VCRs. **Rates**: Call for rates. **Specialization & Credits**: Digital mixing/mastering to 2/4-track from an unlimited number of SMPTE sync tracks. Specialized sound design: sound effects for movies, video, samplers. Computer controlled editing and mixing. Sponsored new/alternative music recording program projects considered through score or tape submission, or live performance. Call for details. Opening spring 1990.

[8] **ALTER EGO STUDIO**; Flushing, NY; (718) 463-5008. Owner: Charlie Cohn. Manager: Charlie Cohn.

[8] **APOLLO STUDIOS**; 2723 Silverside Rd.; Wilmington, DE 19810; (302) 478-5236. Owner: Bill Swezey. Manager: Bill Swezey. Engineers: Bill Swezey, Johnny Cinder. Dimensions: Studio 8 x 16, control room 16 x 8. **Mixing Consoles**: Allen and Heath 24 x 8 x 8 w/120-point patch bay. **Audio Recorders**: Tascam 38 8-track, Tascam 2340 4-track, Pioneer RTU-11 2-track, Sony TC-755 1/4-track. **Cassette Recorders/Duplicators**: (5) TEAC real-time duplicator. **Echo, Reverb & Delay Systems**: DigiTech RDS-6500 digital reverb, DigiTech RDS-3600 8-second digital delay, Korg SDD-3300 triple digital delay, Yamaha SPX90, Alesis Quadriver, Roland SRV-2000 digital reverb, DigiTech DSP-256. **Other Outboard Equipment**: Audio Logic SC-31 31-band graphic EQ, Audio Logic MT-44 quad noise gate, Audio Logic MT-66 dual-channel stereo compressor/limiter, Aphex Type C Aural Exciter, DigiTech IPS-33 intelligent pitch shifter, Rane PE-15 parametric EQ. **Microphones**: (3) Shure SM57, (2) Shure SM58, (2) Shure 540-SH, Electro-Voice RE20, AKG D-310, (3) Sennheiser MD-421, (3) Audio-Technica ATM-41, Electro-Voice RE11. **Monitor Amplifiers**: Ashly Audio FET-1000M. **Monitor Speakers**: Tannoy PBM-6.5 2-way, AMR PRM-310 2-way. **Musical Instruments**: Roland Juno-106 MIDI keyboard, Alesis HR-16 drum machine, Yamaha drums w/ Zildjian and Camber cymbals, Marshall 50-watt half-stack, Ampex Jupiter 42 head w/(4) 12" Aletc cabinet, Gibson ES-175, Gibson ES-335, Gibson Les Paul w/MIDI interface, Gibson SG, Fender Stratocaster, Fender electric 12-string, Ibanez 6/12-string electric doubleneck, Yamaha FG-312 acoustic 12-string, Rickenbacker 4001 bass, Gibson ES335 bass guitar, Gibson Nouveau acoustic 6-string, Daughin classical guitar, others available w/advance written notice for a small fee. **Other MIDI Equipment**: Korg DVP-1 vocoder, Akai VX-90 synth module, Yamaha MJCB MIDI patcher, Yamaha TX812 synth module, IVL Technologies pitchdr 7000 guitar interface, Oberheim Matrix-1000 synth module, Akai S700 digital sampler w/3MB expansion, (3) Yamaha TX16W digital sampler w/3MB, Roland Super JX MKS70 synth module, Roland S-5500 digital sampler w/mouse, Magnavox color monitor, Director 5 sequencing software. **Other**: Magnavox CDB-473 CD player, extensive libraries for all samplers on CD and floppy disk. **Rates**: Basic rates are \$16/hr. 8-track or MIDI with block rates going even lower. Please call for more details and for information on our summer specials.

[8] **AUDIO ARTS RECORDING STUDIO**; also *REMOTE RECORDING*; 1110 Emerald Ln.; Endwell, NY 13760; (607) 786-5881. Owner: Michael Putrino, Greg McQuade. Manager: Greg McQuade, Michael Putrino.

