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THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Alan Parsons

**NAB Video
Supplement**

**Listings:
Video Production
and Post-Production**

**TEC Awards
Nominations
Ballot Enclosed**

**Video Monitors in
the Control Room**

Jay Graydon

Wireless Microphones

Al Kooper

Lucasfilm's SoundDroid

Compact

without Compromise



Studer 961/962: Small Wonder

It's a wonder how a console so small can do so much ... and sound so good!

The Swiss have a special talent for making great things small. A case in point: the new 961/962 Series mixers from Studer. In video editing suites, EFP vans, remote recording, and radio production, these compact Studers are setting higher standards for quality audio.

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without 3-band EQ, plus mono mic/line inputs and master module with compressor/limiter. Other choices include a variety of monitor, talk-back, auxiliary, and communication functions. The 961 frame holds up to 14 modules, the 962 accepts up to 20.

Other new features in the 961/962 Series include improved extruded guide faders, balanced insert points, FET switching, electronic muting, Littlite® socket, and multi-frequency oscillator.

Thanks to its light weight, DC converter option, and sturdy transport cover, you can put a 961/962 mixer on the job anywhere. And, with Studer ruggedness and reliability, you can be sure the job will get done when you get there.

Packed with performance and features, 961/962 consoles will surely

make a big splash in audio production circles. Small wonder. Call your nearest Studer representative for more details.



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DEPARTMENTS

- 5 CURRENT
- 6 INDUSTRY NOTES
- 8 SESSIONS/
STUDIO NEWS
- 56 PREVIEW
- 212 FEEDBACK
- 214 CLASSIFIEDS
- 218 AD INDEX

LISTINGS

VIDEO PRODUCTION & POST-PRODUCTION FACILITIES

- 128 NORTHEAST U.S.
- 146 SOUTHEAST U.S.
- 153 NORTH CENTRAL U.S.
- 164 SOUTHWEST U.S.
- 167 SOUTHERN
CALIFORNIA
- 177 NORTHWEST U.S.
- 185 CANADIAN

MUSIC

- 40 ARTIST STUDIO:
JAY GRAYDON
by Q. Bryce
- 46 LUNCHING WITH
BONZAI: AL KOOPER
by Mr. Bonzai
- 66 IN SYNC
by Bruce Nazarian
- 186 M.I. UPDATE
by Craig Anderton
- 190 MUSIC NOTES
 - David Lindley
 - Dream Academy
 - The Cruzados
 - Neil Geraldo
 - Peter Erskine
- 208 PLAYBACK:
TELEVISION'S
GREATEST HITS
by George Peterson

AUDIO

- 14 AUDIO
APPLICATIONS:
CRITERIA STUDIOS
by Ken Pohlmann
- 20 ALAN PARSONS
INTERVIEW
by Richard Elen
- 30 WIRELESS
MICROPHONES:
USERS SPEAK OUT
by George Petersen
- 44 STUDIOSCOPE:
STUDIO BUSINESS
PRIMER
by Tony Thomas
- 52 DETROIT'S STUDIO
CENTER
by Jan Loveland
- 54 PRODUCER'S DESK:
ANDY KULBERG
by Linda Jacobson
- 58 FIELD TESTS:
HILL MULTIMIX
by Kevin Davis
- AUDIX OM-1
by John Barsotti
- 62 SOUND ON STAGE:
THE PRAIRIE HOME
COMPANION
by Dan Daley

VIDEO

- 75 MIX VIDEO
SUPPLEMENT
 - Video News
 - Video Monitor Report
 - Sound Effects Systems
 - Len Perlman Interview
 - Music Video
Producer's Association
 - Hardware/Software
 - Audio Sweetening Tips
 - and more...

Cover: Edit Suite 3 at Pacific Video Recorders, San Francisco. The facility features total component Betacam editing and an automated audio sweetening system (Olari MX-70 16-track and 24-input Sound Workshop Series 34B console with ARMS II and Diskmix) by Sound Genesis. Photo: Chris Fesler
Photography Corner photo: Alan Parsons
Photo: David Gahr



This issue features our **Video Production Supplement**, with over a hundred pages devoted to listings of facilities catering to the video industry and articles on a wide spectrum of related topics, including video monitors, sweetening, the Music Video Producer's Association, satellite broadcasts, new products and much more. A separate contents page for this section can be found on page 75.

Sharing lunch with Mr. Bonzai this issue is the legendary Al Kooper—founder of Blood, Sweat & Tears, session player extraordinaire, and top-notch producer. Kooper regales Mr. B with colorful tales about his associations with Bob Dylan, The Blues Project and many others. You can practically smell the beaujolais wafting up from page 46.



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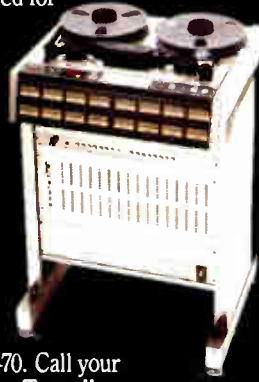
Whether you're recording original music scores, layering up sound effects, or synchronizing to video or film for audio-post sweetening, you need a tape recorder that's built especially for your new and exciting business. The MX-70 is the perfect multitrack for the synthesizer oriented studio tied together with MIDI.

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CURRENT

Lagadec Moves to Sony

Dr. Roger Lagadec has assumed the position of general manager, Technical Management, Communication Products Group for Sony Corporation in Tokyo. Lagadec, who for the past six years was product manager, Digital Audio, at Willi Studer AG, in Switzerland, will be responsible for "forming engineering strategy, developing industry relationships, standardization, and some direct research and development work concerning professional audio, video and related products." Dr. Lagadec will relocate to Japan in May, and will report directly to Mr. Shiro Koriyama, director, senior general manager, Communications Products Group.

International Music and Media Conference

Billboard magazine, in association with European Music Report (publisher of *Eurotipsheet*), will co-sponsor with the Golden Rose of Montreux, the first International Music and Media Conference, May 7 through 10 in Montreux, Switzerland. Covering topics relating to music and the media aimed at those programming, producing and distributing music, the conference will also include an international music video competition and a retrospective of important rock films. For more information, contact IMMC's North American representative John Nathan, 509 Madison Ave., Suite 1810, New York, NY 10022.

Space and Telecom Trade Symposium

The first Houston Space and Telecomm Trade Symposium will be held April 27 through 30 to provide a forum for the display and discussion of space and telecommunications business ideas and related technology. The conference will feature 65 speakers and moderators from ten states, 50 exhibitors from the space and telecommunications community, and an estimated 2,000 U.S. delegates. For further details, contact Jeff Roberts at (713) 777-0266.

Who Reads *Mix* Magazine?

Those of you who go back a ways with *Mix* may remember a tabloid printed on newsprint, that found its way to recording studios and audio dealers around the country—usually in bundles of ten to 40 magazines. Those days have been gone for nearly six years, and nowadays *Mix* goes only to individual subscribers (plus selected newsstands), and as many of those subscribers as possible are "qualified" as to job title and business or industry.

"Qualifying" our readers has been a long and expensive task, but it's one we feel had to be undertaken so that *Mix* remains the kind of magazine you want it to be—a magazine whose editorial content is useful, understandable and relevant to the professional needs of its readers. The identifying of readers is also essential to those who advertise their products or services in *Mix*, in order to ensure a true "meeting of the minds" between provider and user.

As a result of the efforts of our

circulation department, on January 31 of this year, *Mix* magazine became the first professional recording magazine to obtain a BPA circulation audit. Business Publications Audit of Circulation (BPA) is an independent, not-for-profit organization that audits paid and controlled circulation for more than 1,100 business, industrial, professional, technical and specific market publications. BPA's auditing procedures are designed to verify those publications' circulation, according to subscriber name, job title and business or industry. BPA conducts its circulation audits on an annual basis, and our membership in BPA is our guarantee to you, our readers and advertisers, that our circulation is what we state it to be.

Mix is pleased and proud to be able to offer this new service and is happy to provide copies of the initial audit, available by writing to our offices, or by requesting the report from BPA, 360 Park Avenue South, New York, NY 10010.

NAMM Offers Scholarships

The board of directors of the National Association of Music Merchants has approved a scholarship fund of \$20,000 for school year 1986-87. Scholarships of \$1,000 each will be granted to deserving students pursu-

ing careers in the music products industry. All colleges and universities interested in participating in the NAMM scholarship program must submit their Business of Music curricula to the NAMM Education Committee, attention: Nelson Varon, 5140 Avenida Encinas, Carlsbad, CA 92008.

NAB Comes to Dallas

"Tuning in America" is the theme for the 64th annual convention of the National Association of Broadcasters, to be held April 12 through 16, 1986 at the Dallas Convention Center. A wide array of events and technical sessions have been planned. A few of the 100-plus topics slated at press time include: AM Stereo, Radio Station Maintenance, Radio Production, Television Multi-channel Sound, Television System Maintenance, Advanced Television,

Television Satellite Systems, and the always-popular FCC Engineers Forum, offering a Q&A session on problems, regulations and new rulings.

Of course, NAB 1986 also offers attendees a dazzling equipment exhibition with (literally) acres of booths showing the latest in new technology from scores of manufacturers. Other highlights include appearances by celebrities Stan Freberg and Willie Nelson. For more information, call NAB at (202) 293-3570.

INDUSTRY NOTES

Olamon Industries, a joint venture of audio cassette manufacturer **SHAPE, Inc.** and the **Penobscot Indian Nation of Maine**, has opened a cassette manufacturing operation on Indian Island, Maine. Olamon will lease the building to **SHAPE** and pay **SHAPE** a management fee to run the 30 million cassette-per-year operation. (Olamon means "red ochre," a red iron oxide clay that the Penobscots used for medicinal, ceremonial and ornamental purposes). . . . **Dolby Laboratories** has relocated its corporate headquarters to a 70,000 square foot office and manufacturing facility at 100 Potrero Ave., San Francisco, CA 94103. . . . **3M** has named **Allen F. Jacobson** to succeed **Lewis W. Lehr** as chairman and chief executive officer. . . . **The Society of Motion Picture and Television Engineers (SMPTE)** has moved its administrative headquarters from Scarsdale to 595 West Hartsdale Ave., White Plains, New York 10607. . . . **Robert Bosch GmbH** and **N.V. Philips Gloeilampenfabrieken** have announced their intent to form a joint venture company, **Euro Television Systems GmbH (ETS)**, to market professional television studio broadcast worldwide. . . . The fifth **Electronic Keyboard and Sound Expo**, produced by the **Sam Ash Music Stores**, has been scheduled for April 19 and 20, 1986 at the **Center for Media Arts**, 226 W. 26th St., New York City. . . . At **dbx/ADC**, **Richard Frank** has been promoted to director of marketing, and **David Moran** has been

upped to communications manager. . . . **Cetec Gauss** has announced the appointments of **Dimension IX Corp.** in Texas, Washington's **Gemini Electronics Marketing** and **Shalco** of Michigan to their list of manufacturer's reps. . . . **David Bowman** has filled the newly created position of director of professional dealer products at **Studer Revox America, Inc.** . . . **Karen Schweikher** has been appointed marketing communications manager at **Ampex Corporation's Magnetic Tape Division**. . . . **Craig C. Darian** has been moved from executive vice president to president of **Glen Glenn Sound**, after serving for three years as vice president of sales for **Ryder Sound Services**. . . . **Michael J. Feniello** has been promoted to manager of marketing administration at **Sony's Professional Audio Division**. . . . **Jennifer Boyer** has been appointed midwest marketing representative at the new Kansas City office of **John Crowe Productions**. . . . **Mark C. Gray** has been named assistant general manager of **Ampex Corporation's Audio-Video Systems Division**. . . . **Brian Kelly** has been appointed sales engineer for the northern region at **ElectroSound**. . . . **Genie Bizaoui** has been appointed account representative at **Grace & Wild Studios** in Farmington Hills, MI. . . . **Jack Brahm's Advertising**, in Owings Mills, MD, has formed a new company called **Nighthawk Studios** to produce commercials, music videos and other audio/video projects. . . . **Paragon Sound Productions** is publishing a free classified newspaper, called **Music Access**, for the North-

ern California music community. Call (415) 878-1476 for details. . . . At **Agfa-Gevaert, Inc.** **Marie A. Curry** has been named vice president and general manager of the magnetic tape division and **Hans G. Kuhlmann** has been promoted to vice president of Agfa's Consumer and Professional division, **Robin H. Wendell** has moved to human resources vice president, and **Joseph C. Verbraeken** has become senior vice president of finance and administration. . . . **Syn-Aud-Con** will be offering a Studio Designers Workshop at **Tele-Image Studios** in Dallas, TX, May 7 through 9, with **Russell E. Berger**, **Peter D'Antonio** and **Doug Jones** presiding. For more information, call (714) 728-0248. . . . **Joseph W.G. Brooks** has been appointed national sales manager for **Reeves Corporate Services**, in New York City. . . . **Shawn Pitzel** has joined the professional product sales team at **Sales & Rental**, of Sudbury, Ontario. . . . **Sam Flores, Jr.** has become artist relations manager at **Pearl International, Inc.** . . . **DeLancey Smith** has been promoted to vice president and general manager of **Innervation Productions, Inc.**, a subsidiary of **Anheuser-Busch Companies, Inc.** . . . **Dimension Point IX Marketing** has become **Paso Sound Products'** manufacturers rep in the south central U.S. . . . **Karen Gleason** has been named president of the **Finishing House**, a video post-production facility headquartered in Troy, MI. . . . In a move to reflect its increasing diversity, the **Nashville Music Association** has changed its name to the **Nashville Entertainment Association**. . . .

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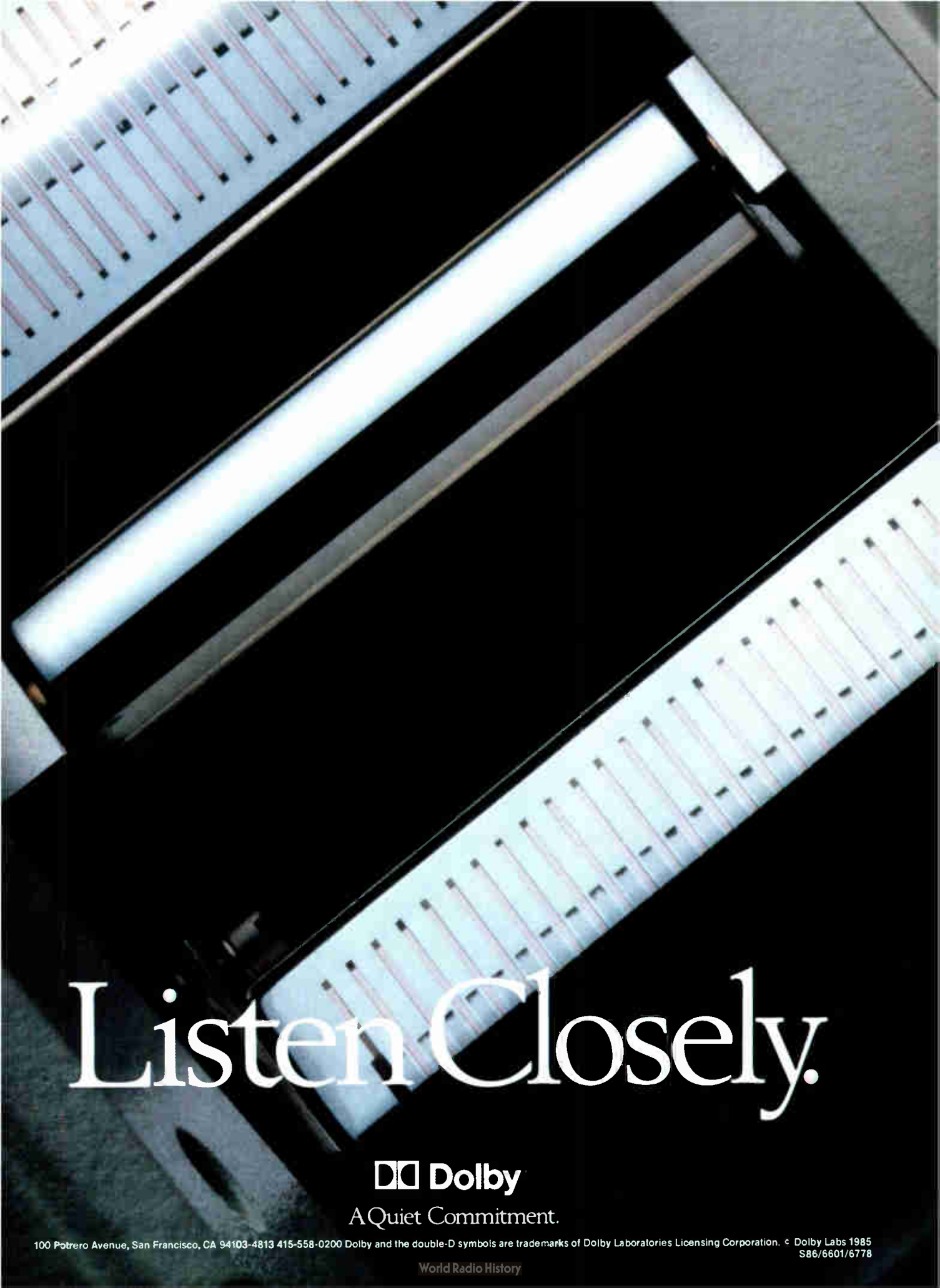
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World Radio History

SESSIONS

NORTHEAST

At *D&D Recording*, NYC, *The Blow Monkeys* did some overdubs for their upcoming release for RCA Records. *Michael Baker* produced and *Axel Kroll* created the drum sounds with the E-mu SP-12 and some keyboard sweetening. *Douglas Grama* engineered and *Mike Tzavelis* assisted. . . Singer/songwriter *Nicole Kelly* recorded at *Inner Ear* in Queens using the Inner Ear Production team for two of her new songs. *Danny Gibbons* played the Steinway grand and Yamaha DX7 synthesizer. *Steve Vavagiakis* handled drum machine programming and engineering. . . *Omega Recording Studios'* new 12,000 square foot three-studio complex in suburban Washington D.C. is now fully operational. Omega's facility has already played host to Stevie Wonder, who recorded the original music for his Martin Luther King Tribute at the Kennedy Center (NBC). *Don Worsham* and *Bill Brady* handled the engineering for Stevie and the 50-piece orchestra, with Gil Askey conducting. . . At *Sigma Sound* in Philadelphia, *The Manhattans* were in to record, produced by *Ron Tyson* of the Temptations, along with *Vic Carstarphen*. *Gene Leone* was the engineer, assisted by *Adam Silverman*. Also, *Grover Washington Jr.* was in to cut original music for the play *Split Second*. The engineer was *Peter Humphreys* with *Randy Abrams* as his assistant. . . *Don Van Gorden* of Englishtown, NJ's *D & G Mastering* was in at *Executive Recording* mastering the new *Kitt Moran* live album, with *Mike Moran* producing for Wildcat Records. . . At *Quad Recording* in NYC, *The Low Boys* were in mixing their new 12-inch called "Be Still." Edits were done by those wonder boys with the blade, the Latin Rascals, *Tony Moran* and *Albert Cabrera*. *Bruce Miller* engineered. . . Singer/songwriter *Dave McIntosh* and former Lynyrd Skynyrd guitarist *Ed King* have been mixing their album at *Azimuth Studio*, Malaga, NJ. Tentatively titled *Living Water*, the album is the largest of several contemporary Christian projects engineered by studio owner *Jim Langley* since he opened the facility in September, 1984. . . *Bill Cosby* did some work at *Broccoli Rabe* in Fairfield, NJ. He recently completed an album for his hit TV show entitled *House Full of Love* for CBS Records that was produced by long time friend *Stu Gardner* and jazz great *Grover Washington Jr.* . . *Trutone Records* in Haworth, NJ, has mastered and manufactured the Cote Blanche Records soundtrack album *Belizaire the Cajun*, an upcoming feature film starring Armande Assante and direct-

ed/produced by Glenn Petrie. The album features the work of *Michael Doucet* and *Beausoleil*. Mastering engineer was *Phil Austin*. . . *Patrick Adams* was in *Power Play Studios* (L.I.C., NY) producing *Lorelei McBroom*. Stopping by to play on the session were Nile Rodgers and Hiram Bullock on guitars, Anthony Jackson on bass, Steve Ferrone (Average White Band) on drums, and Patrick on keys. *Julian Herzfeld* engineered, *Matt Buccheri* and *Mike Kruzynski* assisted. . . *The System's David Frank* and *Mic Murphy*, who's hit single "Rock and Roll Me Again" appeared on the *Beverly Hills Cop* soundtrack, are producing *Paulie Carman* of Champagne for CBS records. They are currently recording at *Intergalactic Music* in NYC with *Jorge Esteban* engineering. . . At *Greene Street Recording*, *Chaka Khan* has been working on her new album; *Arif Mardin* is producing with *Rod Hui* engineering and *Steve Carthy* assisting. . . At *RPM Sound Studios* in New York City, *The Washington Squares* were recording their first album for Gold Mountain Records. Producing The Squares was *Mike Thorne*, with *Dom Maita* engineering and *Mike Krowiak* assisting. . .