[8] **AUDIOTRAX**; also *REMOTE RECORDING*; 7 Dana St.; Revere, MA 02151; (617) 289-8044. Owner: Robert Kellaway. Manager: Bob Kellaway. **Specialization & Credits**: Audiotrax is a small yet complete in-house recording facility offering professional, creative audio production to producers of radio spots, A/V soundtracks, audiobooks and other industrial recording projects. We work with a large number of professional narrators and maintain extensive production music and SFX libraries on LP and CD. We also provide custom music editing

for figure skating and other sports music programs. In addition, we offer location recording for seminars, workshops, etc., with editing and mastering through final cassette duplication. Please call for more information and rates.

[8] **CHERRY PRODUCTIONS RECORDING STUDIO**; RD 2, Box 640; Honesdale, PA 18431; (717) 383-2621. Owner: Bill Vargas. Manager: Bill Vargas. **Specialization & Credits**: Yes, finally there's a studio near Honesdale! You'll notice the phone number is different, but call this for an appointment anyway. Studio available for projects using your equipment or equipment rented by you. Studio musicians also available. Demo work, commercials, special projects or just ideas possible to lay down. Call for info. This is a private studio going public with some of the latest gear for recording. Peaceful setting, too. The studio is located six miles from Honesdale and is ideal for travelers from New York City going to Lake Wallenpaupack or the Poconos. This is a growing area—let this studio grow along with it. Don't let Cherry Productions or the person playing the real instrument die! Call the listed number today for an appointment. Cherry Productions Recording Studio—good prices, good work, good people. Cherry Productions Recording Studio. Let's make it together!

[8] **CITY SOUND PRODUCTIONS**; 39 E. 7th St., Ste. #2; New York, NY 10003; (212) 228-9494. Owner: Bob Kirschnr. Manager: Bob Kirschnr.

[8] **THE COMMERCIAL REFINERY, INC.**; also *REMOTE RECORDING*; 2105 Maryland Ave.; Baltimore, MD 21218; (301) 685-8500. Owner: Michael Collins, Mark Young. Manager: Jacci Burfield.

[8] **CYRUSSOUND**; also *REMOTE RECORDING*; 3545 South Park Rd.; Bethel Park, PA 15102; (412) 854-2076. Owner: Cy Anderson. Manager: Cy Anderson.

[4] **JACK DANIELS PRODUCTIONS**; 8056 Tuckerman Ln.; Potomac, MD 20854; (301) 983-9595. Owner: Jack Daniels. Manager: Phyllis Feelenyer.

[2] **EIGER ENGINEERING**; only *REMOTE RECORDING*; 203 Waverly Ave.; Watertown, MA 02172; (617) 924-6514. Owner: Thomas P. Scheuzger. Manager: Thomas P. Scheuzger.

[8] **FIREHOUSE STUDIOS**; also *REMOTE RECORDING*; 291 Port-Au-Peck Ave.; Oceanport, NJ 07757; (201) 229-3328. Owner: Dennis Dubrow. Manager: Dennis Dubrow.

[8] **FISHBOWL PRODUCTIONS**; also *REMOTE RECORDING*; 89 Clinton St., Ste. #3; Everett, MA 02149; (617) 389-5816. Owner: Joe Miraglio. Manager: Joe Miraglio.

[8] **FOURTH DIMENSION SOUND STUDIOS**; also *REMOTE RECORDING*; 15 Castle St.; Ware, MA 01082; (413) 967-9422. Owner: Chris St. Germain. Manager: Mike St. Germain. Engineers: Mike St. Germain, Chris St. Germain, Jim Creed, Rial Creed. Dimensions: Room 1, studio 20 x 20. Room 2: studio 20 x 10. Room 3: control room 20 x 10. Room 4: studio 10 x 10. **Mixing Consoles**: Tascam 6888-track MIDI studio w/ 20 x 8 mixer, dbx NR and SMPTE and MIDI sync. **Audio Recorders**: Clanton XDS 4-track, Tascam Porta 1 4-track. **Echo, Reverb & Delay Systems**: (3) Alesis MIDverb II, ART Multi-verb, Traynor TDL-500 digital delay, BBE 422 aural exciter, Symetrix 525 compressor. **Other Outboard Equipment**: Ans 614 power strip/surge protector, Ans 611 power strip/surge protector, Rane GE14 2-channel graphic equalizer. **Microphones**: (4) Shure SM57, (6) Shure SM58, (2) Audio-Technica Pro 4L. **Monitor Amplifiers**: Peavey 2600 near-field, AB Systems 1100A studio. **Monitor Speakers**: (2) JBL Control 5, (2) JBL G-732. **Musical Instruments**: Ibanez PR450 guitar, Ibanez PR750 guitar, Fender Stratocaster 1974, Fender Silver Anniversary Stratocaster 1979, (5) various acoustic guitars, (3) various bass guitars, Roland U-20 synthesizers/multitimbre, Roland HS-60 synthesizer, Roland MT-32 multitimbre module, Oberheim Matrix-1000 sound module, Korg P3 sound module. **Other MIDI Equipment**: J.L. Cooper MIDI patch bay 3 x 8. **Other**: Roland Super MRC-500 MkII sequencer, Randall solid-state guitar amp, Kustom 4-valve studio tube guitar amp, Soundtech 4 x 12 speaker cabinet, Peavey 6 x 10 speaker cabinet, R-DAT available, Ford B-700 1974 remote unit, 175' snake/splitter. **Rates**: \$25/hr. and up. Block rates and job rates available.