SOUTHERN CAL

Warner's artist *Prince* has been working at *Sunset Sound* in Hollywood on the soundtrack for his new movie, *Under the Cherry Moon* with *Coke Johnson* engineering. Also guitarist *Ry Cooder* was in producing the

soundtrack for the movie *Blue City* with *Mark Ettle* engineering and *David Glover* assisting. . . At *Sound Image Studio*, North Hollywood, CA, singer/songwriter *Brent Maglia* was in working on his current project for Skywriter Productions with *Steve Brown* at the board. . . At *The Complex* in L.A., production began with *David Sanborn* overdubbing his new Warner Bros. album in Studio B. *Don Grolnick* arranged and produced, *George Massenburg* engineered and *Sharon Rice* assisted. Then Studio B hosted *Linda Ronstadt*, with continued orchestration for her latest big band album. Nick Perito conducted the Nelson Riddle arrangements. *Peter Asher* produced the project, sound design was by George Massenburg, and Sharon Rice assisted. . . At *Group IV Recording*, producer *Eric Miller* mixed with engineer *Angel Balestier* assisted by *Scott Weber*, on the soon to be released albums on the *Count Basie Septet*, *Oscar Peterson Four* with *Joe Pass* and *Ella Fitzgerald* with *Roy Eldridge & Zoot Sims*. . . At *One on One* in North Hollywood, *Jane Wiedlin* cut a few tracks with *Vince Ely* producing, *Paul Lani* engineering and *Jeff Bennett* assisting. Also, *The Cruzados* were in recording an LP for Arista with *Rodney Mills* producing and engineering, along with Jeff Bennett assisting. . . *Sound City* in Van Nuys hosted *Air Supply*, with veteran producer *Bernard Edwards* and engineer *Josh Abby* while *Bruce Barris* assisted. And Gelfen Records' *Lone Justice* worked on their second album, with *Jimmy Iovine* producing, and *Don Smith* and *Shelly Yakus* sharing engineering responsibilities. *Rick Palakow* as-



Metal heavyweights Judas Priest inaugurated sessions at the new multi-million dollar L.A. Record Plant complex in Hollywood. The debut session was a mixdown for the Columbia album, Turbo. Pictured (front to back) in Studio 2 are producer Tom Allom, engineers Bill Dooley and Paul Wertheimer, with band members Glenn Tipton and K.K. Downing.



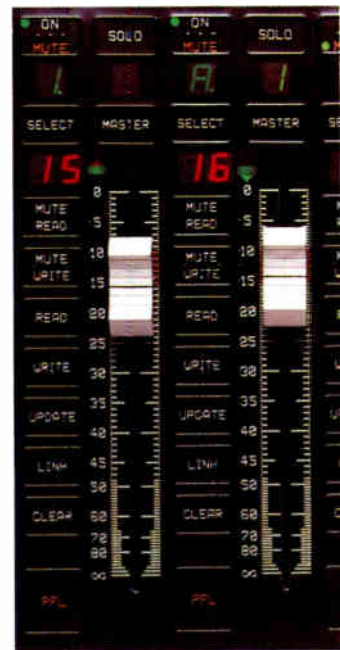
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sisted... *Danny Peck* has been in the *Producers Workshop* in L.A. cutting tracks with *Jim Scott*. . . *Wildcat Studios* in L.A. had *John Massari* in completing a sound score for the *Ray Bradbury Theatre* television series, with *Mark Coffin* engineering. Also, *Jack Mack & The Heart Attack* have been tracking material which will be used to promote the group this year. *John Ross* engineered. . . *Richie Zito* has been in *Encore Studios* in Burbank producing Polygram's *Animotion*, with *Dave Leonard* and *Jim Dineen III* engineering the project. Other projects recently completed at Encore include MCA artist *Janice McClane* (*Dana Myers/William Zimmerman* producing; *Jack Rubin/Jim Dineen III* engineering) and *Michael Henderson* producing; *Taavi Mote/Jim Dineen III* engineering). . . *Dynasty* were in at *Galaxy Sound Studios* in Hollywood collaborating with *The Deele* on a song for their latest album project. *William Shelby* and *Kevin Spencer* produced. Engineer was *Jon Gass*. . . *MixMasters*, San Diego, put finishing touches on the MCA debut album for *David Andrews*. Also, *Randy Williams*, lead vocalist for *The Rude*, put down tracks for an upcoming album release. Both projects were engineered by *Terry Cox*, assisted by *Whitney Broussard*, and produced by *Richard Ivar*. . . *Master Control* in Burbank had *Eddie Rabbitt* in recording his upcoming LP for RCA. *Richard Landis* produced with *Ed Thacker* engineering. . . At *Clover Recorders*, the Christian heavy metal band *Stryper* mixed songs for a new album with *Jim Faraci* behind the board and *Squeak Stone* assisting. . .

NORTHWEST

At *Russian Hill Recording* in San Francisco, *Thomas Dolby* did work on the score for *George Lucas'* new feature film, *Howard the Duck*; and the contracts are in for all the audio post-production work for *David Byrne's* new feature *True Stories* (Edward Pressman Films, Los Angeles). To start work at RHR this spring, the production team will include Russian Hill's *Jack Leahy* and noted sound designer *Leslie Shatz* (*Dune, Apocalypse Now, Mishima*). . . *Different Fur* in San Francisco recently hosted *The Looters* who added vocals to their most recent project with *Ken Kessie* engineering and *Mark Slagle* assisting. . . *New Breed* took some time off from their touring schedule with REM, and started work on their LP at *Prairie Sun Recording* in Cotati, CA, with *Allen Sudduth* co-producing and engineering the sessions. Vince Welnick (The Tubes) contributed to the keyboard tracks on one song. . . At *Montage Recording Company*, Newark, CA, *Billy J. Walsh* was in doing overdubs with *Elliot Mazer* producing, *David Hartzheim* engineering and Sneaky Pete Kleinow laying down pedal steel tracks. . . The *Good Ole Persons* began work on their new country album produced by *Tom Diamont* for Kaleidoscope Records at *Dave*

Wellhausen Studios in San Francisco. . . *Starlight Studios'* chief engineer *Bill Thompson* has been leading the glamorous life, working at the Richmond, CA, facility with *Sheila E.*, as well as local success story *Radiance*. . . *Translator* finished tracking its fourth CBS album at *Studio D* in Sausalito with *Ed Stasium* producing and engineering; and *Van Morrison* completed basic tracks for a new project with *Jim Stern* at the controls. . .

NORTH CENTRAL

At *Studio A*, Dearborn Heights, MI, *Jeff Stanton*, formerly with Quest Records' R&B group, *Dreamboy*, self-produced tracks with *Eric Morgeson* at the board, *John Avedisian* assisting. . . *Sound Summit Studio* in Lake Geneva, WI, has been playing host to the group, *Pretty Boy*. The band's project is being engineered by *Phil Bonanno* with *Jim Bartz* assisting. *Pretty Boy* and *Bonanno* are producing. . . *Digital Sex* has released its debut LP, *Essence*, which was recorded and mixed at *Rainbow Recording Studios* in Omaha, NE. . . *Modern Day Saints*, rock and rollers from Carbondale, IL, mixed their six-song LP at Chicago's *Paragon Recording Studios*. *George Warner* produced the project, with *Bob Kearney* engineering. . . At *The Disc Ltd.* in East Detroit, MI, southern California recording artists *Blake Kolton* and *Chris Baker* recorded their first joint effort as *The Unband*. It was produced by *Robert Dennis* who was also behind the board with *Chris Baker*. . . *Jon Smeltz* finished cutting tracks for a video for *Oswald and the Herringbones* at *The Recording Workshop* in Chillicothe, OH. . . At *Suma Recording Studio*, *David Thomas* has been working on his fourth solo LP since the split of *Pere Ubu*, titled *Monster Walks the Winter Lake*, produced by *Thomas*. . . At *Seagrape Studios* in Chicago, West Coast-based producer *Kim Fowley* and Chicago's *Tom Orsi* completed final mixes of *Orsi's* debut album. *Kim* and *Tom* have also joined forces to produce *Mickey "Mix'n'" Oliver's* latest single. *Mike Konopka* engineered both dates. . .

SOUTHEAST

At *Soundshine Productions* in Ft. Lauderdale, *Frank Cornelius* recorded a rap tune called "Let's Get Started," and *Paul Napolitano* produced a disco effects rap record called "Professor Funk". . . *Pace Recording* has been busy doing pre-production for the *Neville Brothers*. The New Orleans-based funk group is working out new material for their fourth LP, to be released in late spring. . . *Restless Heart* (RCA) did overdubs for their upcoming album at *Omnisound* in Nashville, with producers *Tim Dubois* and *Scott Hendricks*. *Hendricks* engineered with *Bill Whittington* assisting. . . At *The Castle Recording Studio*, Franklin, TN, producer *Tony*

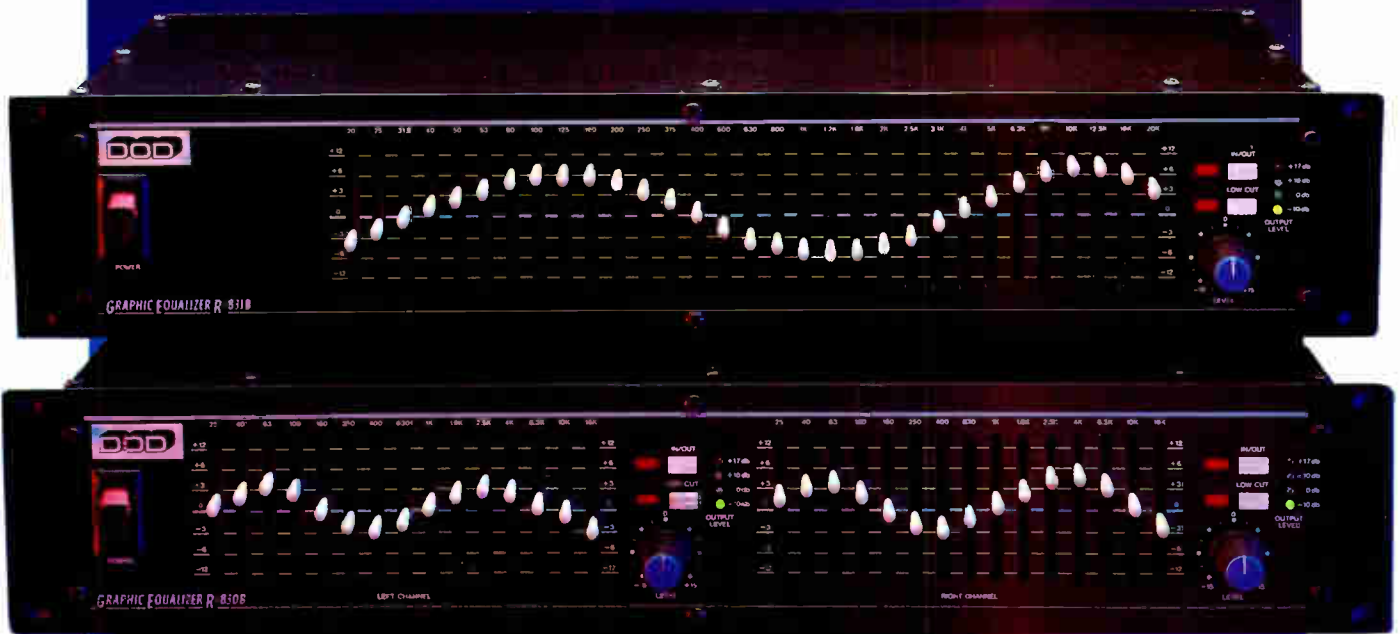
Brown finished overdubs and mixes for *Niclette Larson's* new MCA LP with *Steve Tilsch* at the board and *Keith Odle* assisting. Also, *Carl Wilson* of *The Beach Boys* and *Robert White Johnson* have been working on new material with engineer/programmer *Giles Reaves*. . . Elektra Records' group *Guadalcanal Diary* has been recording their first album for the label at Atlanta's *Studio One* with *Rodney Mills* producing. . . At *Cheshire Sound Studios* in Atlanta, *Charlie Singleton* laid tracks for his upcoming album for *Arista Records*, with *Charlie* producing, *Lewis Padgett* engineering, assisted by *Alex Ayers*. . . *Memphis Sound Productions* pre-recorded the soundtrack for Theatre Memphis musical, *Baby*, marking the first time the theater company has pre-recorded an entire musical score rather than using live musicians. The project was engineered by *Tim Goodwin*, *John Fleskes* and *Dan Hall*. . . *Powell/Parrish Productions*, Nashville's newest music production house, completed a national spot for *Cooper Tools*. . . Producer *Harold Shedd* edited tracks on *Alabama* for RCA with *Jim Cotton* and *Joe Scaife* engineering and *Paul Goldberg* and *George Clinton* assisting. . . Veteran producer *Scott Tutt* cut tracks at Nashville's *1030 Studios* for newly formed Reptile Records. *Tutt*, with engineer *Jon D'Amelio*, is doing album projects on *Jerry Dale McFadden* and *Susan Marshall*. . . *Barbara Mandrell* cut tracks recently at *Eleven Eleven Sound Studio* in Nashville with producer *Tom Collins*. *Harold Lee* and *Billy Sherrill* engineered. . . At *Flamingo Studios* in Tallahassee, *Persian Gulf* finished their second album with *Jonathan Prescott* engineering and producing. . . Recent happenings at *Cotton Row Recording* in Memphis includes *Nikos Lyras* producing and engineering projects for *Eddie & Dimetrius Thomas* and *The Syndicate* (a group comprised of top local session players). *The Attic*, Cotton Row's new 16-track room (with Auditronics 501 console, Fostex multi-track and Westlake monitors) is now available for bookings. . .

SOUTHWEST

Word Records producer *Neil Joseph* was in *Goodnight Dallas* cutting overdub vocal tracks with vocalist *Dallas Holmes* on an album featuring various Word Record artists. *Ruben Ayala* engineered the session. . . *Johnny Nash*, who had such hits as "I Can See Clearly Now" and "Stir It Up," finished production on his forthcoming album, *Here Again* at *Studio Southwest/Dallas*. Work on the LP began four years ago at *Trident Studios* in London, then continued in Los Angeles and Houston before the last stop at *Studio Southwest* to record vocals, overdubs and the final mix of the album. *Jon Early-Ligon* engineered; *Alvin Davies* produced. . . *January Sound Studios* of Dallas completed album projects with legendary jazzers *Ellis Marsalis* and *Eddie Harris*, and has

—PAGE 185

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AUDIO-APPLICATIONS



The John Storyk-designed downstairs East Wing studio at Criteria boasts a 40,000 cubic foot recording room with 27-foot ceilings. Motorized wall panels can be remotely adjusted to vary acoustics.

CRITERIA

AT · THIRTY

by Ken Pohlmann

The big Three-Oh is an uneasy achievement for anybody; after that many years, the novelty of birthdays has worn thin, and the realities of age begin to take hold. In the case of recording studios however, where many 60-month loans terminate prematurely

in Chapter 11, 30 years is a remarkable milestone. On the recent occasion of Criteria Recording Studio's 30th anniversary party, I traveled to North Miami to re-acquaint myself with the facility and its principals, Mack Emerman and Joel Levy, and search for its secret of longevity.

Criteria's history is permanently documented on millions of records and tapes, thanks to the 140+ gold and countless lesser albums recorded there. Much of its success can be attributed to courageous and timely facility expansions in terms of recording space, new audio markets, and technology. Throughout its evolution, an emphasis on quality of design and construction of its facilities has been instrumental in promoting a reputation for reliable performance.

It all started with Mack Emerman's garage and remote recordings of jazz musicians; his 1955 recording of pianist Herbie Brock for Savoy Records led to regular bookings, and plans for a studio. Land for the present site was purchased in 1957, and a 30 x 60 foot building was opened in 1958. The first major addition was built in 1967 when hopes for a local film industry were running high; two soundstages and a back lot were built in the neighborhood, and Criteria responded with a 46 x 67 foot studio with a 22-foot high ceiling.

By 1971, the business had changed to rock and roll and a new studio was needed with high pressure levels and private entrances; a 25 x 32 foot studio was added. Business boomed in 1977 with albums by the Eagles and the Bee Gees; a fourth room, 14 x 22 foot, was added. Simultaneously, plans were underway for Criteria West in Los Angeles. John Storyk was commissioned to design three studios with identical control rooms and cutting room. Then the recording business and interest rates changed dramatically, and in opposite directions. The Los Angeles project was abandoned, but the blueprints were rescued. A million dollars later, the new East Wing was added to Criteria. It added a fifth studio of 50 x 50 feet, with 27-foot ceilings, and an upstairs cutting room identical to the downstairs control room.

Today, at age 30, Criteria is a diversified facility occupying 25,000 square feet, with a total of five studios, six control rooms, and cutting room. Of the original four control rooms, three are presently active. The studio originally aimed at the film industry, Studio A, serves as a soundstage, and recording studio. The studio is large enough to seat a full symphony for film scoring. For shooting, one wall is a 90-foot hard cyclorama. Movable inner walls allow

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World Radio History

The two identically-equipped East Wing control rooms utilize a modified live end/dead end design, custom Ed Long monitors, and Solid State Logic SL 6000E 48x32 consoles.

for adjustments in acoustics. The 14 x 17 foot control room contains an MCI JH532 console. Overhead, a projection room overlooking the studio contains 35 and 16 millimeter projectors and dubbers. The rock and roll studios, now named Studios C and D, have control rooms of 15 x 16 and 14 x 19 feet respectively, and are designed with modified LEDE acoustics; MCI JH532 consoles are used. Studio B is slated for renovation, with film and video applications specifically in mind.

The newest addition, the East Wing, has undergone considerable modifications in the past year. New acoustical modifiers have been added to the studio. The upstairs cutting room has been relocated to an adjacent room, and the old room has been reconfigured as a mixdown control room. Solid State Logic SL6000E consoles have been installed in both downstairs and upstairs rooms, patchable to a Mitsubishi X-800 digital 32-channel multi-track and X-80 2-channel recorders.

The architectural and acoustical design of the East Wing studios deserve special mention. The studio is irregularly shaped and houses two isolation booths, and drum platform; there is a live area with high ceiling and parquet floor, and a dead carpeted area with low overhead soffits. The studio has an interior floor area of approximately 2,000 square feet and room volume of over 40,000 cubic feet. The



ceiling rises to 27 feet, then stairsteps down in nine steps to an 8-foot height. Three angled sections of cypress provide reflection and some scattering, three more sections are of fabric stretched over wide openings that lead to a large bass trap inside the ceiling. This volume is hung with baffles of varying sizes. Three more ceiling sections consist of stretched fabric faced by parallel wood strips laid over open frames. In addition to slot absorption, the varied face angles of the wood strips provide diffusion. The low soffits around the perimeter of the studio provide additional enclosed volume for bass traps. Their ceilings are made of stretched fabric opening into extensive traps.

In addition to existing splays and

resonators, acoustical wings have been installed on the walls; they are motorized and can be remotely adjusted with respect to vertical angle to change reverberation and diffusion. The 14 x 5 foot wooden constructions are mounted at 12- and 18-foot heights, and have PZM microphones mounted on 7-foot centers.

Upstairs and downstairs control rooms are identical; they are nine-sided, bilaterally symmetrical rooms of 8,000 cubic feet; modified LEDE acoustics are utilized. The downstairs control room window is 125 square feet of glass looking into the studio; the upstairs control room uses glass only in the interests of compatible acoustics. In both rooms, the acoustic ceiling uses an expansion design which slopes upward to a point over the console, then contours downward to the rear wall with angled cylindrical baffles alternating between wood and fabric. Almost 1,500 cubic feet over the acoustical ceiling is devoted to bass trapping. The side walls are treated with fabric and acoustic foam. The rear wall contains alcoves for audio racks, as well as a large hardwood diffuser.

The same kind of careful consideration that achieved acoustical excellence in the East Wing is also evident in the design of its equipment. The monitoring system was custom designed by Ed Long according to the



Criteria's disk mastering suite also features a modified live end/dead end design. Equipment includes a Cybersonics console and Scully LS-76 lathe. Playback formats can be either analog or Mitsubishi digital.

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The upstairs control room is designed primarily for mixdowns and synthesizer recording. It is adjacent to matched reverberation chambers housed in a concrete block room struc-

turally independent from the rest of the building. Plastered wood walls are built on floated concrete floors.

The cutting room has been moved next door. It too is designed along Criteria's own modified LEDE lines, and is equipped with a Cybersonics console, Scully LS-76 lathe, Ortofon 741 cutting amps, and 731 and 732 cutting heads.

Although audio-only recording remains the staple of Criteria's client list, video projects are increasingly important. One example is the music video postcard sessions completed there; it was the first completely digital recording for release solely on VHS and Beta Hi-fi formats. Using a Mitsubishi digital multi-track recorder and Calrec

Soundfield microphone and encoding equipment, an original score and soundtrack were recorded at Criteria. At Editel-Chicago, a Montage processor was used to visual edit and sync to the digital audio. A final digital mix was done at Criteria on a Mitsubishi X-80, then dubbed onto video Hi-fi at CBS-Fox; the use of Hi-fi video formats sustained the digital master's large dynamic range and low noise floor to the consumer's television. The project exemplified the consumer's interest in higher quality audio, and the fact that the only major studios are equipped to supply it. Future video postcard projects are in the works.

There is no single ingredient in Criteria's success, and no guarantees for the future. As Mack Emerman put it, "You always have the fear that the phones will stop ringing, but that's the studio business." However, Criteria is probably as good a textbook example as any studio. The construction of new studios, adaptation of new acoustical designs, use of digital recorders, and expansion to audio for video and film facilities, are all elements for success and longevity. Any recording studio that had failed to evolve in any of those respects would have little chance in competing in the rugged recording market. Moreover, any studio that diversified at the expense of established skills would never prosper. Adaptation, while capitalizing on existing excellence, is the only workable algorithm.

In addition, Criteria has never been lulled with its status as a "world-class studio;" its principals have recognized that as a dangerous misnomer because most studios must ultimately rely on local and regional clients for steady bookings. Thus Criteria has always evenly cultivated both international and local markets with corresponding and appropriate rate structures. Along similar lines, special deals for young bands, cut rates during slack seasons, and other incentives are a business fact of life.

In more intangible terms, a recording studio prospers only in relation to its own generated spirit. Music is very much an emotional pursuit, and it is desirable to create it in a place where the pursuit is facilitated. Favorite studios come and go, in and out of favor, but only a handful of them remain in the forefront of musician's and the recording community's estimation of prestige. The prerequisite moderating force is certainly in evidence at Criteria. Spirit, enthusiasm, attitude, atmosphere, and frame of mind are all imprecise adjectives describing the staff's presence among the machines. When that's in good supply, and the product's quality is a foregone conclusion, the phones keep ringing. ■

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World Radio History



PHOTO: DAVID GAHR

Alan Parsons and Eric Woolfson

THE Alan Parsons Project

by Richard Elen

Stereotomy, the latest album from the Alan Parsons Project, is the group's most technically sophisticated record yet. It involved both digital recording—two Sony 3324 24-track machines synched together—and mixing techniques, as well as the British-developed Ambisonic surround-sound system.

The LP is the seventh in a long line of successes under Parsons' name. But this producer/engineer has a distinguished history. It started when he left school and went to EMI to do video camera research. He found it wasn't to his taste, so he moved on to tape duplication. Almost at once, he heard The Beatles' *Revolver* album, and it rekindled his interest in music which had lain dormant since he'd learned piano, flute and guitar as a child. Within 18 months—October 1967—he had joined the staff at London's Abbey Road Studios.

Parsons had a long association with the studio, during which he worked

A HI-TECH TALE OF MEN AND MACHINES

The Alan Parsons Project's new album, *Stereotomy*



his way up the ranks. From a short spell in the tape library, he graduated to second engineer status. He worked with Geoff Emerick as a tape-operator on The Beatles' *Abbey Road* album, and went on to work with Pink Floyd on their ambitious *Atom Heart Mother* LP. Then he was involved in the mixing of *Dark Side of the Moon*, which earned him a Grammy nomination. He also worked with ex-members of The Beatles on solo projects, notably Paul McCartney's *Wildlife* and *Red Rose Speedway*. He also recorded Cockney Rebel's second album, and Pilot's first two LPs.

Then, in 1974, Parsons met Eric Woolfson, who became his manager and later his songwriting partner, and the Alan Parsons Project was born. Meanwhile, he worked with Al Stewart and with John Miles. The latter's vocals appear, with other singers, on the latest release.

All the Project albums have had a "concept" of some sort behind them—sometimes overt, other times so subtle that it's open to interpretation. First

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World Radio History

came *Tales of Mystery and Imagination* in 1975, with an Edgar Allan Poe theme. This was followed by a change of labels to Arista, and the release of *I, Robot*. There followed *Pyramid* in 1978; *Eve* in 1979; and *Turn of a Friendly Card* in October 1980.

For the 1981 release, *Eye in the Sky*, Parsons and Woolfson decided to mix the album digitally, an approach that continues to the present. *Ammonia Avenue*, which Parsons describes as "the least conceptual Project album," came out in 1984 (a "Best Of" album having been released the previous year), leading up to "Vulture Culture," which emerged in February last year.

Almost every album has yielded at least one hit single, often more. Yet despite massive sales in Continental Europe and the United States, the Project remains relatively unknown at home in Britain. With the new album completed and in the stores after nearly a year of work, Parsons is hardly resting on his laurels. Rather, he is already working on the next offering.

This interview looks into the recording of *Stereotomy*, but also covers more—from the philosophy behind the albums (and the Project in general) to Parsons' views on production and the modern recording scene. When I tracked Alan down to his rambling

tracks for the next album will probably be done that way. I don't like it, but it seems to be the way that the musicians want to work. I'm really surprised, because you would expect them to say, "No, I want to play with the band," but instead they're happy to put things down one at a time.

I find it difficult to make a judgement about something unless it's in a "performed" format. It's rather hard to decide on the order of verses and choruses, and so on, simply on the basis of a bass line. Even if we record the tracks that way, we will no doubt have worked out the routine with them all playing. That's very much what the Projects are all about—taking Eric's ideas, expanding them, turning them into something. Eric will usually only come in with a sketch of an idea, and we'll go from there. He may not even have a tune in his mind.

Mix: Who's the personnel on the album?

AP: Bass—David Paton; drums and percussion—Stuart Elliott; guitars—Ian Bairnson; synths and sax—Richard Cottle; and pianos—Eric Woolfson. The vocals on the album are by John Miles, Chris Rainbow, Gary Brooker of Procol Harum, Graham and Steve Dye and Eric.

technology. The hook of the title song is "Stereotomy/We can make it together." Mind you, I'm an observer when it comes to concepts. I like to pass the buck. I think of lyrics as just words. As Paul McCartney used to say, "They're just words that work." If words work, that's all that I would ask. Sting's a master of that—the lyric works with the music. But the words of some of the early hits I produced wouldn't win any prizes as lyrics, though they work with the music.

Mix: Having used digital stereo systems for some time, and now digital multi-track, what's your current attitude about digital techniques?

AP: *Eye in the Sky* was the first digitally-mixed album. This one uses digital multi-track for the first time as well. In a way, you can understand these people who say that digital is "cold," but then you're in effect saying that what you're putting on to tape is cold, because arguably, digital is the closest thing to what you're putting in—at least as far as I've ever heard. The sound of analog tape does warm things up, it does have a sound to it. I think of digital as being what I intended originally, not what a medium has done to it. So I'm very pro-digital. The biggest attraction for me—it's almost become a cliché—is that you hang on to what you've got.

“In a way, you can understand these people who say that digital is ‘cold,’ but then you’re in effect saying that what you’re putting on to tape is cold, because arguably, digital is the closest thing to what you’re putting in.”

country house not far from London, the first thing I asked was about the new studio being built in the home. Would he do everything there?

AP: Obviously I can't do the big stuff, and I doubt if I'll do all the backing tracks here—when I want to have everybody playing. But there's more and more of a tendency to put down instruments one at a time. The backing

Mix: Is there a concept behind the *Stereotomy* album?

AP: Well, a loose one. The title's actually taken from an Edgar Allan Poe story. "Stereotomy" is the breaking of a cipher, a code. I think the dictionary definition actually means carvings in stone, believe it or not. There is an audio reference to that at the start of the album, with the effects. But basically the album's a comment on high

Mix: The recording system is just capturing what's going on—just a storage medium?

AP: There's no doubt that never before have we been able to capture transients like you get on digital. Everybody's used to hearing lots of "oomph" when you're doing a track, but a lot of people have often commented on the loss of magic—the deterioration—on the finished product. Deterioration, and the fact that it never went on to tape in the first place. Now, with digital, you find that some people don't like the extra kick of a snare or bass drum sound, or even a piano, that you're getting when you hear back just what you put down.

Mix: You do tend to go for quite "hard" sounds most of the time, as well.

AP: I always used to try and avoid them, until I discovered that other people's records which did have hard sounds on them tended to sound better on the radio. It's pure compromise. I try not to have too much in the way of hard sounds, but they do work on the air.

Mix: Do you find that DX-type sounds, which tend to be quite hard, help in that respect?

AP: Yes, I like DX7s. There is a danger,

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though, that everybody's records will sound the same. Not only are they all using DX7s, they're all using SSL desks, so everyone EQs at the same frequencies. There is a case for not using presets on DX7s, always fighting to get something a little bit different.

Mix: Have you gotten into programming the DX series?

AP: Not much, but when I have, I've

but I know it's capable of doing some really amazing things, and I just don't know what they are yet.

Mix: Do you use a sequencer much?

AP: No, the sequencer I've grown to love is the Linn 9000, not so much for actual use in the studio, but as a compositional aid. Richard does all the sequencing, using a Roland MSQ-700—he makes it take off, virtually.

"I would like to see us continue to be thought of as the makers of not so much hi-tech sounding as hi-tech thinking records."

always come up with really good sounds. "Trix"—Richard Cottle—is very good with programming. I just have to ask for more attack, or something, and he does it.

Mix: I gather that the people who do Total Music (the Mac-based MIDI sequencing system from Southworth Music) have a Mac package coming up that will enable you to program a DX series synth with an on-screen analog-like "front panel" display.

AP: That's interesting. Then there's the DX-1; people have found that very flexible, but not very affordable!

Mix: There seemed to be a lot of music technology involved in the album. It was obvious at the studio (Mayfair, in London, where the bulk of the album was recorded) and on the record itself.

AP: Yes, I'm just beginning to get interested in, and come to grips with, MIDI. So much of this high-tech stuff is finding the time to sit down and play with the machine outside the studio. It would be pure extravagance to spend the time necessary with all these boxes. So I've tried to find out how the things work at home wherever possible. Obviously, with echo devices and when you're searching for sounds, it's a different story. We could have spent time in the studio with the Fairlight, but in fact it got plugged in, played its piece that I'd pre-programmed at home, and then on to the next thing.

I'm only scratching the surface with The Emulator II. We've used it a lot,

Mix: How are you finding the UMI (a British computer-based MIDI sequencing system, running on the Acorn BBC Micro)?

AP: We're using it more to manipulate DX7 sounds. What I love about the 9000 is the instant overdub and instant playback, which you don't have in quite the same way on the UMI. But it's a great sequencer; just rather too many buttons to press.

Mix: Do you think there's any part of digital audio technology that's more important than the others? For example, do you think that a digital mix is more or less important than digital multi-track? Or that using a digital console would make a difference?

AP: Well, not having used a digital console, I wouldn't like to say. There's a big improvement using digital multi-track over simply doing a digital mix. For the first time, you don't have to make excuses when you playback. Or rather, you don't *have* any excuses when you playback! There's no doubt that when you record bass and drums on an analog machine they don't come back the way they went on.

It's all drums, really. Let's face it, this is rock and roll. The main thing is percussion—what's going to give you the ultimate in that area. And digital multi-track will record it for you, whereas an analog machine won't. You don't have to make any allowances.

And with analog, at the mixing stage, when you'd make every possible effort to get back what you tried to get on

tape in the first place, you just lose it again when you try to mix. So to answer your question, I think that digital helps at all stages—recording, bouncing down, mixing.

Mix: Do you think a digital console would help? Would you like to try it?

AP: I doubt it. I would be surprised if there was as significant a difference as there is with tape machines.

Mix: There would be the advantage of not going through A/D and D/A converters every time you track-bounced or mixed down. But on the other hand, a good analog console should exceed 16-bit specs. The noise shouldn't be a problem.

AP: Noise never dramatically affected the way anything sounded. I think that the most common area of noise is the fact that you have to operate a mic amp at high gain in order to pick up vocals, for instance. Almost all the noise on all the records I've made has come through on the vocal mic, I'm certain. That's where problems arise. And through limiters.

In fact, vocals give you all the problems. You've got a low-level source; you've got to limit and compress it, introducing more noise; and you nearly always have to put a fair amount of EQ on it. Voices and snare drums are the big problems.

It would be interesting to try a digital console. I've heard tapes through one.

Mix: How did you use the two 3324s on the *Stereotomy* sessions?

AP: We mixed anything up to 46 tracks on to two tracks of one of the 3324s, ending up with an unfaded master. Then we collected all the masters together and did a digital transfer in sequence on to a fresh tape on another 3324. Anything that had to crossfade was overlapped by laying it across on another pair of tracks. The timing had to be right, of course. If there were any effects to add, they were done analog through the [SSL 6000 series] desk onto two more tracks. So the master could be assembled on two final tracks of a 3324 entirely digitally, except for the crossfade and effects sections, which were done through the desk. The final master—at 48 kHz sampling—was then transferred analog to the 1610, with a small amount of EQ. But for the equalization, we could have done it digitally through a sampling-rate converter. I would love to have gotten hold of a digital equalizer!

We'll use the same system on the next album, with the exception of using a 44.1 kHz sampling rate, and transferring digitally to the 1610. It's a nice flexibility to have instant crossfade ca-



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PHOTO: DAVID GAHR

Alan Parsons

pability, without having to sit in some alien editing suite trying to get them together. I'd rather do it in the studio as part of the recording process. Plus, you can get away with murder on these machines, punching in and out as much as you like.

For the recording of the tracks, we generally used the two 3324s synched up with the Sony synchronizer, which is 100 percent phase-accurate. Offset manipulation is extremely accurate.

Mix: You mixed most of the tracks with the British-designed "Ambisonic" surround-sound system, (the units are currently manufactured by Audio Design Calrec) with the exception of "In The Real World." Were you happy with it?

AP: Yes, it was an interesting exercise.

The benefits, I didn't think, were so markedly great that I felt, "God, I must use this again," but I found it interesting, and when it's decoded, it certainly works. I don't know about whether it's going to be the way we'll listen to records over the next few years, especially considering the number of people to whom music is merely a background thing.

Mix: What are you trying to do with your albums? Why do you think people buy Alan Parsons Project albums?

AP: In the beginning, we were considered very hi-tech, very electronic, possibly because of my Pink Floyd associations. The stark fact of the mat-

ter is that we never were. We have always been very "song"-oriented people, always very reliant on the quality of the songs. Hopefully I can inject a bit of production finesse. In the past few years, our level of "high technology" has been minimal compared with some other people. But I would like to see us to continue to be thought of as the makers of, not so much hi-tech *sounding* as hi-tech *thinking* records. Not just songs and singers and rock and roll, but something that is *sound* as well as songs. Saying it's "non-visual theater" or something sounds very old-fashioned and dreadful, but nevertheless it describes what I would like people to buy our records for.

Mix: Something more than just rock and roll, something that's a sound experience as well as a musical one? I don't see anything wrong in that. It was what we as engineers were brought up to do.

AP: Yes, but at the same time you have the critics saying, "Oh, yes, there's Parsons trying to get back to the psychedelic era!" Concept albums seem to be unfashionable, but we've done market research that shows that it's just what they want. They *do* want these concepts, they *do* want these themes, they *do* want to read things into the lyrics. I know I like that. That's what all the classical composers did, after all—they tried to transport you. Not that I'd knock modern, hi-tech rock—far from it.

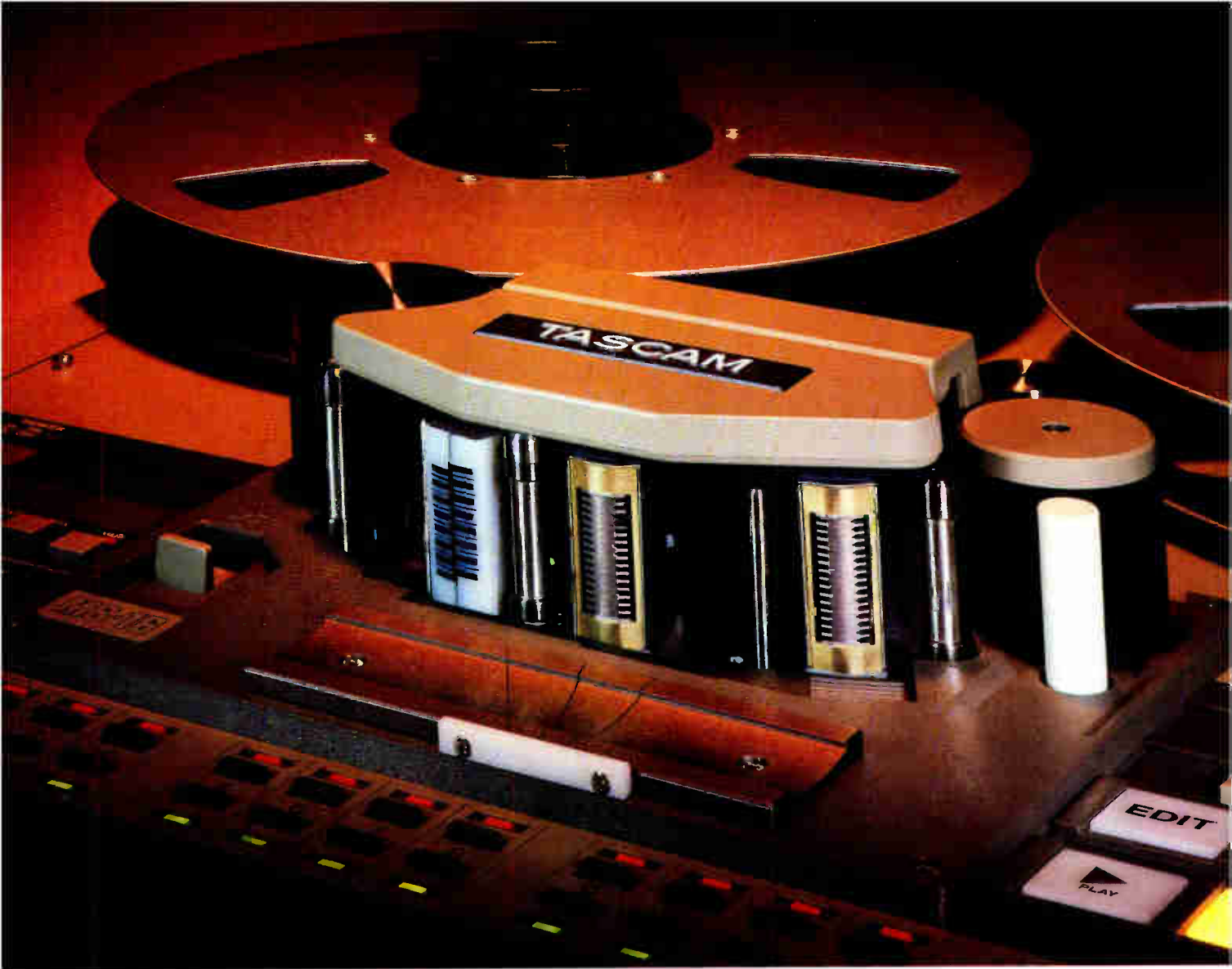
Mix: The sound aspect is presumably integral to the way you develop Eric's musical ideas. Do you in fact separate what we might call the "musical" arrangement and the "sound" arrangement?

AP: No, I don't separate them. But there is a marked difference between "sound" and "sounds." If you say that something has a "good sound," you're saying that they've chosen what one might call an aesthetically pleasing aural spectrum. If a piano sounds like a piano, that's a "good sound." But it also might be boring *because* it sounds like a piano. So you have to compromise between the two.

I spend a lot of time worrying about the spectrum—whether or not there's enough top or bass on things, or whether I've over-emphasized a particular frequency.

Mix: You spend a lot of time on the "sound."

AP: Yes, and I'll spend a long time, particularly while mixing, listening to other people's records, deciding whether or not I think what they did was right. Then I say, "Do I want to match that, or do I want to go away from



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that?" I'll literally play 20 other records in the early stages of mixing—my own and other people's—taking a reference.

I always go for a difference in my records. Does it want to be more bassy, or more tight, more spacey, drier, as a basic overall approach, than what we did before? Obviously you can never apply that to a whole album. For example, *Stereotomy* has a bigger sound than the previous album, partly because I think people want to hear a bigger sound now, whereas before they wanted a tighter sound.

Mix: And more obvious orchestral arrangements?

AP: Yes, but they're used in a different

way this time. We haven't gone for, "Ah, look, a symphony orchestra has appeared!" We used to do that; we almost used to be famous for it. Instead it's used to fill out the sound at the right moments.

Mix: How much do you do records for your audience, and how much for yourself? Do you make your records with your public in mind?

AP: Recently, yes. We've had this report done by a key figure in the American record industry; we commissioned it. We asked who our audience was, what other records they bought, their age, what we were doing right, what we were doing wrong and what their perception of the band was. They're

mainly men, it turns out, in their mid- to late-20s.

Mix: Do you have any views on why you don't do so well in Britain?

AP: No exposure—simple as that. No airplay. If you don't get played on the radio, you don't sell records, and there's clearly something missing in our formula for British radio; otherwise they'd be playing it. After ten years, you can't blame record companies and promotion people. Not when you're going to Number One in every other European country.