[8] **FULL LOGIC STUDIOS**; also *REMOTE RECORDING*; 115 Railroad St.; Keene, NH 03431; (603) 352-DISK. Owner: Ron Brown. Manager: John Lovejoy.

[8] **GET OUT OF THE WAY**; 210 Tomahawk Trail; Sparta, NJ 07871; (201) 770-3208. Owner: Dan Eriksen. Manager: Steve Betsy. Engineers: Dan Eriksen, Stephen Betsy, Jim Esposito, Kevin Locke. Dimensions: Room 1: studio 25 x 20, control room 10 x 15. Room 2: studio 30 x 15, control room 20 x 15. Room 3: studio 20 x 20, control room 10 x 20. **Mixing Consoles**: Yamaha RM2408 24 x 16, Studiomaster 16 x 8, Audiopro 12 x 4. **Audio Recorders**: Tascam 38-8 8-track, Tascam 234 4-track, Akai 2-track. **Cassette Recorders/Duplicators**: Tascam 112, Technics high-speed dub. **Noise Reduction Equipment**: dbx I, II; Dolby A, B, C. **Synchronization Systems**: MIDI FSK, Roland, Apple computer, SMPTE read/generate. **Echo, Reverb & Delay Systems**: (2) Lexicon PCM70, Yamaha REV7, (2) Lexicon LXP-1, (3) Yamaha SPX90II, Korg DRV-1000 reverb, Loft Chorus, Roland SDE-3000. **Other Outboard Equipment**: TC Electronic delay/effects, Eventide H3000 Harmonizer, Rocktron exciter/imager, Aphex Type B Exciter, Valley leveler, Aphex Compeller, (2) dbx compressor, Ibanez comp/EQ, (10) assorted noise gates. **Microphones**: Audio-Technica AT-4051, (2) AKG 414 BULS, (10) Shure SM57, (2) Shure SM58, (2) E-V VPL11, (2) Shure 565SD, Audiopro IM200. **Monitor Amplifiers**: Crown 2500, BGW 750, QSC 3500. **Monitor Speakers**: (2) E-V SH15-2, (2) E-V Scoop bin, (4) E-V Perkins bin. **Musical Instruments**: Yamaha DX7II, Korg Poly 800, Roland 909 etc., Roland MC-500, Ludwig 10-pc. double-kick drum set, (6) Tama TS-306 elec. toms. **Video Equipment**: (3) Panasonic WV-3 camera, (2) Panasonic 6500 editor, (2) JVC CR850U 3/4", (2) JVC CR6060 3/4" VTR, Crosspoint latch 21VC AMK 16-input switch, Panasonic WJ-5500B 8-input switcher, Dubner 20K character generator, Eclipse dig-effects, Targa Paint Box, (2) microtime TBC, Soundmaster post-audio-video/film sync, (2) Knox character generator, (3) Super VHS VCR, Sony 8mm. **Other**: (2) Marshall amp, Gallien-Krueger amp, Sony ATR 24-track available, Trident 80B 32 x 24 x 2 available, 8/16mm filming available. **Rates**: \$15 per hour.