Mix: Is it perhaps that you don't have a fashionable image, and not that there's something missing from the music? Perhaps people in Britain think you are in some way old-fashioned, although people everywhere else know you're not.

AP: Yes, that's very likely. Because I don't have purple hair, and I don't play guitar. Yes, possibly.

Mix: Because there aren't any gigs?

AP: There's the potential for gigs this year. We could fill a very large hall in Germany, for example. Gigs have never been more likely than this year.

Mix: How do you regard the role of producer? You do a good deal more than just production.

AP: I regard the role of producer the same way that anybody would. I'm a producer who lays very heavy demands on his engineer—who happens also to be me!

Mix: Presumably you like it that way.

AP: Yes, I'd never go back. I did some work in the '70s with an engineer, but I just found that I couldn't keep my hands off the desk: "Why don't you let me do it—it would be so much quicker!" I really feel for engineers who are victims of people like me. I know what it was like when I started. There I was trying to get on in the world, and these wise-guys come along, tweaking EQ here and there, and not actually making it sound any better at all! Then you give the producer a fader with nothing on it.

Certainly, producers today know a lot more about recording than they used to. It used to be, "You mean, you can actually superimpose this instrument on the tape while you're listening to..." Really, it used to be like that. They were totally blinded by science.

Mix: More producers seem to be coming into the industry from the engineering side these days.

AP: Well, they have to. There's so much new machinery in recording these days, you can't possibly avoid it. ■

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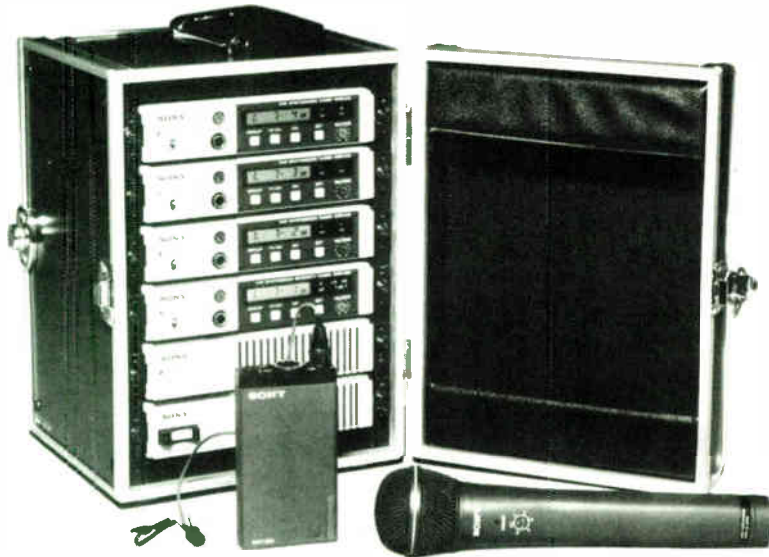


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Wireless MICROPHONES: Users Speak Out



Each transmitter in the Sony synthesized VHF system can operate on 48 individual frequencies with 168 possible channels in the 174-216 MHz range.

by George Petersen

Over the years, wireless microphones have evolved from a "hope it works this time" novelty item into a reliable and quite indispensable audio production tool. Advancements in electronic miniaturization and LSI technology have been welcomed into these wireless wonders. The result is better overall operation from ever smaller units.

While much has been said and written about wireless systems, with touring and concert users grabbing most of the attention, there is a vast market for other users, ranging from church PA applications to feature film production. And their basic needs are really no different than those of the superstar performing for a packed stadium audience: everyone is looking for reliability, solid RF performance, and audio quality that approximates a hard-wired system.

Fortunately, numerous choices are available today: body pack or hand-held transmitters, UHF or VHF band operation, battery or AC powering, single-system or diversity reception, and dozens of microphone capsule and lavalier options. We talked to a number of discriminating wireless users, including contractors, rental

houses, dealers, engineers and technical personnel who shared their field experiences in finding the right system to fit their particular needs.

There is an old adage that goes something like this: "If you want good hay, then be prepared to pay a fair price. If you want to settle for hay that has been used, well then . . ." The same could be said about wireless microphones, or for that matter, anything else in life. Bill Gillette, an engineer at Top In Sound, an Anderson, Indiana-based sound contractor/dealer finds this to be a common problem among customers who come looking for wireless. "We see a lot of people who want to save money, and then go to Radio Shack and buy a \$149 wireless microphone system," Gillette notes, "and that's exactly what they get: they have dropout problems and interference from CBers and truckers. Truckers are noted for their flowery speech, and that doesn't go over too well in a church on Sunday mornings!"

Gillette feels clients should spend a bit more to get a basic system, and recommends either Samson or Com-Tek units, depending on how much the user can afford. "We've had nothing but good luck with the Com-Tek system—it's been a real winner. It lists at about \$1,000, which is about \$400

more than the Samson [Concert Series] systems. There's no antenna on the belt pack, the transmission distances are fantastic, it allows the option of adding diversity, and has phase locked loop tuning which is similar to the Samson. They're nice for the money."

Cameron Grainger of Back Stage in Roanoke, Virginia, recently specified top end Samson TR-50 Broadcast Diversity systems for the Busch Gardens theme park in nearby Williamsburg. "They were putting a new show together and we brought some of our systems in to compare with what they were using," Grainger recalls. "They bought nine Samsons for operation on one stage, and two as backup. As it turns out, nine is the maximum number of Samson units that can operate simultaneously. We also have two in our rental department: we haven't had any failures; neither has Busch, and they probably give them harder use than most people, since there are three or four shows a day, seven days a week, nine months a year.

"All of the Samson equipment at the park is hand-held; their preference is Telex for lavalier systems. Both have worked out fine, and we have no complaints with either company. The Samson hand-held is smaller and lighter than the Telex; its performance is excellent and we've stuck with that for hand-held applications. Generally, we sell more of the lavalier systems from Telex. Since their reputation is very good and their name is well known, Telex sells very well, especially in the church market. People ask for it."

Finding units that were able to stand up to the rigors of daily rentals was a criterion for Dean Schneider, who chose Swintek systems for his Film/Video Services company, a Denver dealer. "They hold up very well for rental," says Schneider, who has nine systems available. "We're using the Mark QDC-50A DBS—it's the small lavalier type pocket transmitter and really small DC receiver. We also use the Mark 2Ls 50A DBS receiver that is also capable of AC operation, but is a larger unit. They're perfect for rental, we have very few complaints."

Schneider finds that the diversity/non-diversity question is not much of an issue with his clients. "With wire-



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less, you can have problems in certain locations, no matter what manufacturer's equipment you're using. We have nine systems and one of our AC receivers is diversity. We normally don't have problems with a single system, but have the diversity system for people who cannot afford to have a dropout. In normal film and video production work, you can always do the take over if there's an audio problem, but in a live situation there's no such thing as doing the take again."

Prompt service is another point worth considering when selecting a wireless. Troubleshooting and repairing a tiny transmitter imbedded within a mic body may be more than the average bench tech can handle, so manufacturer support in this area can be crucial. "We felt it was very important," notes Schneider, "because if a unit does go down—which all of them do eventually—or is dropped and doesn't work anymore, we need it back immediately. With Swintek, we

The Samson Broadcast Series PR-50 offers phase locked loop (PLL) tuning, Phase Reflex diversity switching, and a choice of mic capsules, lavalier or instrument transmitters.

can have a unit back within a day or so if we ship it out Federal Express. It really makes a difference."

The Sound Shop at Universal Studios in Universal City, California, supplies audio gear for dozens of projects every year, mainly catering to film shoots for network television series such as *Knight Rider* and *Airwolf*. Technician Dave Morgan says that one of the reasons they upgraded their large wireless arsenal to HME units was that "we were looking to upgrade the quality of the audio channel itself. Because of companderization improvements, there is an immense difference between models that are out today and models from three to four years ago. Basically the RF design of the radio mic hasn't changed that much—it's the audio circuitry that's moved in leaps and bounds. Remarkable improvements have been made in this area."

Universal bought enough wireless units to fill 13 quad-packs, a configuration that puts four receivers in a single case. The quad-pack is a convenient format for location film production, as several wireless units are often used simultaneously when cast and crews are away from the protective confines of a soundstage. The stock HME antenna (a horizontally polarized unit) is used on one side of the diversity system, and Universal's sound staff found that a vertically polarized antenna manufactured by Celwave (Marlboro, NJ) works out well connected to the other diversity input.

While Universal was satisfied with the performance of their new HME systems, Morgan was quick to add that the long-term durability of the product is still under testing and evaluation. "We selected the HME system because we liked the mechanical and engineering aspect of it, but there are a lot of things you don't know about them until you put them out there for a couple of seasons. We give them the roughest treatment that anybody does. In the course of one season, if it can be broken, it will be broken."

"A fine example is the battery lid cover. If you had somebody do a durability test equivalent to removing and replacing that cover three or four times a day for several months, you'd find out where the peak points are. That's what happens in the field: batteries are changed constantly when you can't afford to lose a shot. It comes

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The PRO 1-B system consists of the Model T-37 bodypack transmitter and Model R-31A receiver. The PRO 1-H system consists of the Model T-36 hand-held transmitter and R-31A receiver.

Both systems feature DYNEX[®] II, Cetec Vega's advanced audio processor for the highest signal-to-noise ratio, widest dynamic range, and most natural sound.

R-31A PRO Receiver

The R-31A PRO receiver features two easy-to-read LED bargraph displays—one for RF signal level and the other for audio level. The receiver is extremely sensitive, highly selective, and very stable. Either line-level or mic-level outputs may be selected through the rear-panel XLR connector. Line-level output is also available from the rear-panel terminal strip. The receiver can be powered by either AC or external DC.

T-37 PRO Bodypack Transmitter

The T-37 PRO bodypack transmitter accepts all positive-biased and most negative-biased electret lavalier mics via an easy-to-use mini 4-pin XLR connector. Conventional panel-mounted mic on/off and recessed power on/off toggle switches are featured. The ultra-rugged case stands up to hard use.



T-36 PRO Hand-Held Transmitter

The T-36 PRO hand-held transmitter uses the popular Electro-Voice BK-1 ("Black Knight") condenser element with an attractive black wind-screen. Housed in an attractively contoured black case, it has Cetec Vega's patented internal dipole antenna. An audio gain control and power and audio on/off switches are conveniently located on the bottom.

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ECHO TIMES

AUDIOFILE UPDATE

Since the appearance of the last Echo Times AMS Audiofile has been exhibited and extremely well received at AES New York, the SMPTE show in Los Angeles and INTERBEE in Tokyo.

Probably more significantly, AMS have now accepted orders and supplied a group of existing AMS system owners with AudioFiles. The first three owners are TVS (Television South), the British Broadcasting Corporation and Trilion Video.

The AudioFile supplied to the BBC is currently being used in one of the Sypher suites in Television Centre and is being used during audio dubbing of television programmes. Trilion have incorporated their AudioFile in a radically new type of post production suite which does not include a conventional multitrack recorder.



TVS has implemented their AudioFile in a new computer based television game show as well as using the system for programme production. The following is an interview with Robert Edwards, deputy head of sound for TVS who discusses how he uses and why he chose AMS AudioFile.

Robert Edwards: The first I ever heard about AudioFile was an advert in the June '85 edition of Studio Sound which as far as I was concerned made it a talking point throughout the industry almost overnight. Because of my work commitments on Ultra Quiz '85 I was disappointed not to get to see its UK launch at APRS but was further excited by rumours as to its possibilities that filtered back to me after the exhibition.

A.M.S.: *So what convinced TVS they needed an AMS AudioFile?*

R.E.: In September I was at a meeting to discuss a new game show to be recorded by TVS called



Robert Edwards at the AUDIOFILE controls.

"Catchphrase" which was an American format conceived by Steve Radosh, who originally worked for Atari in the States. A video of the American version showed it to be both fast and entertaining and to put this across demanded shooting "as live" with no audio post production. The only problem being that there was an audio event every 5 seconds!! Much of the music on the American version was several pre-programmed domestic quality computer generated tunes, stings were generated conventionally from stacks of cartridge machines. The result was both restricted in range and quality and it was obvious even at that stage the programme would benefit from a "digital juke-box" — AudioFile.

A.M.S.: *But at this stage you hadn't even seen AudioFile.*

R.E.: At that time all we had to go on was AMS's considerable reputation. I had personally used both the AMS DMX 15-80S and the AMS RMX 16 for music production at TVS and have been so pleased with the performance of those units that I knew that whatever AudioFile did, it would do well.

A.M.S.: *So it must have been soon after that that we first met?*

R.E.: Yes and I must admit that having talked through our requirements with Mark Crabtree

and some of the R & D staff at AMS it is a tremendous credit to the enthusiasm and skill of all those involved with AudioFile that a system was configured, specialist software written, delivered and commissioned for the first pilot only 19 days later.

A.M.S.: *So how is it used on Catchphrase?*

R.E.: Each of the eight start buttons on the AudioFile control surface are addressed from our central games computer. Any contestant banging their pod results in an audio sample being triggered. A second output is used with a stack of 15 different music sections which correspond to differing Catchphrase animations, the sequence of play varying from show to show. A third output is dedicated to our "AudioFile operator" who has instant access to a stack of individual stings.

A.M.S.: *So is AMS AudioFile earning its living for TVS?*

R.E.: It has been used on all 18 Catchphrase shows so far recorded and also on the current series of "73" — both of which are fully networked. The system is extremely versatile and new possibilities are discovered for it every day. When we eventually get a chance to use it in its post-production mode we believe it could halve the time to do light entertainment dubs. ●

BOB CLEARMOUNTAIN

Echo Times has so far had no difficulty in attracting well known and respected individuals to talk about the reasons why they prefer AMS digital audio processors to others — **Bob Clearmountain** is no exception and complements perfectly other producers and artists who have already appeared in the pages of Echo Times. Bob is one of those rare individuals that it is easier to list people whom he has not worked with at some time or other than to make a list of people he has worked with.

A.M.S.: *I have read several articles in American magazines about you but can you tell me how you first got into the recording business?*

Bob Clearmountain.: Originally I was a bass player in a bar band up in Connecticut — we weren't very successful at all. Before that I had been an avid listener to records and along with my playing I always had a feeling that I was someday going to be involved in the record business — on one side of the glass or the other!

The band finally broke up whilst doing a demo at Media Sound in New York. At that time I had nothing better to do than hang around the studio and bug them until they gave me a job.

A.M.S.: *So what advice have you got for any out of work musician who wants to be a world-class record producer?*

B.C.: Well what worked for me is I remember telling them. "I'm going to be pretty good at this someday so you really should hire me!" I liked the place and I liked the people and luckily they hired me. I was doing sessions after a couple of months and the first session I got onto, after supposedly being a runner, was a Duke Ellington session. I remember that day very well, I did two messages and was then told to get downstairs into the studio because from then on I was a recording assistant. That really blew me away!!

A.M.S.: *Did things move slowly or quickly from then on?*

B.C.: Oh pretty quickly. I spent five years there and then a couple of people there, Bob and Tony, decided to start Powerstation and I was the first person they approached on the engineering side. I jumped at the chance. When

it opened the studio did a lot of black R and B. My roots were a lot more rock and roll and so I slowly tried to make it a little more rock and roll and slowly that began to happen.

together but it was the old story — it didn't sell. Back in 1978 or 1979 I made another record that I really enjoyed with a guy called David Warner on Epic which also didn't



A.M.S.: *What were your rock and roll roots?*

B.C.: I was really into English music, the Beatles, the Stones, Traffic, the first couple of Jethro Tull records. Eric Clapton, Jeff Beck — and seeing as I'm getting onto guitarists I can't leave out Jimi Hendrix. By the time of the punk era Powerstation attracted Ian Hunter to work on demos of "You're never alone with a schizophrenic". He liked the warehouse feel so much that he ended up doing the whole album there.

A.M.S.: *Did that mark the start of the heavier bands working at Powerstation?*

B.C.: Yes it did because Ian Hunter hired the E Street Band who immediately went back to Bruce Springsteen and said — "you really have got to check this studio out!" From there on Springsteen came in and did The River album here and that really changed Powerstation because the word was out and more and more rock bands came in.

A.M.S.: *Who were the first band that you really got involved with and enjoyed?*

B.C.: Probably Climax Blues Band. We made a really great record

sell but I still figure that was one of the best records I ever made. Brian Adams really started to open it up for me because when we first worked together we were both unknowns. Our first album was in 1980 I think and we've now done 3 together.

A.M.S.: *Speaking of Brian Adams, a few people at AMS thought his performance on Live Aid was probably one of the best performances from the American end.*

B.C.: Wow Live Aid! AMS really figured heavily there — and I know because I mixed most of the American bands, probably about 70 per cent of the acts. For instance, did you realise that most of the snare drums throughout that day were the same sample stored in a DMX 15-80S? In a situation like Live Aid you never know what you are going to get, mikes and complete set ups were constantly being changed and the one thing I could completely rely on to control was my trusty AMS 15-80S — and believe me I was triggering everything. I had one really good snare sample that I'd recorded at Townhouse with Mel Gainer of Simple Minds and that was the sample I used.

A.M.S.: *So Mel Gainer's snare sound was pretty important to Live Aid?*

IN

B.C.: The funny thing was that when Simple Minds got up to play he used the same snare drum that we'd originally taken the sample from — even with the same head and everything and the drum and the sample sounded exactly the same. For a while I thought the AMS had freaked out and it took me a while to realise what was happening — most unnerving. What a day that was. I'd finish mixing one band and then jump out of the way to allow set up and line checks for the next before quickly jumping back in front of the board to start mixing again. It worked fine during the afternoon when we had 20 minutes for the next set up whilst London was broadcasting, but when London went off the air it was unbelievable.

Live Aid was a fantastic event and something I am sure none of us will ever forget. Let me ask you if you think your production approach is different to that of other producers?

B.C.: Well, I do try to make a fresh approach to everything but of course you develop certain things that you know work and feel comfortable relying on. The most important thing in a session is the musicians' and artistes' performance and making sure they are as comfortable as possible usually ends up with the best results. For that reason I use things I understand and once things are rolling I will experiment in the mix. A good basic sound is important as it is incredible what can be done in the mix. For instance, I sampled a Max Weinberger snare that ended up being the snare on the Bruce Springsteen "Born in the USA" track.

A.M.S.: *And that snare sound is probably one of the most famous of all time!*

B.C.: I like AMS units a lot, the DMX 15-80S is so clean whether I use it as a DDL, pitch changer or sampler — the RMX 16 I also like and I use it alongside natural reverb or EMT plates because it is one digital device that doesn't sound too sizzly as many of the others can. The AMS Nonlin is my favourite, even with a very short amount of decay time you get a really nice room ambiance. ●

PEOPLE IN THE KNOW

Ian Jones of HHB found the show "extremely busy" and noted that particular interest was being shown in the Amek and AMS stands.

New York AES show report in Music Week.

Richard Goldblatt of Audio FX said AES 85 was the "most exciting show for four or five years". Goldblatt saw a range of items that will possibly be appearing on Audio FX inventories. Among other items, Goldblatt was particularly interested in the Lexicon PCM 70 and AMS AudioFile.

New York AES show report in Music Week.

I like working on documentary items where you may have a lot of mute library footage; that's good because you're using your memory of all the effects you have got. You can do wonderful things with the memory store on the AMS DMX 15-80S, locking sounds into it and editing the loop. We're looking into getting the one with the keyboard interface for mechanical effects. If you've got a bit of equipment with some sort of reciprocal motion you can just store one little bit of some machine in the AMS and fit it in so it's going with the picture.

Robbie Weston of Silk Sound in an interview with Tim Leigh Smith of Broadcast Systems Engineering.

A lot of the fills were doubled with timbales and the whole lot had gated reverb put on it. I used the AMS and Sony digital reverb. The great thing about the AMS are the reverse and nonlin programs.

Eddy Offord talking to Peter Buick of Sound Engineer.

I don't use a lot of effects on mixdown, although I do use a lot of AMS delay lines, the big EMT valve echo plates (140's) with tape pre-delay, and various digital reverb units like AMS and Lexicon.

Laurie Latham talking to International Musician and Recording World about the making of the Tomb of Memories track for Paul Young.

Outboard Gear: Quantec Room Simulator, 3 AMS RMX 16 Digital Reverberators, 3 AMS DMX 15-80S Digital Delay Systems.....

Following an Interview with Dave Tickle in Mix outlining the sound system for the Prince "Purple Rain" tour.

I did it at Power Station here in New York. The equipment consisted of an SSL console, three AMS digital samplers, two Emulator IIs, two AMS digital reverbs, ten reverbs of various makes, ten delay lines of various makes and miles of half inch tape. I brought in my own sampling for "Dancing in the Dark" with a kick and snare pattern. Via the AMS sampler, I combine my own pattern with that of the songs to create something new and different. You need two sampler units — one for the kick and one for the snare. [EDs Note: now with "Dual Lock-in" available on the DMX 15-80S one unit can handle both samples!]. This can also be done with all other instruments. In other tunes, I've sometimes added in instruments not in the original recording if it would help in highlighting something.

Lord-Alge talking to Mix Magazine about the remix of Bruce Springsteen's "Dancing in the Dark".



Shown from left to right: Staff Engineer Bob Rosa with Producer Keith Diamond at Unique Recording Studio B

Unique Recording

Unique Recording Studios are set about one hundred feet above Times Square, New York and represent yet another successful recording venture started by musicians initially for musicians. Because of the owners' early involvement with synthesizers the facility now boasts not only one of the most comprehensive collections of keyboards, but also what appears to be at least one of every digital audio processor ever manufactured! For this reason the views of Bobby Nathen and Tom Lord-Alge seemed valuable.

B.N.: In the beginning we worked very hard to keep on top of new sounds and possibilities which meant our collection of keyboards began to grow. What we also knew was that to make a synth come alive it was much more than just the patch and because synths are dry an integral part of recording them has got to be ambiance.

A.M.S.: *You chose digital devices to do this right from the start?*

B.N.: Yes we did — even though many clients had been indoctrinated at other studios that you need cavernous rooms rather than electronic devices. The first units we owned were a Lexicon Prime Time and an Eventide Harmonizer — we believed in electronic devices from

the start right up to the present where we try and offer our clients every device available. For instance, when the Lexicon PCM 41 came out we bought 5 of them because we knew that the more DDLs in a mix the clearer the mix. Even if they weren't used for that they would be used for synching before devices like Dr. Click and the like.

A.M.S.: *What about reverbs?*

B.N.: We bought a 224 and then a Sony DRE 2000 which was one of the first 16 bit machines and therefore had a fantastically bright top end but no bottom end — and still doesn't have any bottom end but it goes very well with the 224. What came next was the gated plate sound that we had heard on Gabriel and Phil Collins albums and we experimented with what we'd got until we heard the RMX 16 and realised that was the sound we'd been working hard to get but not quite achieving.

A.M.S.: *So did you buy an RMX 16 at this stage?*

B.N.: We started by renting them but soon found out that even though Martin had something like 14 units we could never guarantee to get our hands on let alone one of them. So then we bought a couple of them and they are now definitely the standard.

A.M.S.: *So how many AMS systems do you own now?*

B.N.: We have 4 RMXs and 2 DMXs and any mixing done here uses a minimum of 2 RMX 16s and 1 DMX 15-80S. Even though we have all the other reverbs a lot of them are just there — even though we bought three of the new low priced Yamaha Rev 7 units people don't run to them like they do to AMS. The RMX 16 reverb sound has become the standard for making records today. There is just something about a snare drum through an AMS reverb and you just can't get the same effect through any of the other units.

A.M.S.: *And how about the DMX 15-80S units?*

B.N.: We use them in every way possible, delay, pitch change sampling and even pitch correction of material at the wrong tempo or wrong key works fine. We used to use an Emulator for our sampling until an English client introduced us to the 80S which obviously far surpassed anything we had used before. A lot of engineers will only use the AMS in a mix as a triggering thing and go straight to 2 track, then at the end "unlock" and not let anyone else get at their samples!

A.M.S.: *So you don't think a studio should be without a 15-80S?*

B.N.: Well let's just keep talking about the 80S used as a sampler, used properly can save a group between 2 and 10,000 dollars because that's what it costs to do a set up and get the right sound. Not that they are going to take that money and put it in their pockets — we recently sampled sounds from an early Cheap Tricks album and used them on their latest album — and they weren't even aware it was possible. Anyway ask my engineer Tom Lord-Alge what he'd miss most if he walked into an empty studio.

Tom Lord-Alge.: Well I guess I'd miss the console and multitrack most (laughs). The session I'm working on now I've got the REV 7, the REV 1, Ursa Major, Sony DRE 2000, Publison, Lexicon and AMS. If there were only 2 units, no 3 units that I could have it would be 2 AMS reverbs and the AMS DMX 15-80S. I mean I use the AMS on everything because I can get all the sounds I need out of them — but if I have any other unit I can't get the AMS sounds out of that! ●

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down to mechanical reliability, which was one of our main considerations in buying radio mics this time."

Another user that has been working closely with the manufacturer in giving feedback on day-to-day operational use is KGO-TV, the ABC affiliate station in San Francisco. The station began using Sony wireless a few years back, with the UHF system, and now is also using ten of the new VHF synthesis units as well. "We've been using the [VHF] system since we went on-air [in their new facility] last June," explains KGO's audio/video systems manager Michael O'Shea. "Sony loaned us some hardware until they developed their final product, and it's been very satisfactory for us. The synthesized VHF system is so flexible that we can get enough channels to certainly accommodate our needs. We can operate ten independent channels without any problems, something we could never do with the system we had before, an old Thomson RF system. We're real happy with it. It's flexible and reliable."

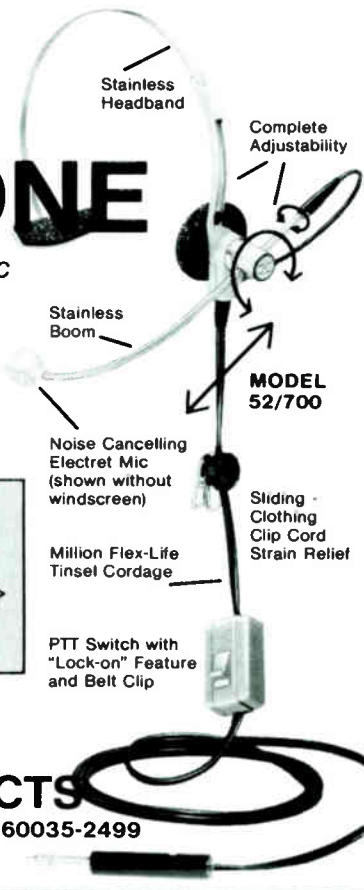
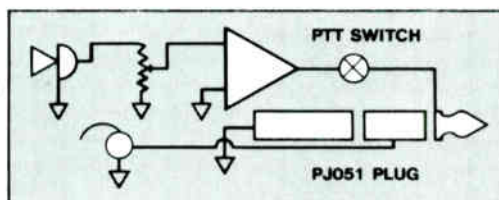
Just across the Bay, Jay Patterson Video in Berkeley (a video production company serving corporate, industrial and low-budget feature clients throughout Northern California) has found the Nady 701-LT full diversity VHF systems to be the answer to their wireless needs. Owner/engineer Jay Patterson chose the Nady for "its sound quality, which is very good, and the fact that their diversity system works. Ultimately, the Sony full diversity UHF system is the best sounding wireless around—if you have the money. Besides a wide frequency response like the Nadys, they have a large dynamic range, but working with a UHF system can be problematic—it's in the nature of using higher wavelength transmissions—but that sort of thing can usually be eliminated with a diversity system.

"If you're doing something where it's important to have program continuity at all times, then definitely go with a diversity system—by any manufacturer. I just happen to think that the Nady system is excellent: after a year of hard use, it is virtually impossible to detect the switching from one diversity receiver to another. Since the Nady receiver is not as small as some others, it's not as convenient for location film and television. It's ideal for sound reinforcement, studio work such as game shows, and other shoots where that consideration doesn't come into being; for those applications, it's the best deal for the money. The fidelity is there, and the compander circuit John Nady invented helps tremendously in terms of dynamic range. It's a virtually trouble-free wireless system."

—PAGE 38

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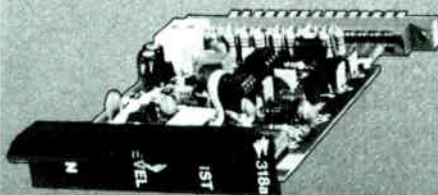
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In fact, with as few as 4 Sony wireless microphones and a tuner, you can reach 168 microphone channels. And the Sony Wireless System makes it possible to use up to 13 microphones in the same place at the same time. Also, Sony's tuner gives you an easy-to-read LCD display, which is an indispensable asset when you happen to be in a big hurry.

In addition, Sony's wireless microphones won't leave you wincing at poor dynamic range. Thanks to a companding technique which yields a dynamic range

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THE BATTLE OF THE BANDS.

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as well—about \$3,000 for a full-diversity system.

A small price to pay to keep a respected engineer's reputation from being at the mercy of a taxi dispatcher.

For more information about the Sony Wireless System, call the Sony Professional Audio office nearest you. In the East, call (201) 368-5185; in the South, (615) 883-8140; in the Central Region, (312) 773-6002; and in the West, (213) 639-5370.



SONY
Professional Audio



Cetec Vega's Model 67A portable VHF diversity receiver features Dynex II® audio processing and either internal batteries or external 10.5-18 VDC powering.

—FROM PAGE 35, WIRELESS MICS

Wireless microphone rentals are one of the specialties of Midcom, a retailer/remote truck/rental company based in Irving, Texas. Owner Mike Simpson notes that the firm keeps from 12 to 20 Cetec Vega units available at any one time, and he is "extremely happy with their product. They were the first company we came across that really knew the care and feeding of wireless mics. The Vega products have been extremely good, especially in the last year, when they came out with


their Dynex II and R-42 receiver."

Simpson's background as a ham radio operator brought a particular interest in radio technology to Midcom. A fully equipped RF test bench is used to check rentals for frequency and deviation characteristics before they go out, and much research has been done in the way of optimizing performance via antenna testing and design. "Most wireless systems just come with a piece of spring steel mounted on a connector," Simpson laments. "We've worked with a cus-

tom antenna manufacturer to develop a spring-loaded base telescopic antenna that we market. It pulls out to be electrically at one-quarter wavelength, which is the proper wavelength for that kind of whip. We've also experimented and sold a few Yagi directional beam antennas which can be mounted on a mic stand. Since the Yagi has a strong front-to-back ratio, it tends to differentiate and hone in on signals."

The VHF band, Simpson maintains, is the best choice, at least for those working in his region. "There are some serious problems in using 900 MHz systems here in Dallas, because that frequency band is shared by radio and TV stations here—it's their studio-to-transmitter link band. If you're in that path, you're fighting them and if you turn your wireless transmitter off you can hear those stations. That happened when a system was shown at NAB here some years ago. You could hear WFAA radio perfectly when the transmitter was off. The VHF frequencies have proved to be better, in our opinion."


A slightly different view on the UHF controversy is taken by Masque Sound, a sound leasing and sales firm in New York City. The company's main emphasis is dealing with Broadway shows, and they have supplied Sennheiser UHF wireless systems to *Leader*



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of the Pack, Wind in the Willows, and currently to Andrew Lloyd Webber's *Song and Dance*, starring Bernadette Peters. Masque Sound's early prototype testing of the system on *Big River* caused Sennheiser to change the mic input padding on the transmitter to accommodate the extremely wide dynamic range requirements of musical theater production. Masque's corporate VP Tom Sorce (who at press time was filling as mixer for *Song and Dance* for a week) says that "the field support from Sennheiser has been great. They've been willing to listen to us, take our recommendations and fix the problem. It's worked out to be a product that's as nicely engineered as any product I've ever run into: strong RF transmission and reception quality, and really good audio."

Masque Sound technical manager Dennis Short notes that the main advantage of UHF is because "there's so much RF on Broadway. There's hardly a show out that doesn't have a wireless or two—even straight plays. It's a problem of the airwaves being crowded. It's nice to have a UHF show: you don't have to worry about the show next door using the same frequencies. We've had this happen with VHF—a transmitter goes down, and the soundman realizes that another theater has the same frequency and you can hear their performance. You can either work with them or go somewhere else, and that 'somewhere else' is the UHF band."

Vice president Sorce adds that technology has come to the rescue for the dilemma of conflicting wireless and outside frequencies. "As of right now," he explains, "we're using a couple of computer programs to handle frequency intermodulation problems. We've come up with a good number crunching program for both UHF and VHF, as sometimes we use both on a show. We used Cetec Vega's program as a basis and have taken it further, modifying it to include UHF."

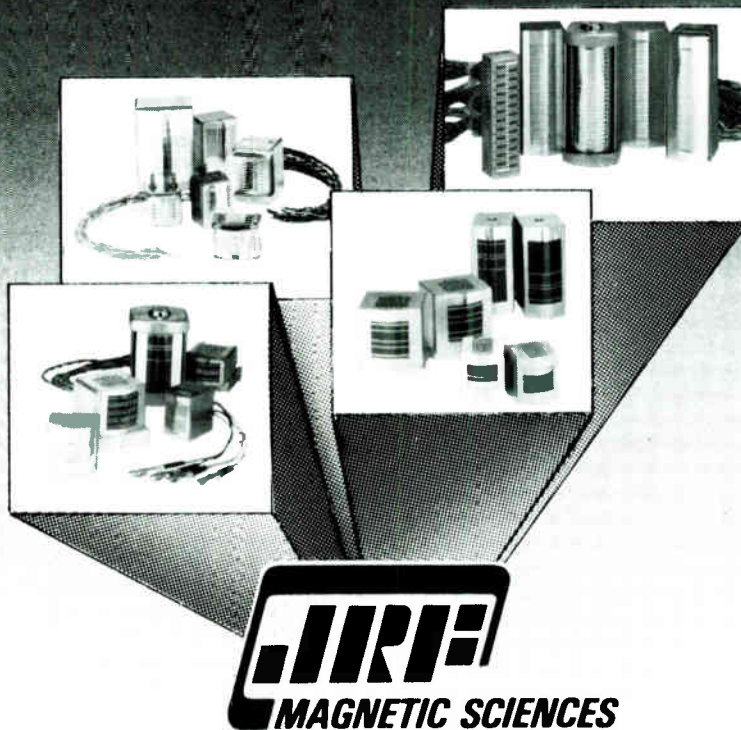
The Cetec program is also utilized by Midcom's Mike Simpson, who warns users to use caution when choosing frequencies. "You can't arbitrarily select frequencies just because wireless mics are on different frequencies. If you put ten wireless units in a room, they better be on exactly the *right* frequencies, because the harmonics that develop from multiple transmitters in the same area is mind boggling. If you have three wireless mics and put one at 174 MHz, and the next at 175 MHz, then you'd better not put the third at 176 MHz or you've got problems. It's the harmonic relationship that A + B + C cannot have common spacing. That's where the intermod program comes into effect. It's really quite a science." ■



Swintek's Mark QDC/2 system. The QDC receiver (shown here with headset) utilizes the same dB-S companding as the company's top AC-powered units, but its small size makes it ideal for ENG-type on-camera mounting.

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ARTIST · STUDIOS



PHOTO: CRAIG MATHEW

Lou Rawls (L) and Jay Graydon at the console in Graydon's home studio.

FROM SESSION ACE TO PRODUCER

JAY Graydon

by Q. Bryce

Upon entering producer Jay Graydon's personal studio you see most of the things you'd expect to find in a state-of-the-art recording facility: The mixing console, tape machine, out-board effects and racks of synthesizers and drum machine are all quite a home. But the items that do seem odd are the two garden rakes strategically placed in the control room—one in the back corner next to the MCI 24-track recorder, and the other in between the glass looking into the studio. Yet while most studios don't have garden rakes in them, most studios don't have names as off-the-wall as "Garden Rake."

"My nickname is 'Jake,'" says Graydon. "And when I was 16, I was in a band called The Go Go's, and I was booking other bands on the side while I was in this band. A friend of mine said I was raking in the money—if you call \$75 a week raking it in—and so that became 'Jake the Rake.' So Graydon sounds like Garden; there's 'Garden Rake.'"

Although that explanation may be a bit hard to follow, it's not hard to follow Graydon's path from one of the

most in-demand session guitarists of the '70s to a successful hit producer in the '80s. With 12 Grammy Award nominations for his abilities as a writer, engineer, producer, arranger and guitarist, Graydon's latest is for his co-writing contributions to the *St. Elmo's Fire* soundtrack/album (the song "Close to the Edge," which he wrote with friends David Foster, Peter Beckett and Steve Kipner). Of late, six consecutive years of nominations have brought Graydon two Grammys for co-writing "Turn Your Love Around" (with Steve Lukather and Bill Champlin) and "After the Love is Gone" (with Champlin and Foster).

In 1985 alone, 'Jake' produced (and sometimes wrote for) the likes of El DeBarge, Lou Rawls, Howard Hewett, Patti Labelle and Bill Champlin—the latter two being a duet titled, "The Last Unbroken Heart." His most successful work of 1985 was the several tracks he produced for the DeBarge album, *Rhythm of the Night* and the single he co-wrote from the same album, "Who's Holding Donna Now," which hit Number One on the adult contemporary charts and climbed well into the Top 10 on the R&B and pop charts.

And Graydon's studio, designed by Gary Starr and built at his home in the San Fernando Valley (Calif.) in 1980, has played an important role in that path from player to producer, in addition to facilitating his recording projects. The majority of his recent successes were created and recorded at "Garden Rake."

"I was making good money—quite a bit more than \$75 a week—as a studio player, and I didn't want to take a financial loss while working my way to becoming a successful producer," says Graydon of moving from beyond the glass to behind the console. "It was easy because I knew I had the talent to do it—it was just a matter of jumping in and doing it. Having my own studio gave me the added financial security I needed to make the transition comfortably."

Graydon's interests and abilities as an engineer started long before graduating from player to producer though. In addition to accompanying his father (entertainer Joe Graydon) to recording sessions at an early age, he feels he was inclined towards the "studio concept."

"When I was about 11 years old, I had a paper route and used to tape garage bands that I had discovered while out throwing papers—with a little tape recorder, mixer and a couple of mics. So I went from mono 2-track, to 4-track. In the late '60s, I had a little 4-track studio at my house—the Sony 854-4S.

"In the early '70s, when I started doing record dates and making money, I finally could afford an 8-track, then I graduated to a 16-track, and then eventually a 24-track. I always had a studio of some sort. It wasn't official until 1978 when I quit doing dates as a guitarist."

Graydon's now "official" studio features an automated MCI console (528) he bought when the studio was built because it was "the best available at the time." After starting with a 3M 24-track machine, he now has the MCI JH-24, but is looking for something more: "We don't know what we're going to get yet, but we're gonna do something soon, something without VCAs. VCAs make things wide, not tall. It sounds like their slew rate is slow, but it's not really that; it's just the characteristic of a VCA.

"When you have a bass drum running through a regular audio module,

as you add bottom, it doesn't spread to the sides; it just gets taller. With VCAs, as you add bottom, it gets wider and takes up a lot of area—which makes it very hard for layering. It makes it hard to have a lot of defined bottom end on a record. It forces you to make things smaller. We're gonna get another console real soon," he emphasizes.

But until that happens, Graydon and engineer/technician Ian Eales have just completed some re-wiring on the MCI machine with Monster Cable. ("Since I've been introduced to Monster Cable, I can't use anything else.") And the difference is "amazing," he says. "It sounds much more musical. The bottom end sounds tight—not mushy. And on the top end, a lot of the 2k hash has gone away."

In addition to being part of the growing crowd of Monster Cable fanatics, Graydon is also sold on George Massenburg. "His 5-band parametric equalizers are by far the best EQ I've ever heard," he says. "There's nobody like him. I have a lot of respect for that guy."

Although Graydon obviously enjoys the convenience of stepping from his living room, through a hall, and into the control room, having his own studio is a two-edged sword when it comes to his role as a producer. It seems the record companies at times want him to foot the bill when things don't finish on schedule.

"It doesn't help on selling yourself as a producer. As a matter of fact, if anything, it works in reverse. Because if they know you own a studio, they expect you—if your budget runs into trouble—to give them a break. Now they wouldn't expect any other recording studio in town to give them a break.

"The problem is, this is a professional recording studio; this is no Mickey Mouse operation—no offense Walt. This is a serious, functioning recording studio that probably costs between \$70,000 and \$100,000 a year to maintain and run. . . I hate it when this goes down; it hurts the studio. . . it keeps the studio from growing, new-equipment wise. What's the difference if I own it or not? It still has to be maintained."

While he is quick to let you know about the less appealing side of things, Graydon is also enthusiastic in explaining the advantages of having his own studio, which is "open" eight to ten hours a day, six days a week. "The good side of it is I don't have to book time anywhere—I can always get in. It's mine; nobody else uses it basically. I can stay set up. It gives me more time to think about dealing with things."

Not only does he not have to worry about booking time anywhere, but

Graydon can also set his own hours, especially during the pre-production phases of a project. Depending on the situation, a typical day consists of going to work at about 8 p.m. and working until 5 a.m. While most are getting up, Graydon goes to sleep. He is usually up again by about 2 p.m.

"I work at night because the phone doesn't ring," explains Graydon. "It's just the best time for me to work. When it's daylight, I want to be out in it. If I worked in the daytime, I'd get up, walk into the studio and never see the light of day.

"Now even though I would be up in the daytime, I would never see daylight. People say 'You're so weird man; you work at night and sleep most of the afternoon'—I see five hours of daylight everyday; I've got a tan. For me, I'd be so pale and white if I worked in the daytime; I'd never be outside because when I work, I work at long stretches, I hardly take any breaks; I'd be inside the whole time. I'd be looking outside and want to be outside in it."