[4] **GOLDEN SOUND RECORDING**; also *REMOTE RECORDING*; NEC Delaware Ave. and Tasker St.; Philadelphia, PA 19147-5509; (609) 871-0840. Owner: Sidney E. Morton. Manager: Sidney E. Morton.

[4] **SCOTT GORDON ENTERPRISES, INC.**; also *REMOTE RECORDING*; PO Box 791; Paramus, NJ 07653-0791; (201) 670-0054. Owner: Scott Gordon. Manager: H.S. Buehlmeier.

[8] **HALOGEN RECORDING STUDIO (ALSO SOUNDTRACKS)**; also *REMOTE RECORDING*; New Brunswick, NJ; (201) 545-0422. Owner: Dan Tarradellas. Manager: Dan Tarradellas.

[8] **HONEY BEAR RECORDING STUDIO**; 2510 Raspberry St.; Erie, PA 16502; (814) 459-BEAR (2327). Owner: Walter Slivinski. Manager: Walter Slivinski.

[8] **JOYFUL NOISE STUDIO**; 47 E. Walnut St.; Metuchen, NJ 08840; (201) 549-7928. Owner: Ted Coleman. Manager: Ted Coleman.

[4] **MASTERS BY JOHNSON**; 832 Montgomery Ave.; Narberth, PA 19072; (215) 664-1188. Owner: Stephen I. Johnson. Manager: Stephen I. Johnson.

[8] **MERRICK STUDIO & PRODUCTIONS**; also *REMOTE RECORDING*; 47 Heritage Ln.; Fords, NJ 08863; (201) 634-2809. Owner: Lawrence Merrweather. Manager: Lawrence Merrweather.



MPC RECORDING STUDIOS
New York, NY

[8] **MPC RECORDING STUDIOS**; 341 W. 45th St.; New York, NY 10036; (212) 757-6427. Owner: Michael P. Costanzo. Manager: Gavin Morrisson. Engineers: Michael P. Costanzo, Gavin Morrisson, Radcliff Isaacs, Fred Miller. Dimensions: Studio 20 x 30, control room 20 x 35. **Mixing Consoles**: Sound-

tracks 40 x 8 x 2. **Audio Recorders:** Otari MX-5050 8-track, Otari MX-5050 2-track, Sony PCM-501 2-track digital. **Cassette Recorders/Duplicators:** Nakamichi Dragon, Akai GFX91. **Noise Reduction Equipment:** (4) dbx 160. **Echo, Reverb & Delay Systems:** Yamaha SPX90, Roland DEP-5, Lexicon PCM42, Ibanez SDR-1000, Yamaha REV7, Roland SDE-3000. **Other Outboard Equipment:** Orban 442, dbx 166, dbx 167, UREI 170S, EXR exciter, Yamaha MSS SMPTE/MIDI synchronizer. **Microphones:** Neumann TLM170, E-V RE20. **Monitor Amplifiers:** Adcom 6F 555. **Monitor Speakers:** Yamaha NS-10, E-V Sentry 500, Fostex 6301 mini. **Musical Instruments:** Yamaha TX216 rack, Yamaha DX7, E-mu SP-12 turbo, Akai S900 sampler, Oberheim Matrix-6, Ensoniq Mirage, Casio CZ-5000, Roland D-550, (2) Alesis HR-16 drum machine, Yamaha DX100. **Rates:** Available on request. **Specialization & Credits:** One of the top MIDI pre-production studios in Manhattan. Credits include Kool Moe Dee, Stephanie Mills, Timmy Gatling, Daddy O of Stetsasonic, Kraze, Moonlou, Sky King, Oran Juice Jones and all major and independent labels.

[8] **MUSICONCEPTS, LTD.;** also REMOTE RECORDING; 3650 Silverside Rd., Ste. 120; Wilmington, DE 19810; (302) 475-2668. **Owner:** William J. Sahn, Jr. **Manager:** William J. Sahn, Jr.

[8] **MUTTLEY MUSIC MACHINE;** also REMOTE RECORDING; RD #1, Box 129; Barto, PA 19504; (215) 845-3133. **Owner:** Vincent J. Indelicato. **Manager:** Vincent J. Indelicato.

[2] **NARWOOD PRODUCTIONS;** also REMOTE RECORDING; 40 E. 49th St.; New York, NY 10017; (212) 755-3320. **Owner:** Narwood Productions, Inc. **Manager:** Dave Le Van, Ellen Silver.