Handling the full-time technical responsibilities as well as engineering duties at times is Ian Eales, whose recent credits include engineering work for David Pack ("Prove Me Wrong" from the *White Nights* soundtrack), Ted Nugent and Chaka Kahn (a live video for Pioneer/Japan).

Graydon feels the combination of his musical expertise and Eales' technical know-how is a winning team. "That's another advantage to the record company that doesn't cross anybody's mind: Ian and I know every inch of that studio. If you go to another studio, depending on how their maintenance is, you could spend a lot of time finding electrical problems by accident. Because I work nights, Ian has the entire day to keep the studio in good working order. That could save a week's worth of time, typically, at the beginning of an album project."

For Graydon, "everything looks good at this point. I had a good year and loved working with all of the talented people I was able to work with." He looks forward to a future of producing and writing for talent as diverse as his Grammy nominations. "I have no definite plans on who I want to work with: I'd like to do a rock and roll band. I might even do a solo album in the near future.

"For years I worked in this industry because of my love for music and the material wealth that comes along with it. The music business can be lucrative at times, to say the least. But that's not the way to look at it; the money will come if you're good and don't give up. But now, I realize the reason God put me here is to make people happy through music." ■

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by Tony Thomas

Find It and Fill It

Ralph Waldo Emerson was the fellow who said if you could build a better mousetrap, the world would beat a path to your door. He had the right idea: if you can provide a product or service that people need—in the right way, at the right time, and at the right price—you cannot help but succeed.

The goal of any business should be to find ways of satisfying actual or per-

during recent years. Modeling, simply defined, is an attempt at visualizing critical and/or expensive situations without actually staging them full scale, thus saving much of the time and money of the "trial and error" approach. This process of ideation should not be taken lightly. It is the creative opportunity to "model" a recording environment without making the requisite investment in people, equipment or real estate. Questions which could stimulate such visualization include:

ment, reversal and combination. Many solutions to potential problems can be discovered by allowing a group of people to draw on their collective intellectual abilities, imaginations and experiences.

2) Incubation—The process of taking time to develop ideas, stray thoughts and "hunches." It is important to take the time to think things through in a quiet and controlled environment.

3) Concentration—Unfortunately, many great ideas never get written down. The result is that sometimes the good ones slip away. A well-written idea, combined with deep concentration to refine the concept, opens the mind's door to imagination, and leads to ways for making a studio different—and successful.

Another aid in visualization is experience. The more we can draw on past experiences, especially those having to do with the recording business, the more we will be able to faithfully envision what will and will not work in the real world.

Also, there is much to be learned by gaining a familiarity with other studios. What are their good points? What are their failures? What do their owners have to say about the business? Sometimes we can avoid the more painful mistakes by observing where others have gone astray.

A PRIMER FOR THE STUDIO OWNER/OPERATOR

ceived needs with products and/or services, with the objective of producing a profit. The problem with many businesses (and this includes recording studios) is that they lose sight of this simple target, often from the very beginning. The ones who don't make it either were not meeting the needs of their clients, their products or services were inferior or overpriced, or they lost sight of the profit motive, on which their subsistence depends.

In conceiving a recording studio, the very first questions prospective owners should ask themselves are: "Will my studio fill the needs of potential clients in my community?" and "Can I fill those needs to the degree that I can reasonably expect a return on my investment sufficient to produce a profit?"

Visualizing the Venture

Visualization is a long and arduous part of new business development. It is also one of the least expensive. That is why the concept of "modeling" has become very important in business

- 1) Who are the competitors?
- 2) How would this studio differ from theirs?
- 3) On what basis could we compete?
- 4) What would we call the studio?
- 5) How would the name assist in marketing the studio?
- 6) What would be the primary and secondary markets? (Master recordings? Demo work? Jingles?)
- 7) Would the equipment/acoustics/expertise/ambiance we have in mind be conducive to the kinds of recordings we want to make?

The more questions asked, the more accurate the studio "model" will be.

In his landmark work, *Applied Imagination*, Alex Osborn (of BBDO Advertising Agency) developed several approaches to assist in visualization and ideation. They include:

- 1) Brainstorming—Allow everyone involved to begin by throwing out ideas, without judging them for quality or feasibility, and then refining those ideas through adaptation, modification, substitution, addition, subtraction, multiplication, division, rearrange-

Putting it in Perspective

One of the most difficult things for the prospective studio owner to do is to put his or her dream in proper perspective. Glamour aside, running a recording studio is a full-time job. It requires diligence and lots of elbow-grease to make it in this highly competitive field. Finding a mentor in the business who can share ideas can be of inestimable value. Someone with horror stories and real-life case histories of people who have attempted and failed can be a great help in determining just what will and won't work.

The desire to open a recording studio must be propelled by the fuel of persistence. Thomas Edison said that he attempted and failed over 10,000 times before developing the now ordinary electric lightbulb. When confronted about his repeated failures, he stated that he discovered "about 10,000 ways it would not work."

Taking Inventory of Yourself

It is important for a prospective studio owner/operator to ask himself key

questions that indicate whether his personality traits correspond to those of a good entrepreneur:

1) Am I committed? Do I follow through with projects I start? Or do I get frustrated and give up easily?

2) Am I a super-achiever? Am I the kind of person who enjoys and accepts tough challenges readily? Do I have the desire to be the best I possibly can in the field that I have chosen?

3) Am I a risk-taker? Am I willing to take moderate financial and personal risks? Am I willing to deal with the consequences of failure?

4) Am I a self-starter? Do I have initiative? Am I well disciplined? Or am I the kind of person who likes to take orders from a supervisor? An order-taker is probably better off working for someone else.

5) Am I willing to accept responsibility? Am I the kind of person who is willing to take the blame? Just as the sign on Harry Truman's desk read "The Buck Stops Here," that final responsibility for all decisions ultimately rests with the owner of the business.

6) Am I a leader? Am I afraid to give orders to others or to make sure they are effectively carried out? Many people cannot bring themselves to direct the behavior of other people under their control.

7) Am I organized? Do I think logically? Do I plan my work in advance? Am I a good record keeper? In running a recording studio, there must be an overall plan, and records must be kept to make sure the plan is properly executed.

8) Do I make quick and accurate decisions? Am I the type of person who "freezes up" when decisions have to be made in stressful circumstances? A successful entrepreneur has to be able to think on his feet and stop on a dime. There are often no second chances, therefore the initial decision demands the highest abilities for accuracy and decisiveness.

9) Can I handle stress? Can I deal with circumstances that are beyond my control? Clients sometimes cancel, don't show up on time, won't pay their bills or are dissatisfied for some reason. This, combined with the financial obligations of meeting a payroll and paying the rent can cause stress. A good manager must be able to deal with conflict in a constructive manner.

10) How do I feel about money? It is important for the principals of a business to realize that they cannot foolishly spend money that is in their trust. Personal aggrandizement, while an eventual possibility, cannot become an obsession in the fragile formative years of the business. Bills must be paid and money must be put aside for expansion and growth if the venture



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—FROM PAGE 43

is to succeed. Therefore, the owner must obtain the proper respect for money and be disciplined in its use.

How do you rate? Do you have "the right stuff" to set your own course and pursue the recording business? It is imperative that you realistically assess your strengths and weaknesses so that you can determine (a) that you have what it takes to make it and move into the studio business full steam ahead or (b) find other business partners who will complement your strengths and weaknesses, or (c) save yourself time, money and frustration by working for somebody else.

The Risky Realities

According to U.S. Department of Commerce figures, 50 percent of all new businesses will not make it to their second birthday, 67 percent will fail after five years, and 80 percent will go "belly up" by the age of ten. These sobering figures should motivate any would-be small businessman to make a realistic assessment of the risks involved upon entering any new business venture. A prospective studio owner must understand these risks at the outset:

1) The loss of personal assets—Chances are, starting a studio facility from the ground up will require more capital than you, as a prospective owner, may currently have. In this case, should you decide to borrow money from commercial sources, you will probably be required to put up all of your earthly possessions as collateral. In the event you don't make it and the studio folds, your creditors may be able to place liens on your business assets, home and personal belongings.

2) The breakdown of personal relationships—It is not uncommon for the owner of a small business to devote more than the customary eight hours a day to the business. In the case of a recording studio, where round-the-clock operation is common, demands on your time may reach the breaking point. Maintaining marital, family and personal relationships under such circumstances is difficult, and requires mutual understanding, cooperation and dedication.

3) The strain on mental and physical health—Dealing with a new business entity, because of the demands it makes and the stress it engenders, often degrades the physical and mental health of its owner. Many businesses suffer or fail because of the death or illness of their principals. It is therefore important for you, as the owner, to maintain a sense of equanimity in times of stress and conflict and to pace yourself by taking time out for rest, relaxation and recreation.

According to U.S. Department of Commerce figures, 50 percent of all new businesses will not make it to their second birthday. . .

4) The damage to reputation—Many entrepreneurs do not realize how closely they are identified with the businesses that they own. For this reason, it is important to understand that a studio owner's business ethics will be scrutinized by the public, the press, the government and the competition. Unscrupulous adversaries may circulate untrue rumors about capability or integrity, or a disgruntled ex-employee or ex-client may defame the studio's good name. In the event the business should suffer such a miscarriage, your ability as a manager or leader could open to question for the duration of your career.

Setting Goals

Goals create the conduit through which your plans can flow. They provide the direction needed to turn the desire for a recording studio into reality. There are several things to consider:

1) Goals must be substantial—For a goal to be a goal, it must, of necessity, be big. If the goal is not sufficiently weighty, its rewards will probably be small and so will the desire to reach it. Of course, the bigger the goal, the bigger the obstacles will be that separate you from it.

2) Goals must be realistic—Even though goals should be big, they should also be realistic. For example, to go from nothing to a 48-track, state-of-the-art, multi-studio complex would be an example of an unrealistic goal for beginning studio operators. First of all, the monetary considerations would be beyond the grasp of most new businessmen. Secondly, staffing and managing a facility of that size requires years of experience. It would be better to start with a more manageable goal, for instance to build one 8-track room and then incrementally build

toward the second phase goal of an entire complex. Otherwise, frustration and fear may obscure the view of an overly ambitious goal or unrealistic expectation.

3) Goals must be specific—Your goals, to be effective, must be well-defined. You should, in the case of a new recording studio, make diagrams, put together equipment lists, and develop your concepts to the degree that they can be easily understood. Specify, down to the very last detail, exactly what you want to accomplish.

4) Goals must be measurable—For a goal to be a valid one, it must be measurable. Therefore, all of your goals should include time limits so that you will be able to measure your effectiveness in reaching them. Then, at regular intervals, you can see exactly how far you have come and how far you have to go.

Reaching Your Goals

Since the object of setting goals is to reach them, you should make every attempt to keep down your "frustration factor" by setting four basic types of goals:

1) Short term goals—These are the goals that you can reach within one month or less. They are the easiest to attain, pose the fewest problems and have the least number of obstacles. By setting easy goals that are on the immediate horizon, you will develop the impetus to go for the tougher ones.

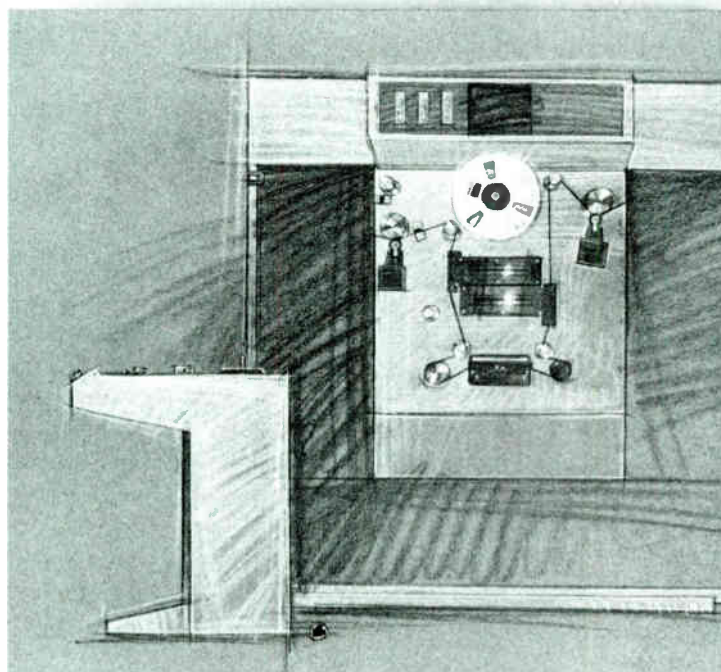
2) Medium term goals—These are goals that can be reached within the next year. They should be more challenging and should be broken down so that each goal consists of several smaller goals. That way you can track the progress of the bigger goal by analyzing the smaller ones.

3) Long term goals—These goals should fall in the one to five year range. These should be your most challenging and well-defined objectives. They too should be broken down into smaller goals, each with a definite time line.

4) Life goals—These are more personal and often less specific goals but should define where you want to be at the end of the next five years, ten years, 15 years, etc. Life goals play a critical role in the success of business goals.

There are various systems that you can use to assist you in tracking progress as you move through the planning stages of a studio venture. The effectiveness of the system depends entirely on the individual's application of the system; what may work for one person may not work for another. Over the next several installments of *Studio-scope*, we will continue to explore good business practices and procedures for creating, owning and operating a recording studio business. ■

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A Work in Progress



by Mr. Bonzai

The Al Kooper touch sweeps across two decades, a quality that brought life to such giants as Blood, Sweat & Tears and The Blues Project. Behind the scenes as producer, he had a hand in such acts as Lynyrd Skynyrd, Rick Nelson and The Tubes. His various bands have boosted the careers of numerous successful musicians. Today, he has a group called The Rekooperators and the old flame burns hot.

I ran into Al at the demolition party for the ol' Record Plant "The Last Jam" attracted a gang who had partied and played at the studio during the heydays since the late '60s. Al jammed with Joe Walsh, Stephen Stills, Waddy Wachtel, Joe Vitale, Jim Keltner and other friends in a nostalgic rave-up. Clad in a flashy leopard-skin tux and the customary shades, he chatted with humorous insight and raw clarity about the times that were and are.

At Al's request, Mrs. Bonzai and myself lunched at his bungalow in West Hollywood. We packed up a little roadkit of quail's eggs, assorted pickles, seaweed and rice crackers. Al greeted us and introduced his gal, Vivien, and Natasha, a vigorously affectionate pup. We toured the Kooper digs, unearthing life-sized cardboard incarnations of Al, Prince and the Kliban cartoon cat. He cranked up some rousing tunes in progress, recorded in his living room studio. Surrounded by walls of records, guitars, and an absent-minded professor's style of comfort, Al likes to kick up his heels at home.



PHOTO MR. BONZAI

Bonzai: What's maturity?

Kooper: One thing I haven't done is to grow up, but I'm very interested in the process and I watch people that I know. There is a definite line between man and boy, and some keep the child thing. I wonder when I will change, but if it never happens, that will be just fine.

Bonzai: The "adult" thing is an abstract image that people think they should become.

Kooper: It's like "Invasion of the Body Snatchers," when you can no longer defy the gravity of the system. You fall in and become "responsible"—not to say that I'm irresponsible.

Bonzai: Many fear retaining their youth because it means to continue to experiment. Some of us still want to stay up all night.

Kooper: Well, I still have that because I'm an insomniac. I only sleep three or four hours a night. I've been to sleep

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clinics at UCLA and the University of Texas and they tell me that when I sleep I immediately fall into very deep sleep, the kind of sleep that most people take hours to achieve. I was told not to worry, because I get the equivalent rest.

Bonzai: It isn't drug-related, is it?

Kooper: No, not at all. I went through my drug phase in '65 to '67, when I did anything that came my way. Then I stopped completely so that I could put together Blood, Sweat & Tears. I felt that I should be completely straight, because it was such a gigantic undertaking. When I stopped, I enjoyed the difference and decided to stay that way. Besides smoking a little pot now and then, I've remained totally straight.

Bonzai: And you don't drink...

Kooper: I can't, because of my ulcer.

Bonzai: Does it worry you?

Kooper: (laughs) No, it's just my cross to bear. The insomnia isn't really that debilitating, so I can't really complain. In fact, when I have a lot of work to do, it's extremely useful. While I was writing my book, everybody went to bed and I typed all night.

Bonzai: Book?

Kooper: It's called "Backstage Passes." I wrote it in 1977 and I just learned that it's back in print. I wrote it for people who are passionately interested in the music of the '60s. There was

something happening behind the scenes that was very different from the surface. I wrote the book so that it was just like the subject matter—slovenly and psychedelic and weird. I may write more because it brings out my dormant intellectual side, something that has no use in my everyday life.

Bonzai: You were only part of Blood, Sweat & Tears for less than a year—what was your role?

Kooper: It was a concept that I had, based on a jazz period I went through from '60 to '64. I had stopped listening to rock and roll because it was so awful. I got sucked into jazz—it really started on my fifteenth birthday when my parents took me to the "Five Spot", a club in New York City. Me and my best friend took books with us because we thought we'd be bored. It was just amazing to me and fucked me up seriously. It's wonderful that I saw that particular lineup—Art Blakey and the Jazz Messengers, with Bobby Timmons at the piano. He wrote a lot of commercial jazz tunes that were very soulful, and he died very young. He was a monster, and I was a piano player of sorts. Lew Morgan was on trumpet—they just completely tore me up.

Bonzai: When did you first perform for an audience?

Kooper: Right away—immediately.

Bonzai: Right out of the womb?

Kooper: As quick as it could be done.

It was very left field for my parents—they didn't expect anything like this. But, in fact, they had the radio on all the time. It got me instantly. My first memories are related to music—Bing Crosby, I think. I was hooked and I feel like I had had a gift. The first time I sat down at the piano, I could play. I was six years old and went with my parents to visit some friends who happened to have a piano. I sat down and played "Tennessee Waltz"—on the black keys.

Bonzai: Did they start screaming, "Oh, it's Mozart!"

Kooper: No, they weren't even paying attention. (laughs)

Bonzai: Did you get any formal training?

Kooper: Well, we weren't very well off. We lived in Queens and I kept asking for a piano but they were afraid they'd plunk down the dough and two weeks later I'd be asking for a hockey mask. When I was 11, they finally bought one and I started taking lessons from the proverbial old fat lady. It was horrible. It wasn't what I had in mind. I would learn the stuff by ear and then play it back. No one suspected that I hadn't learned to read. Eventually, after going through millions of teachers I learned to read. My mom found this very attractive younger woman, Ann Sernas. I hope she's reading *Mix Magazine*. She brought me the sheet music of popular songs and taught me how to read and play the big hits—"Three Coins in a Fountain," "Love is a Many Splendored Thing," and songs like that.

Bonzai: Let's get back to Blood, Sweat & Tears...

Kooper: It was just a dream I had after seeing Maynard Ferguson and his band a lot. I wanted to bottle that sound and make it rock and roll. His band was the closest to rock of the jazz bands. Between '60 and '64 was a terrific period for jazz. Such great music that is so much a part of me today.

Bonzai: How did you get in a position to launch such a successful band?

Kooper: I was in The Blues Project at the time and started writing songs that were beyond their instrumentation. I asked for three horns and they wanted to stay as a quintet. I just kept writing and it became ludicrous to stay with them. I quit, and it took a lot of work to put together Blood, Sweat & Tears. The first album had the songs that I'd written, plus others that I just loved.

Bonzai: And you left the band before it really hit?



PHOTO MR. BONZAI

Kooper: Oh, yeah—I somehow usually manage to avoid the last step to megafame. I think it comes from hanging around Dylan.

Bonzai: How did you get involved with him?

Kooper: Well, I've told the story before, but I'll try to give it a fresh twist. Basically, I was invited by his producer to watch a session. At the time, I was making my living as a studio musician. I decided the night before that I couldn't go to a Dylan session and just watch. So, I got there an hour early and plugged in. When the other musicians came, they assumed I was there to play. It didn't look weird to them, because I might have worked with them the day before and the day after.

Then Dylan walked in with a guy who had a Telecaster over his shoulder—like Johnny Appleseed. No case, and it was covered with snow because it was the dead of winter. He just towelled it off and started playing. I was thrilled—I'd never heard anybody play like that. It was Mike Bloomfield. I thought I was a good player, but when I heard him, I packed up my guitar and went into the booth.

The producer hadn't noticed this little scene and about two or three hours into the session he moved the organ player over to the piano. I suggested that I sit in on the organ, but he just said, "Oh, man, you don't play organ." Then he got a phone call and while he was gone I walked out and sat down at the organ. They started taking this song—the only complete take of the day. I couldn't even hear the organ because the band was playing so loud. I just played by touch, knowing that if I played a C it would work with the F chord, and like that. During the playback, Dylan asked the producer to turn up the organ. He said, "Oh, man, that cat's not an organ player." Bob just told him to turn it up. That was "Like a Rolling Stone."

Bonzai: Tell me about The Blues Project.

Kooper: That was a band that was in the right place at the right time, '65 to '67. Danny Kalb, Steve Katz, Andy Kulberg, Roy Blumenfeld and myself. We were inseparable. We didn't get along all that well, but we were thrown together and experienced the first wave of that era of rock and roll on the road. It was a new scene and we got shot at, chased, thrown out of restaurants—the closest thing that a white guy can feel of the black experience in America.

Bonzai: Can you remember the most dangerous situation?

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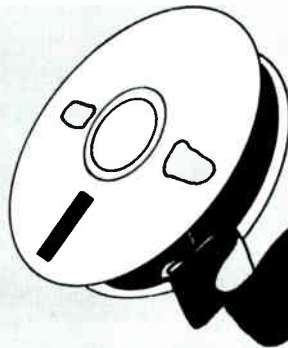


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Kooper: There was a bunch of 'em. I was the most scared when we had a job in Grennel, Iowa, a college town. We flew from San Francisco to Des Moines, changed planes and flew to Cedar Rapids, then drove the rest of the way. After 15 hours travel time, we got to the hotel and they wouldn't let us check in. We were fried and starving so we stopped at a truckstop for some food. Usually, we would have sent the road manager in, because he was 6'4" and had short hair--but we were chompin' at the bit so we all piled in for a meal. There were some college kids at the counter so it seemed pretty cool. We ordered about a million dollars worth of hamburgers and then this guy walked in.

He looked like Hillbilly Jim, the wrestler--an enormous man wearing bib overalls carrying a shotgun. He sat down at the counter and didn't see us. He started giving the college kids shit--and they looked normal. I pleaded with the band to leave, but they were starving. They were willing to die for their food. I was on the inside of the booth, so I couldn't leave.

Anyway, this mountain of a man gets up to relieve himself and spots us. He did a take, took a step, and then glared at us again. He went into the bathroom and I said to the guys, "NOW! Can we please leave?" They wouldn't

do it. I was incredulous. The monster came out, finished his coffee and as he was leaving, said, "I think I'm gonna shoot me somebody tonight."

We lingered over our food for quite a while, looking out the window. "See anything?" "I think there's somebody on that grassy knoll over there." I was scared shitless, but we made it out OK. That was a typical tour at the time.

Bonzai: But things got easier, didn't they?

Kooper: It took a while. Many people bore the brunt of the changes. Young people in those towns who started to look and act like us had to bear a lot of pressure before everyone could relax.

Bonzai: What about the "Super Session" album with Stephen Stills and Mike Bloomfield. That was one of your career highlights, wasn't it?

Kooper: Yes, and it's still selling. They just released an audiophile pressing, but I'm holding up the release of the Compact Disc, because I'm not satisfied with all of CBS' blanket digital mastering. They've got to learn how to optimize and take full advantage of the technology. To have a decent audio system and a CD player is to know what it sounds like in the studio. Half of the CDs released today really stink. The key is to color the sound if it needs

coloring, or if you've got a good master, to make it sound as close to purity as possible. It's very different from records. You have the advantage that a CD isn't four generations down from the master.

Bonzai: You kept a pretty low profile with Lynyrd Skynyrd, didn't you?

Kooper: Purposely so.

Bonzai: What was your role with that band?

Kooper: I found them, signed them and produced them. I just heard them play, and after three nights in a row it got to me. I thought they were fantastic.

Bonzai: What was the hook?

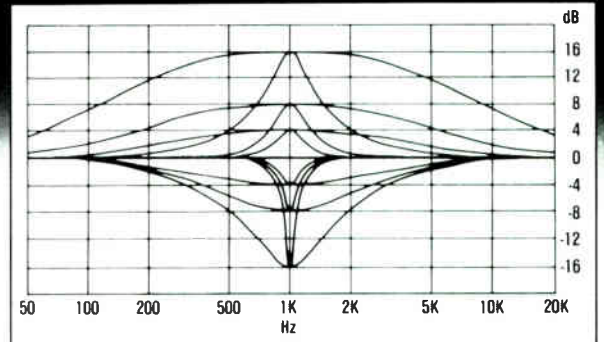
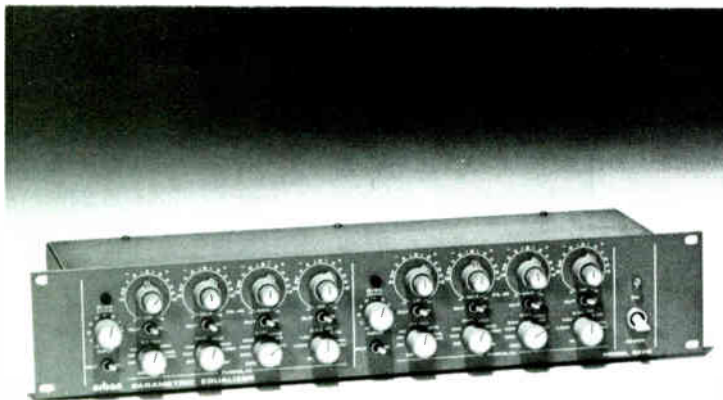
Kooper: A song called, "I Ain't the One", which is on the first album. It has just never stopped destroying me. It has all the things that I love in a rock and roll record, and it's performed to perfection.

Bonzai: Was it the plane crash that stopped everything?

Kooper: Yeah--the head guy was killed and he was so much of what it was that it couldn't exist anymore.

Bonzai: What about The Tubes?

Kooper: Well, A&M signed them and didn't know what to do with them. I



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knew of them and threw my hat in the ring and said I'd like to produce them. A&M said, "Yes, yes—please do something with these guys." It was a major thing in my life, their first album. I'm very proud of it.

Bonzai: You've got a new band these days, The Rekooperators. . .

Kooper: Yes, we just got back from our first tour—got some great reviews in San Francisco.

Bonzai: Who's in the band?

Kooper: Oh, a bunch of local yokels that I found through the processes of destiny. They're fantastic musicians that no one has heard of—yet. One of the most wonderful things about being around so long is that I've started out a lot of musicians who are on top today. Anyway, I've got a band that jumps off with traditional American music and then distorts it. We're sort of a cross between Little Feat and Talking Heads.

Bonzai: Well, Al, how does it feel to be a living legend?

Kooper: I don't know, how does it feel, Mr. Bonzai?

Bonzai: OK, when did you first realize you were destined for the big time?

Kooper: It wasn't like that—I just had a burning desire to make it.

Bonzai: Sorta like you feel now?

Kooper: No—when I started out I was 95 percent ambition and 5 percent talent. Now it's totally reversed.

Bonzai: Who's the most amazing person you've worked with?

Kooper: Probably Dylan.

Bonzai: And the relationship continues?

Kooper: Yeah, I just talked to him yesterday. He's improved with age, especially as a human being. He's really a great guy now.

Bonzai: Was there something wrong before?

Kooper: I think he was just intimidated by the fame. It was the ol' "too much, too soon" syndrome. I think having kids and the natural aging process has created a greater person.

Bonzai: Is there anything left that you'd like to do?

Kooper: Yes, I really want to produce a B.B. King album, and I wish Ray Charles would record one of my songs. And I'd love to meet Eddie Murphy.

Bonzai: Can you imagine yourself playing music in another historical period?

Kooper: No, I found my right time.

Bonzai: What would you have been doing a thousand years ago?

Kooper: I probably would have gotten the plague.

Bonzai: If you could be any woman—living or dead—who would you be?

Kooper: Hmm, Bessie Smith or Billie Holiday—although they had a tough way to go.

Bonzai: What did you think when you first discovered sex?

Kooper: I guess I won't be playing the piano for awhile. . .

Bonzai: What old saying do you hate the most?

Kooper: "You got to learn the rules before you can break 'em."

Bonzai: Do you believe in miracles?

Kooper: Sure, it's been a miracle up to now. The fatality rate in this business—practically everyone I knew is dead—it's unbelievable.

Bonzai: Are your folks still alive?

Kooper: Yeah, but they don't go on the road much.

Bonzai: Is there any hope for our race on this planet?

Kooper: Well, Reagan can't run for three terms.

Bonzai: Do you have a favorite old saying?

Kooper: "If I'd known I was going to live this long, I would have taken better care of myself." ■

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STUDIO CENTER

Attracts Detroit Production Community



Pictured from left to right: Ron Rose, president of Ron Rose Productions; Steven Wild, president of Grace & Wild Studios; Allan Rothfeder, managing partner of Studio Center Investment Company; the Honorable Jan Dolan, mayor of Farmington Hills; Ginny Hart, manager of Victor Duncan in Detroit; and William Kostick, city manager of Farmington Hills.

by Jan Loveland

Although physically consolidating a community of video/film production, audio and video post-production and allied businesses such as equipment rental is hardly a novel concept, by the end of 1986, the Midwest will have its first: a development in the Detroit suburb of Farmington Hills called Studio Center located on a seven-acre site. Grace & Wild Studios, Inc., a film/video studio, was the first tenant to commit to the new "communications park." Ron Rose Productions, an audio production studio, and Victor Duncan, Inc., an equipment rental company, will also operate from Studio Center, which is located approximately 20 miles northwest of downtown Detroit.

In early February, the Studio Center Investment Company announced that two major tenants had committed to locating in the complex: Full Circle Communications, Inc., a video production company specializing in video disk productions; and Geoffrey & Jeffrey, a video production company specializing in animation.

The thrust for the project came from Steven Wild, president of Grace & Wild, when he learned in 1984 that his employer, CBS/Fox Studios, planned to sell its Studio Operations Division, as well as the building in which its duplication facility was located. Wild teamed up with partner Harvey Grace to buy the business operation. Through Grace, he found Allan Rothfeder, a commercial real estate developer, who was

convinced that the entire site could be developed to include communications-related businesses. Rothfeder, who now serves as managing partner of Studio Center Investment Company, says that his company took two years "to get the concept right." Wild had paid numerous visits to the 20th Century Fox production lot in Hollywood; in preparation for the Studio Center project, both Wild and Rothfeder visited Las Colinas, a similar installation in Dallas, and studied the Kaufman-Astoria development in New York.

"It is our understanding that Las Colinas was designed to bring Hollywood folks to Texas," observes Rothfeder, "but the local production community will be our bread and butter." Adds Wild, "The Detroit production community has been spurred on by good economic times—lots of businesses are doing well." Most observers believe that Studio Center can reverse the trend of local producers to take their business to the coasts, and view the development as a chance for Detroit, which has long been a center of industrial film production, to gain recognition from ad agencies and production companies nationwide.

Planned for the site is the construction of three new buildings. A two-story, multi-tenant building with 44,000 square feet of space will house both Ron Rose Productions and Victor Duncan, as well as other tenants, with completion slated for late 1986. A large new 110 x 140 foot production sound-

stage will be erected for Grace & Wild Studios by year's end, and a second, smaller multi-tenant complex will go up in 1987. Grace & Wild's existing stage will be renovated as part of the plan; the current CBS/Fox duplication facility, which will be vacated by the end of 1986, is also slated for renovation to become Grace & Wild's post-production facility.

All buildings in the park will be linked electronically. For Ron Rose, this means that a finished track can be sent directly from his studio to Grace & Wild's post-production facility nearby. At present, the link with the two Grace & Wild studios and post-production facility will be hard-wired; eventually, fiber optic cable may be substituted as that technology advances, according to Rose.

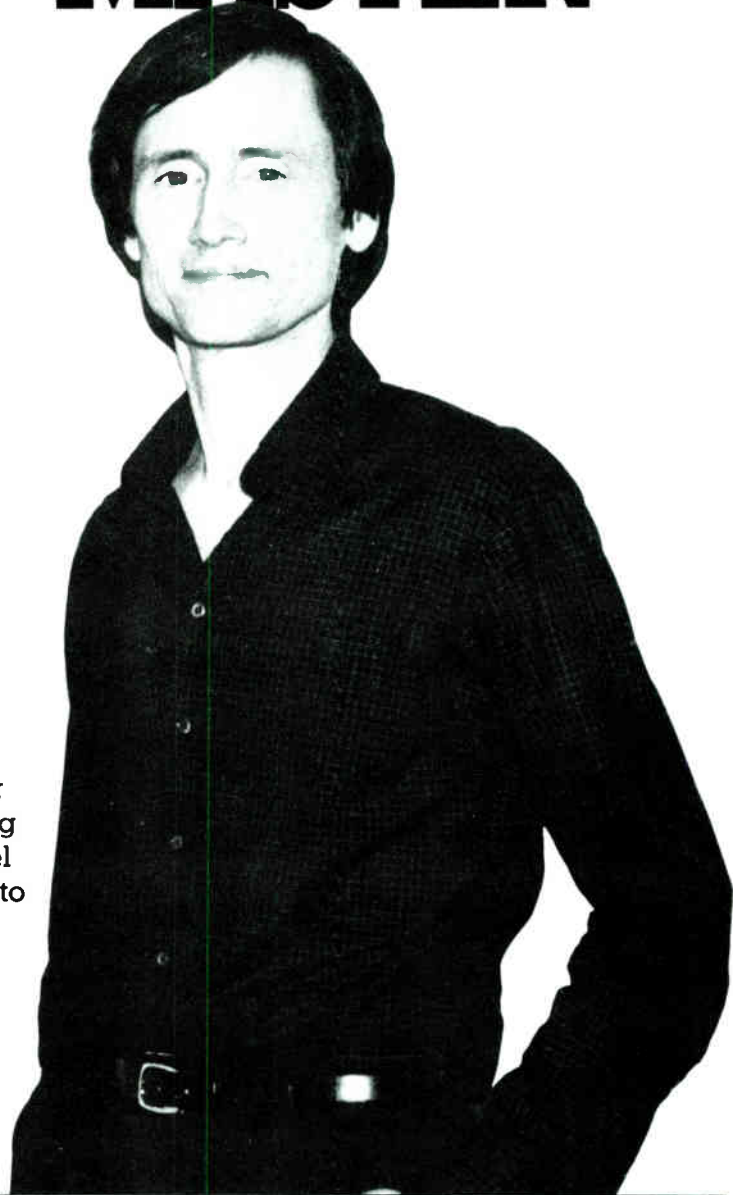
Rose says that the newest of his three studios will incorporate "everything we've learned in ten years of building studios." Installed in the new control room will be an automated NEOTEK Elite board and, a Shadow controller pad will simultaneously interlock 4-track mag film track, 4-track half-inch audio tape, 24-track 2-inch tape, and one-inch videotape. This innovative technology was suggested by his engineers and developed with the manufacturer; it will give the studio maximum flexibility in meeting the needs of the park's various clients. Other planned innovations include an in-studio booth that is a room-within-a-room, without a floating floor, and floor-to-ceiling windows in both studio and booth. With Rose's extensive libraries of music beds and sound effects, on tape and more recently Compact Disc, the new facility will be competitive on a national basis. His other studios in Southfield, Michigan, and Tampa, Florida, will also continue operation.

Grace & Wild Studios' large soundstage will rival another local facility, Producer's Color Service in Southfield, as the largest stage in the Midwest. In addition, Grace & Wild recently announced the acquisition of a state-of-the-art Symbolics 3765 Color Graphics system and an Abekas A-62 digital disk recorder. These amenities will further contribute to Studio Center's impressive high-tech arsenal.

The success of the project is viewed as a certainty by Ginny Hart, general manager of Victor Duncan's Detroit division. Victor Duncan's Dallas division is housed in Las Colinas; its Chicago division is located downtown, in an area where video/film-related companies are concentrated. "Las Colinas is much, much bigger," observes Hart, "but I'm real enthusiastic—I'm hoping Studio Center will give us a little core." ■



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World Radio History



Andy Kulberg

PRODUCING IN THE NEW AGE

by Linda Jacobson

Some people call it California Hot Tub Music; that doesn't faze Andy Kulberg. As one of the nation's foremost producers of this sometimes spacey, always mellow music, Andy can tell you that "New Age" is not a regional fad, but a viable, rapidly-emerging genre.

The Kulberg definition of New Age: "Music for people who are going to be alive in the crowded, busy world of the future. Music whose predecessors are more likely jazz and classical music than popular music. Popular music excites you, makes your body move, but New Age is more cerebral and can open you up to a more spacious experience. It can be medicinal, euphoric, emotional. For me, New Age music evokes a mind picture, a sonic fantasy. . . .

"At its best, New Age takes you from one point to another, as good music does, and at the same time doesn't

overamp you. The intent is music which is positive, relaxing, helpful, not counter-helpful. This isn't in any way a slur on current rock and roll lyric problems, which is ridiculous, I mean who cares? You write stupid songs and people like them, great. That's America.

"Jazz is close to the New Age format, because it's a body and mind music. New Age is largely mind music. Initially I wasn't a great advocate of it, and now I realize that it is helpful. I put on a tape on the highway, finding it's the only thing that's between me and going crazy. And it puts my kids to sleep, so that can't be all bad."

Producer/composer/synthesist Andy Kulberg is the kind of guy who admits, "I enjoy being overamped." Low-key, unassuming, and pleasantly cynical, Andy lives in talent-laden Marin County with his wife and three kids. A flutist and bassist, Andy was a member of the original Blues Project, which he joined after receiving a classical music education at Boston Uni-

versity and NYU. He also has performed on bass or flute with Seatrain, Pete Seeger, Simon & Garfunkel, David Soul, Chuck Berry, and Jay & the Americans.

He's also created music for movies, short films, and animation since 1972; written scores for PBS, NBC, & ABC television specials, the Disney cable network, and the TV show *Starsky & Hutch*, orchestrated pieces for the San Francisco Symphony; mixed the audio in music videos for Greg Kihn and the Starship; and written award-winning music for San Francisco's One Act Theatre.

Andy got in his first production licks in 1967, while recording the Blues Project's LP *Planned Obsolescence*. When he wasn't looking, the production jobs kept coming. Says Andy:

"You don't even realize you're a producer until someone tells you. I ended up as a producer because I'm good at it and had a lot of experience, starting with my early involvement in the stu-

dio with the Blues Project in New York with Tom Wilson, who produced Dylan's *Highway 61 Revisited*. I've worked with many different producers—Shadow Morton, Wally Gold. George Martin was a big influence on me, because I got to see him operate many times when he produced records for my band, Seatrain. He was a consummate professional, meticulous and perfect. He always carried around a little notebook filled with notes about productions he was working on, and at that time it included the *Let It Be* record, and I would sneak looks at his notes."

Fifteen years later, Andy's production and arrangement credits most recently include 11 New Age LPs featuring Daniel Kobialka, the principal second violinist of the San Francisco Symphony. Dan's record company, Li-Sem Enterprises in Belmont, distributes the disks and cassettes around the country. Their titles reflect their mood: *Mind Dance*, *Fragrances of a Dream*, *Path of Joy*.

Another recent Kulberg project was arranging and producing *Something Old, Something New*, a not-yet-released, digitally-recorded LP featuring violin virtuoso Stephane Grappelli and legendary harmonica player Toots Thielemans. And, to satisfy that old moonlighting urge, Andy also teaches a five-part, multi-track recording/production seminar at a San Rafael music store, Bananas at Large.

"I spend a lot of time wanting to write music, but I spend most of my time producing it for other people," he says. "I do a lot of work on ads, which is the bread and butter for the composer/musician/producer in the Bay Area. By consequence, I have a healthy commercial business with a partner, Chris Michie."

Kulberg/Michie Music Productions are music suppliers to the TV, film and recording industries. They handle audio sweetening at major video production houses in San Francisco. They compose and produce music for commercials (regional and national radio/TV spots for clients including Gallo Wine, Pacific Gas & Electric, and Del Monte), working with mega-agencies Ogilvy & Mather and McCann-Erickson.

Ninety percent of Andy's work is recorded, mixed, and mastered using digital technology, across the Golden Gate in San Francisco. His pre-production studio in Marin is full of charts and gear, dominated by Andy's key-

board synth (Yamaha DX7) and digital sequencer, Yamaha's QX1. There are various tabletop multi-track tape decks, old monitors, an upright acoustic piano, a small digital rhythm programmer. "I don't have very sophisticated stuff in here other than the computer [the QX1], because when I get down to actually recording a serious project, I end up in the studio."

But digital drum tracks and New Age music? Isn't that like putting curry powder in a hot toddy? Andy says, "In some of the earlier recordings with Dan Kobialka, there were sequential tracks and digital echoes, sort of bell-like, a reflection of the transcendental idea, but I should have dropped that. When you're dealing with great music like Handel or Bach, you don't have to do much to make their stuff work. We do a very true rendering of the music, though it's slowed down a little bit and we're using an electric piano, along with real instruments like the French harp, flutes, string bass. And the violin. It's a modern orchestration of a classic, as opposed to being a scam of a classic."

"I've always been interested in strings. I long admired Dan Kobialka, and now he and I are taking his New Age approach to classical music. We mix the computer orchestra with his solo violin; I turn the computer into a

very effective orchestra. We add other acoustic instruments as necessary, using SF Symphony players. One thing I've learned as a producer is that the quality of your product has a lot to do with the quality of your artist, so if your artist is world-class, your product can be too."