[8] **NITE DEPOT RECORDING;** also REMOTE RECORDING; 880 5th St.; Beaver, PA 15009; (412) 774-8444.

[8] **NOMAD RECORDING;** also REMOTE RECORDING; PO Box 886; Levittown, NY 11756; (516) 735-2655. **Owner:** Jim Brown. **Manager:** Jim Brown.

[8] **PANETTA STUDIOS;** also REMOTE RECORDING; 6 Miller Ave.; Elmwood Park, NJ 07407; (201) 791-0254. **Owner:** Angelo Panetta. **Manager:** Rob Pashman.

[8] **POLAR BEAR RECORDING;** also REMOTE RECORDING; 171 Country Club Dr. #3; Union, NJ 07083; (201) 686-1438. **Owner:** Glenn Merritt. **Manager:** Glenn Merritt. **Engineers:** Eddie Brooks, Angel Velasquez, Glenn Merritt. **Dimensions:** Studio 10 x 10, control room 18 x 12. **Mixing Consoles:** Trident custom 42-channel. **Audio Recorders:** Tascam 38 8-track, Sony Beta Hi-fi 2-track digital. **Cassette Recorders/Duplicators:** Nakamichi. **Noise Reduction Equipment:** BBE 440 Sonic Maximizer. **Synchronization Systems:** J.L. Cooper PPS-100 SMPTE generator reader. **Echo, Reverb & Delay Systems:** Yamaha SPX90, Yamaha D1500 digital delay, Lexicon PCM70, (2) Ibanez SDR-1000 multi-effects, Effectron 1024 DLL, Roland SDE-200 Boss. **Other Outboard Equipment:** dbx 160X comp, (2) Audio Logic comp, (3) dbx 263 de-esser. **Microphones:** AKG 414, (3) Shure SM58. **Monitor Amplifiers:** Peavey guitar amp. **Monitor Speakers:** (2) UREI 811, (2) Yamaha NS-10M. **Musical Instruments:** Yamaha DX7, Roland D-50, Akai S900 sampler, Roland Super Jupiter, Roland D-110, Ensoniq ESO-M, Korg DW-8000, Mirage sampling keyboard, Roland R-8 drum machine. **Other MIDI Equipment:** IBM sequencer plus Mkill program. **Rates:** \$25 per hour.

[8] **Q.E.C. RECORDERS;** also REMOTE RECORDING; 65 Stirling Ct.; Metuchen, NJ 08840; (201) 549-0023. **Owner:** R. Quinto, M. Walsh. **Manager:** Paul Aleman.

[4] **QUEANS STUDIO OF JOE SIEGEL, INC.;** only REMOTE RECORDING; 45-27 215 Pl.; Bayside, NY 11361; (718) 224-8789. **Owner:** Joe Siegel. **Manager:** Joe Siegel.

[8] **FRANK SCHEIDT AUDIO PRODUCTIONS, INC.;** also REMOTE RECORDING; 15 Charlotte St.; Rochester, NY 14607; (716) 232-5210. **Owner:** Frank Scheidt. **Manager:** Matt Scheidt.

[2] **SELTZER SOUND;** also REMOTE RECORDING; 185 E. Broadway; New York, NY 10002; (212) 477-2372. **Owner:** Carl Seltzer. **Manager:** Carl Seltzer.

[8] **STREET SOUNDS STUDIO;** 17 Armonk Rd.; Mt. Kisco, NY 10549; (914) 241-0364. **Owner:** Phyllis Bettino. **Manager:** Laura Poole.

[8] **STROBE-LIGHT SOUND STUDIO;** also REMOTE RECORDING; 1219 Bergen St.; Brooklyn, NY 11213; (718) 771-3411. **Owner:** Andrei Strobert. **Manager:** Andrei Strobert.

[8] **STUDIO PASS;** 596 Broadway #602; New York, NY 10012; (212) 431-1130. **Owner:** Harvestworks, Inc. **Manager:** Alex Noyes. **Engineers:** Brenda Hutchinson, Connie Kietlyka, Alex Noyes, Bill Seery, Dana McCurdy, Greg Tupper. **Dimensions:** Studio 12 x 15, control room 20 x 15. **Mixing Consoles:** Tascam 15 24 x 8, Tascam 2A 6 x 4, Tascam 1 8 x 2. **Audio Recorders:** Otari MX-5050 8 MkIII 8-track, Otari MX-5050 BII 2-track, Otari MX-5050 BII 2-track w/center time code track, Tascam 40-4 4-track, Sony DTC-300ES DAT, Sony PCM-F1. **Cassette Recorders/Duplicators:** (2) Tascam 122. **Noise Reduction Equipment:** (10) dbx Type I, (2) dbx 929 single-ended. **Synchronization Systems:** (2) Tascam ES-50, Tascam ES-51 control unit. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM60, Lexicon PCM70, Lexicon LXP-1, Lexicon LXP-5, ADA D-1024. **Other Outboard Equipment:** Drawmer DS-201 2-channel noise gates, (2) Valley People Gain Brain limiter, Furman compressor, UREI dual-channel parametric EQ. **Microphones:** AKG 414, (2) AKG 451, (2) Sennheiser 421, Shure SM57, (2) E-V CS-51e, Countryman Isomax II. **Monitor Amplifiers:** Crown D-150, Harman Kardon Citation Sixteen. **Monitor Speakers:** (2) JBL 4311, (2) Yamaha NS-10M. **Musical Instruments:** E-mu Emax SE sampler, Akai S950 sampler, Yamaha TX802 FM synthesizer, Roland D-110 L/A synthesizer, Roland MKS-80 Super Jupiter w/programmer, Roland TR-707 drum machine. **Other MIDI Equipment:** Macintosh Iix w/4MB RAM and 80MB HD, Digidesign Sound Tools, Digidesign DAT I/O, Imprints 600MB HD, Southworth Jam Box/4+, Macintosh MIDI/SMPTE interface, Macintosh Plus w/2.5MB RAM and 20MB HD, Opcode Studio Three MIDI/SMPTE interface, Roland MKB-1000 master keyboard, Roland Octapad drum controller, extensive software library including Intelligent Music, Digidesign, Opcode, etc. **Video Equipment:** Panasonic CT-2010Y 20" monitor, JVC CR-6650 3/4" VCR, Sony SLV-50 VHS VCR, Sony SL-2000 Beta VCR. **Other:** Technics SL-1200 MkII turntable, Sony CDP-208 ESD CD player. **Rates:** Available upon request, including special rates for our digital audio workstation, CD premastering with Sound Tools and audio/video sweetening.

[8] **THE TURNING MILL, INC.;** also REMOTE RECORDING; PO Box L; Palenville, NY 12463; (518) 678-9293. **Owner:** Owen Swenson. **Manager:** Lucy Swenson.

Coming in the
JULY MIX

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FEEDBACK

Clearing Up Some History

I enjoyed the article "New York Recording Scene" in the October '89 issue. Dan Daley must have done a monumental amount of research. However, some of the "old folks" must have had memory lapses, as there are a few major and minor errors.

First, Mediasound, which I know most intimately, Mediasound closed its doors early in '89 due to gross mismanagement. By the beginning of 1985, all of the original management team had been let go, the staff engineers who had helped make Media what it was were forced out, two chief engineers were fired, the production office that once had four people was reduced to one person, plus there were cutbacks in the accounting office from four to two people. Within a year or so, Mediasound was forced into Chapter 11 and, finally in early 1989, onto the auctioneer's block and into oblivion.

Tony Bongiovi most certainly did *not* come out of Mediasound's mail room. As a teenager, Tony earned his recording chops while bouncing between Apostolic and Record Plant, New York, and Motown, Detroit, working with artists such as Diana Ross and The Supremes. He finally settled in at Record Plant, New York, but was fired after being there only one year. He then moved to Mediasound, where he came on board as a senior staff engineer. Tony was responsible for converting Media from a mostly jingle house into a primarily record house.

Chris Stone and Record Plant, New York, were *not* the first ones to create the "living room" atmosphere in a studio. This honor goes to Dick Olmstead and his studios, which were built in the 1950s in the Elizabeth Arden building at Fifth Avenue and 54th Street. At the time, this was probably the only studio complex where an interior decora-

tor had a large hand in designing the studio environment. The control rooms had couches and coffee tables, draped windows that overlooked Fifth Avenue, all the cabinetry and the consoles were custom-made, and even the ashtrays matched the decor.

The origin of A&R Recording, as Dan described it, is a little off the mark. The original room on 48th Street off Sixth Avenue was discovered by a violinist named David Sarser. David was noted for owning a Stradivarius violin and for designing the "Musician's Amplifier," a tube power amp of remarkable simplicity and capable of great sound. David's partner in the studio venture was the orchestra leader Skitch Henderson. Don Frey and I were both working at NBC-TV at the time and were friends of David's so we were called in to install the "equipment," consisting of a couple of Altec mixers, Ampex tape machines, a pair of power amps and two Altec 604s.

David and Skitch eventually lost interest in the studio, and David asked a fellow 26-year-old fiddle player named Phil Ramone if he would be interested in taking over the operation. At the time, between dates, Phil was doing some recording at JAC, which was nothing more than a small apartment on 58th Street. The tape machines were located in the entrance hallway, which opened into a small living room, which was the studio. Located off the living room was a bedroom and a highly lacquered bathroom, which served as an echo chamber. JAC was owned by Jack Arnold and Charlie Leighton, hence the "J" and "C."

David gave Phil a two-month grace period to come up with the money for the equipment and the lease, but Phil just didn't have that kind of money so he asked Jack Arnold to go into partnership with him. Their new studio on 48th Street

was named after Arnold and Ramone, or A&R. Shortly after their taking over the studio, Jack Arnold dropped out due to ill health, leaving Phil to make a go at it on his own. Phil hung on by his fingernails, going so far as to borrow money from musicians to buy a Telefunken disc cutting lathe in order to keep business in-house. Bill Schwartz soon joined the organization over from Coastal 40th Street, and business picked up immediately. Later, a fellow named Art Ward, who was business agent for the popular vocal group The Honeydramers, saw the potential of A&R and offered to invest some of the group's money in the operation. That solved their money problems and, as a bonus, Phil got himself a smart businessman as a partner.

Finally, Columbia 30th Street, which was undoubtedly one of the best recording studios in the world, went out of business because they couldn't record after midnight. When you do Broadway cast albums, you have to continue recording until the last song is in the can; there is no calling back the cast and orchestra next Sunday. So, if it meant staying until 5 o'clock in the morning, so be it. Unfortunately, the neighbors didn't see it that way.

And speaking of Columbia, shame on Dan for omitting Columbia's Liederkrantz Hall from the list of former great rooms. Liederkrantz was taken over by CBS-TV in the early '50s and converted into a television studio. Boo-o-o! Eventually, Liederkrantz was demolished for one more high-rise.

Fred Christie
Power Station, New York

GML and Master Recording Consoles

Recently, there were statements in this magazine causing rumors on the street that GML would be building master recording consoles. We

would like to be very clear what our position is on this.

In fact, GML is designing for manufacture a simple 8- or 12-input, 2- or 4-output, 19-inch rack-mountable console that will be a very clean and simple way for people to do "straight through" mixing or level adjusting to a recording device.

GML is *not* going to manufacture a master recording console.

We prefer to survive primarily in the engineering field and in the high-end automation/peripherals business where we have no competition.

We are 21 people (and a few others who do high-level consulting), and we're having a great deal of fun. We get wonderful feedback from our clients, and we hope that we respond better than we promise. If the number of clients with multiple units is any indication, we have earned your goodwill.

George Massenburg
GML, Inc.
Van Nuys, Calif.

Monitor Mix Originals Revealed!

I enjoyed reading the article on the "New York Recording Scene" in your October 1989 issue; it brought back memories, because I was there. I was the ABC broadcast engineer who designed and built the new studios for A&R Recording at 799 7th Avenue. I was chief engineer for A&R between Tom Hidley and Irv Joel, and before that I was a research engineer at Fine Recording under Bob (Red) Eberenz. The 2-channel Gates console had been modified to 3-channel, and Bob Fine was a pioneer in 3-channel stereo using a 3-channel Ampex as well as 3-channel film.

When I moved to A&R Recording, 4-channel was becoming popular, and Studio A-1 was built for 4-channel recording. Custom consoles were being built for recording studios then, both by studio staff and contractors such as Phil Erhorn, but we had no time for that. So I selected two Altec 250-SU consoles, as they were the progeny of a custom console I had designed along with Altec at ABC.

That same year, Scully brought out its first 8-track tape recorder,

A&R bought the first one immediately, and I converted Studio A-1 to 8-channel. Up to that point you hung one speaker for mono, two for stereo, three for 3-channel and four for 4-channel. I vowed that I was not going to hang eight speakers (some did), so I designed an 8-to-4 mixer to listen with four speakers. This was dubbed the "Jukebox," and was the first monitor mixer, now a part of every multi-track console.

As an added bonus, the mixers were able to monitor their existing tracks through this mixer while overdubbing, instead of bringing them through the console, which was the previous practice. After this I designed a custom console, including a monitor mix, which was built by Suburban Sound and used in the other new studio.

A second point: In your September 1989 article on "Mixing Console Insights," John Windt made several comments about measurement specifications. Although I agree with and respect John's design philosophy, and fully agree that specifications do not completely describe the performance of a console, I do not agree that manufacturer's specifications are done improperly. (Well, maybe other manufacturers!)

When making a signal-to-noise measurement, only the one fader feeding the signal should be set to the reference point, and only that channel should be assigned to the output being measured; all other faders being closed. To do otherwise would require an uncorrelated signal on each input for a total *signals to noises* measurement. If the noise and the signal summing goes up to 3 dB for each doubling of the number of inputs, then the signal-to-noise measurement would remain the same. This also agrees with the actual operation of the console; you do not raise all the faders when only laying down one track from one source.

William E. Windsor
Quad Eight Electronics, Inc.
San Fernando, Calif.

Correction: In March directory listings, the correct address for Grant Blair Productions should be 2748 Woodlore Trail. Our apologies.

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June 1990

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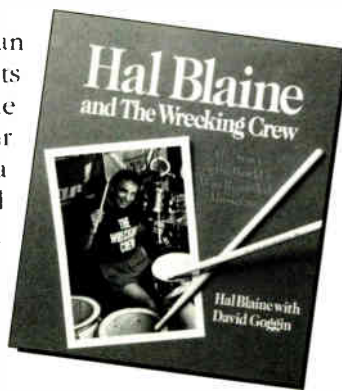
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— FROM PAGE 111

a good variac, and you have to get a meter, too. A lot of the sounds I get are based on overdriving the amp and driving it to its limits. Tubes don't last as long, but you get the sound, boy. *You get the sound.*

Bonzai: Do you have anything to say about Les Paul?

Lindley: I met him in New York and got to talk to him for a while and watched him play onstage. Seeing him do what he does—the stuff he does doesn't die. Les Paul is the proof of life after death. The ideas and the music he makes will always be there. It was quite a moment when I looked him in the eye and saw how he loved doing what he does. He's got an appetite. He chews on it. That's what I find common among some musicians—you can tell if they have that kind of madness. They eat it up. Anybody who's really serious—they're mad. A great kind of madness, and he really has it. Not only a great player and a great mind, but multitrack recording, that's Les Paul, right there.

Bonzai: Why are there no famous hard rock pygmy bands?

Lindley: Man, you are digging deep. Third World—hard to get amps and electric guitars. But some of the best bands come from Africa. The best players, the best music. Some of my favorites are Franco & Sam, Ladysmith Black Mambazo, King Sunny Adé. Pablo Porthos is one of my favorite guitar players.

Bonzai: Have you ever worked with Captain Beefheart?

Lindley: No, but it's weird that you should mention him. I use him as an example of doing what you really want to do, no matter what. His stuff was so advanced. You play *Trout Mask Replica* now for kids, and they think it was done *yesterday*, by somebody from *England*. Check that out!

Bonzai: Is there any guitarist that can bring a tear to your eye?

Lindley: Django Reinhardt. It's not bad tears—it's good tears.

Bonzai: I understand. I was listening to your music last night, and I got a few shivers.


Lindley: Good! [Evangelist] "That's what I *want* to do! I *need* that." ■

Soon after this interview, Mix editor-at-large Mr. Bonzai was seen shopping for a peach polyester leisure suit.

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