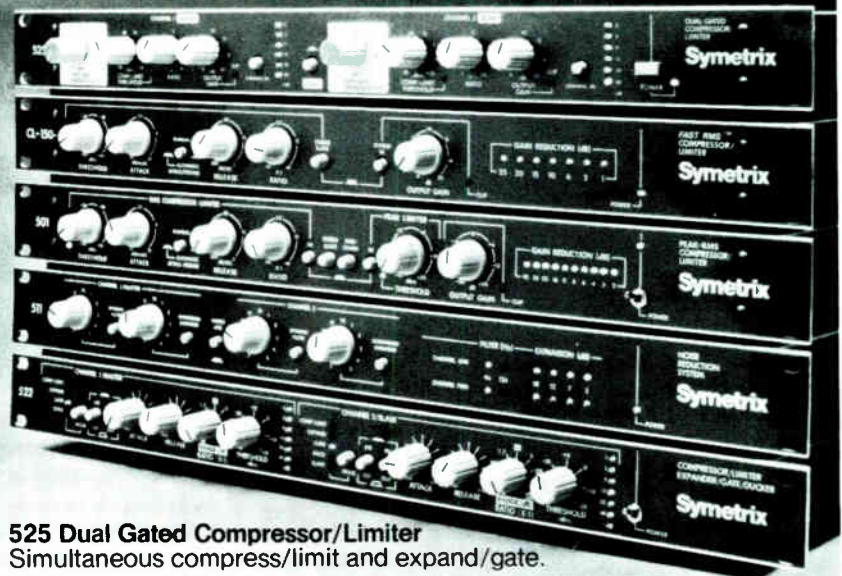
"At its best, New Age music takes you from one point to another, as good music does, and at the same time it doesn't overamp you."

When Andy prepares for a Kobialka recording, he first puts together "the basic harmonic pad, which follows the form of the music all the way through, and I prepare it all on the

DX7 and the computer. Then we go into the studio and we turn on the digital machines, and Dan plays along with the computer, and we get this one generation of music. And if we need more strings, we have further strings come in, or just use a Mitsubishi analog/digital machine. It allows you to edit analog and digital at the same time. If we want more than one track, rather than going over to tape, we throw it over to a digital machine. But some of these pieces are 20 minutes long and it's difficult to ask a musician to play for that long without making a noise. So we get into other modes, some tape work, but I'd say 90 percent is digital, from start to finish. We don't go to tape until the final moment.

"Digital machinery can put out all these beautiful pure sounds, it's all incredibly in tune—which you never find with a real orchestra," he continues. "Getting out of tune is one of the first things that gets in your way when you deal with an orchestra... but I'm always going to strive to use a real orchestra. It's one of my ideals to use musicians in the face of what the world seems to want us to do right now. I feel it's my job as a trained musician and producer to hit people with real music if it's possible. And if not, I'll just keep my mouth shut and carry on." ■

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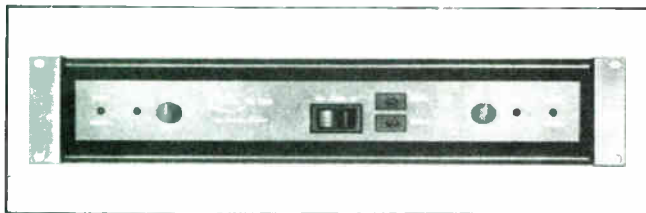
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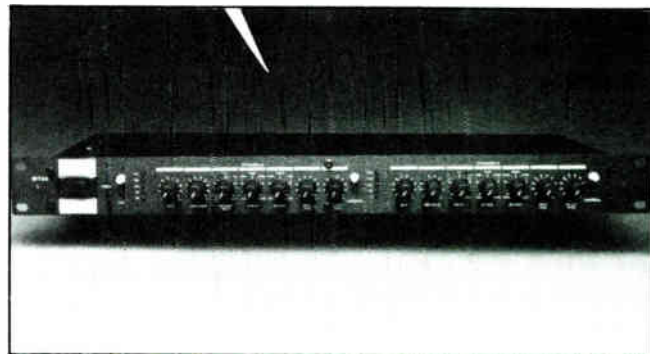
P R E V I E W



QSC MX 1500 Amplifier

The MX 1500 amplifier from QSC Audio Products (Costa Mesa, CA) was developed for stable, high power operation into loads as low as 2 ohms. The unit occupies two rack spaces (3.5 inches high) and has a rated output of 750 watts/channel into 2 ohms at 1 kHz, or 500 w/ch into 4 ohms (20-20k Hz). Bridged mono output is stated at 1500 watts into 4 ohms (1 kHz). The MX 1500 features recessed front panel controls (channel gain, circuit breakers, AC power), LED power/protect and clipping indicators, 1/4-inch RTS and barrier strip inputs, 5-way binding post outputs, and a net weight of 47 pounds. A number of protection features are standard: back-to-front fan cooling, turn on/off relays, and AC pop suppression capacitors, as well as short circuit, open circuit, ultrasonic and RF protection.

Circle #028 on Reader Service Card



Audio Logic Stereo Comp/Limiter

The MT 66 Stereo Compressor Limiter from Audio Logic, of Salt Lake City, Utah, provides dynamic range control from 1:1 to infinity:1 and includes an internal noise gate to insure quiet operation when no signal is present. Front panel controls and features include: a link switch to join both channels for stereo tracking; LED bar graph gain reduction displays; compression activation switches; and controls for gate, threshold, ratio, attack, release, and input/output levels.

On the unit's rear panel are both balanced and unbalanced inputs/outputs, as well as side chain access connectors. The MT 66 is priced at \$299.

Circle #030 on Reader Service Card



Rackkrate™

Introduced at the Anaheim NAMM show and now available, Rackkrate from Four Designs Company (Canoga Park, CA) is a six space rack unit which provides a low cost method of securing rack mounted equipment for onstage or road use. Four Designs purchases custom crates from a manufacturer of milk delivery style cases and transforms them by attaching threaded mounting rails and padded handles. In addition to low cost, Rackkrate offers lower weight, greater strength and better ventilation than regular rack units, and the resilient plastic case absorbs the sharp jolts encountered when transporting equipment. Rackkrate comes with mounting hardware, a one-year warranty, and is priced at \$49.

Circle #029 on Reader Service Card



Numark Pitch-Control CD Player

Numark Electronics, of Edison, New Jersey, unveiled their CD9000 variable speed Compact Disc player, offering the fidelity of the CD medium with the flexibility of variable pitch and speed control for altering the tonality and tempo of musical selections.

In addition to variable speeds and pitch (both $\pm 10\%$), the CD9000 also features reloadable, cartridge-type slide-in CD carriers to facilitate disc handling. Other standard features include a digital program number indicator, repeat mode, memory recall, forward/reverse search modes, a full function remote control, and a special program and LED to alert the user when a particular selection has thirty seconds remaining, a useful touch for broadcast and nightclub applications. The CD9000 is housed in a 19-inch rack mount chassis and is priced at \$1,669.

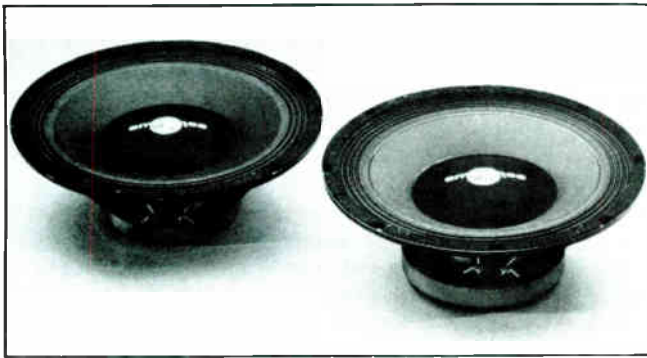
Circle #031 on Reader Service Card

Decillionix Synthesra Software

Synthesra, from Decillionix (Sunnyvale, CA), is a MIDI sequencer and controller program for the Apple IIe/II+, designed to bring a complete MIDI system under the control of a single user-designated master keyboard. Each key on the master can be assigned to any voice of any MIDI instrument or component in the system, with control of up to 16 keyboards, drum machines or other MIDI devices from up to one keyboard.

Synthesra supports unlimited keyboard splitting, doubling, and echoing, and the built-in sequencer provides 100 sequences with 16 tracks each. Via its "master keyboard control" philosophy, any key can be assigned to start, stop, loop and sync any combination of sequences. The program is \$120, and includes software diskette, quick reference card and operator's manual. Requirements are a 64k Apple IIe or II+, a MIDI interface card, and at least one MIDI keyboard.

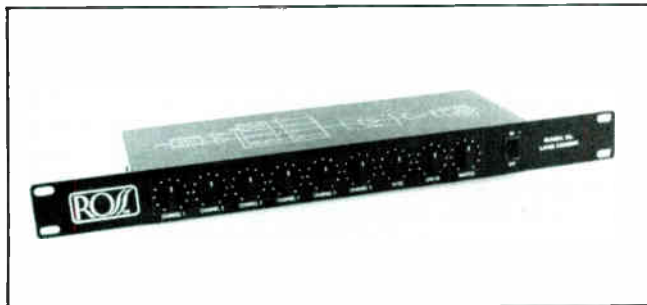
Circle #032 on Reader Service Card



Eminence Enters MI Speaker Market

Eminence, a dominant OEM speaker source since 1966 for manufacturers such as Fender, Peavey, Randall, Community Light and Sound, and others, has launched itself into the MI/pro replacement speaker market. The line is distributed in the U.S. by Oxford Sales Company, Chicago, IL, and now available are 10, 12, 15, and 18-inch speakers in a variety of price ranges, including: stamped steel basket types, die cast frame models with edge wound voice coils, and many new products to follow.

Circle #033 on Reader Service Card



Ross Single Space Rack Mixers

Ross (distributed in the U.S. by IMC of Fort Worth, TX) has introduced two single space, rack mounted mic and line mixers. The RM6L, priced at \$99.95, is a six channel line mixer with 1/4-inch inputs, individual channel volume controls, and master volume, bass and treble controls. The RM6M is a six channel, transformer balanced mic mixer with XLR inputs controlled by front panel volume controls, master treble and bass, and a master volume control.

Circle #034 on Reader Service Card

Neve 8232 Audio Console

Slated to be unveiled at the 1986 NAB Convention in Dallas is the 8232 audio console from Rupert Neve Incorporated. Designed for TV production, post-production and multi-track teleproduction chores, the 8232 features 32 mic/line inputs; 24 mixing buses; Neve formant spectrum equalization, four mono auxiliary sends and a stereo cue send on each channel. Stereo reverb returns are optional. The console also includes a central assignment system of output bus switching with an easy-to-use memory that allows quick visual review of all channel assignments.

Circle #035 on Reader Service Card



BGW 750D/750E Power Amplifiers

BGW Systems, (Hawthorne, CA) has introduced the third generation of their 750 Series power amplifiers, which are designed to handle loads down to 2 ohms and deliver up to 850 watts/channel (IHF dynamic power). The use of low feedback, all-discrete circuitry and a greatly increased damping factor result in improved sonic accuracy: according to the manufacturer, the new 750s are 7 dB quieter, yet have 4 dB more gain than previous models.

The Model 750E, priced at \$1,699, includes dual 2.3-segment LED vu meters and eight indicators monitoring operating status. The 750D, which is identical except for the substitution of modulation and clipping indicators for the complete display, is \$1,499.

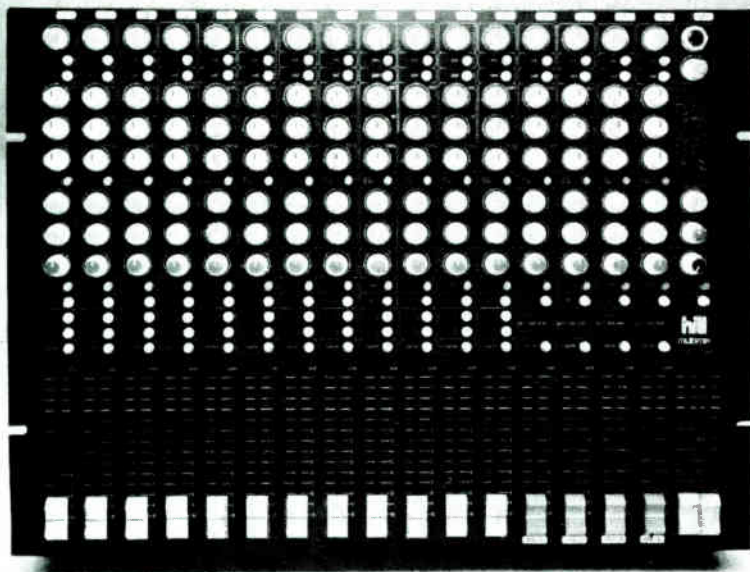
Circle #036 on Reader Service Card

Acoustical Physics Labs Monitors

New from Acoustical Physics Laboratories (Doraville, GA) is a series of control room monitor loudspeaker systems that incorporate time-corrected cone and dome driver technologies. Models in 3-, 4-, and 5-way configurations are available with matching electronic crossover networks, as is an optional dual 30-inch subwoofer system for use in large control rooms. Acoustical Physics Laboratories performs on-site set-up and performance certification of the monitor systems, using FFT (Fast Fourier Transform) and analog Bruel & Kjaer instrumentation.

FFT first arrival accuracy for the 3- and 4-way systems is ± 2 dB from 20 Hz to 20 kHz. The 5-way system incorporates a ribbon driver to extend response to 50 kHz. Power handling is 600 watts/channel with a maximum SPL output of 140 dB at 1 meter. Cabinetry is lead dampened, high density composite board with structural reinforcements. The standard sized monitor system is 48 x 32 x 24 inches, w x h x d; however, custom sizes and design configurations are available. Prices are from \$7,000/pair to \$11,000/pair including electronic crossovers, on-site factory set-up, and performance certification.

Circle #037 on Reader Service Card



Hill MultiMix Console

by Kevin A. Davis

Along with the popularity of MIDI music production and requirements for better location video sound, the need for small audio consoles has grown. The users of these consoles are looking for something that is durable, portable, and cost-effective. Hill Audio's line of products are especially tailored to the needs and the pocket-book of the budget-conscious user without sacrificing quality. Hill's Multimix console is no exception, offering options and features found on many larger consoles, but in a compact, rack-mount package. To assure this compact design, Hill made use of virtual ground (transformerless) technology in the input section of their console, thereby cutting down on the size of the board and making the overall sound more transparent.

The versatility of the Multimix console is apparent at one glance. On the rear panel input sections, beside the usual mic and line inputs, are four RIAA inputs on the first four channels, allowing the user to connect a turntable or other device requiring the RIAA equalization curve, without having to deal with an outboard phono preamp. Also on the rear panel is a set of 1/4-inch outputs on channels 13 through 16 which can be taken directly to a tape machine if desired.

Looking at the front panel, one notes

that the functions housed within the console are surely worthy of much larger systems. For instance, there are both active and passive attenuators, one being the active mic trim, the other a minus 26 dB pad. Also included on the Multimix is a built-in phantom power supply (activated by a push/push switch located between the sends and the EQ) delivering power to the desired microphone. There are two sends for use with effects, monitors, or headphone cues. Send one is post-fader to allow the signal to be altered by EQ or fader changes. Send two is pre-fader sending a clean unaltered signal. This arrangement can be changed for the user by the manufacturer upon request when you order your unit. The EQ section on the Multimix is of a fixed, three-band type. It has been designed with the musician in mind, providing continuous control, as opposed to the graduated switches that are found on many consoles. The EQ has center frequencies of 10 kHz, 1 kHz, and 100 Hz.

Probably the best feature on the Hill Multimix is its signal routing flexibility. Though the console has 16 inputs, channels 13 through 16 have the secondary function of being sub-group masters. These input/sub-group channels can be used in either of these modes, or as both input and group master at the same time. As strange as this may sound, this particular feature

actually simplifies the use of the Multimix, yet expands its range of possible uses.

No new device is without some drawbacks or inconveniences. Fortunately, the Multimix has relatively few of these problems, and those that do arise are easily dealt with. The main inconvenience of the Multimix is its pre-fade listen (PFL) feature, which takes the place of the solo button on other consoles. The existing problem is that the user must select the master PFL to listen to the main stereo signal through the headphones. Since the unit is designed primarily for rack-mounted operation, there can be a tendency for the 1/4-inch output connectors to slip out of the jack when the mixer is used in a horizontal desktop configuration. This would, of course not be a problem when Multimix is mounted in a fixed vertical rack, as would probably be the case in a video truck or club/hall installation. Finally, the peak indicator on each channel begins to register at +6 dB, which still leaves a lot of head room before you go into distortion.

The Multimix console comes with a very straightforward and easy to understand user's manual. While the amount of technical information contained within the manual is sketchy, it allows even a novice to immediately make use of the mixer, by going through a step by step list of all the functions and features.

Manufacturer Specs

Configuration: 16x2x1, 12x4x2x1 or 16x4x2x1

Frequency response: (EQ in) 20-20k Hz, \pm 2dB

Noise: -126dB, A weighted EIN -75dB residual

Crosstalk: >70dB @ 1kHz, >60dB @ 20-20k Hz

THD: <0.02% (midband), <0.04% (wide)

IMD: <0.02% (SMPTE)

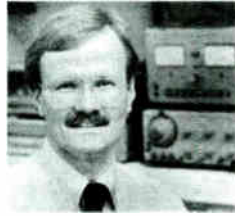
Aux sends: 2 per channel

EQ type: fixed, 3-band (100, 1k, 10k Hz)

Phantom power: 48VDC, individually selectable

Dimensions: mixer, 19 x 14 x 3.5 inches, rack mount; power supply, 19 x 1.75 inches (single rack space)

Shipping weight: 25 pounds



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Circle #038 on Reader Service Card

World Radio History

I had the opportunity to use the Hill Multimix and observe others use the console on several occasions. The first of these was with a choral group performing medleys of popular tunes. The board's variety of outputs allowed us to record a tape while sending the group a live monitor mix, and the grouping options simplified the job of mixing. Next, I had the opportunity to use the Multimix in a live rock and roll situation. In this instance, the fact that the sub-group faders are themselves inputs came in handy. We were able to group instruments while still using the input for some instrument in that group. Also, effects and monitor sends were easy to work with, thus making the performance fairly satisfactory.

The Hill Multimix is a solid little console, with a lot of potential to serve the user faithfully and in many diverse ways. Besides being versatile, the Multimix is electronically quiet, making it excellent for small recording jobs as well as sound reinforcement. In my opinion, this console is a good choice for small clubs and organizations wanting quality sound at an affordable price, and at \$1,999, the Hill Audio Multimix certainly meets the needs of this market. ■

AUDIX

OM-1

by John E. Barsotti

If you have ever been on stage performing, and unable to hear yourself without sending the monitors into feedback - the OM-1 may be the solution your sound system needs. The OM-1 is a new hypercardioid dynamic microphone from Audix that provides excellent off axis rejection for highly improved gain before feedback. This mic can not only be turned up higher before feedback than other mics on the market, but sounds better for vocals and many instruments than any other dynamic mic in its price range. The frequency response of the OM-1 is 50 to 18,000 Hz, with a slight boost in the 3 to 12k range giving this mic a tight, crisp vocal sound.

The OM-1 has a good feel for hand held use due to its balanced design and solid brass construction. It has the most durable construction of any mic I have used, an asset to all those using the OM-1 on the road. The OM-1 can be ordered with interchangeable grille caps: one is ball shaped



utilizing a strong woven steel mesh grille with a built in pop filter for vocal work, and the other is sleek for instrument applications.

Two other nice features of the OM-1 are: an internal shock mounted capsule that eliminates handling noise, and the 200 ohm mic capsule, housed in the middle of the mic for balance, is removable, for simplified field replacement.

While the OM-1 was designed primarily as a vocal microphone for sound reinforcement applications, it is also a useful all-purpose dynamic mic in either commercial or home studio situations. Due to the OM-1's off-axis rejection characteristics and tonal quality, it is an excellent mic for: toms,

Manufacturer Specs

Transducer: dynamic, moving coil

Operating principle: pressure gradient

Polar pattern: hypercardioid

Frequency response: 50-18k Hz

Impedance: 200 ohms

Maximum SPL: 130dB @ 1% THD

Sensitivity: -78.5dB, (0dB=1V/microbar)

Rejection: >30dB @ 180°, 1kHz

Weight: 300 grams

Dimensions: 179mm long x 36mm diameter

kick, percussion instruments, reed instruments, instrument amps, and vocals. The OM-1's directional characteristics and its wide frequency response also make it suitable for television and film work both in studio or location, especially where unwanted ambient noise levels are a factor.

The Audix OM-1 offers superior directional characteristics, excellent frequency response and sonic clarity, better construction and durability than other mics, easy field replacement of its mic capsule, and excellent balance for hand held use. Those of you who swear by the "old standby" mics for stage and road use may find another "favorite" microphone in the Audix OM-1. At \$325, the OM-1 offers significant advantages over more conventionally built microphones and should be widely accepted in the audio community. ■

Author John Barsotti, a professional musician for over 20 years, is an Associate Professor in the Broadcast Communication Arts department at San Francisco State University, teaching audio recording and TV/film sound courses. Barsotti is currently the president of the San Francisco chapter of NARAS.

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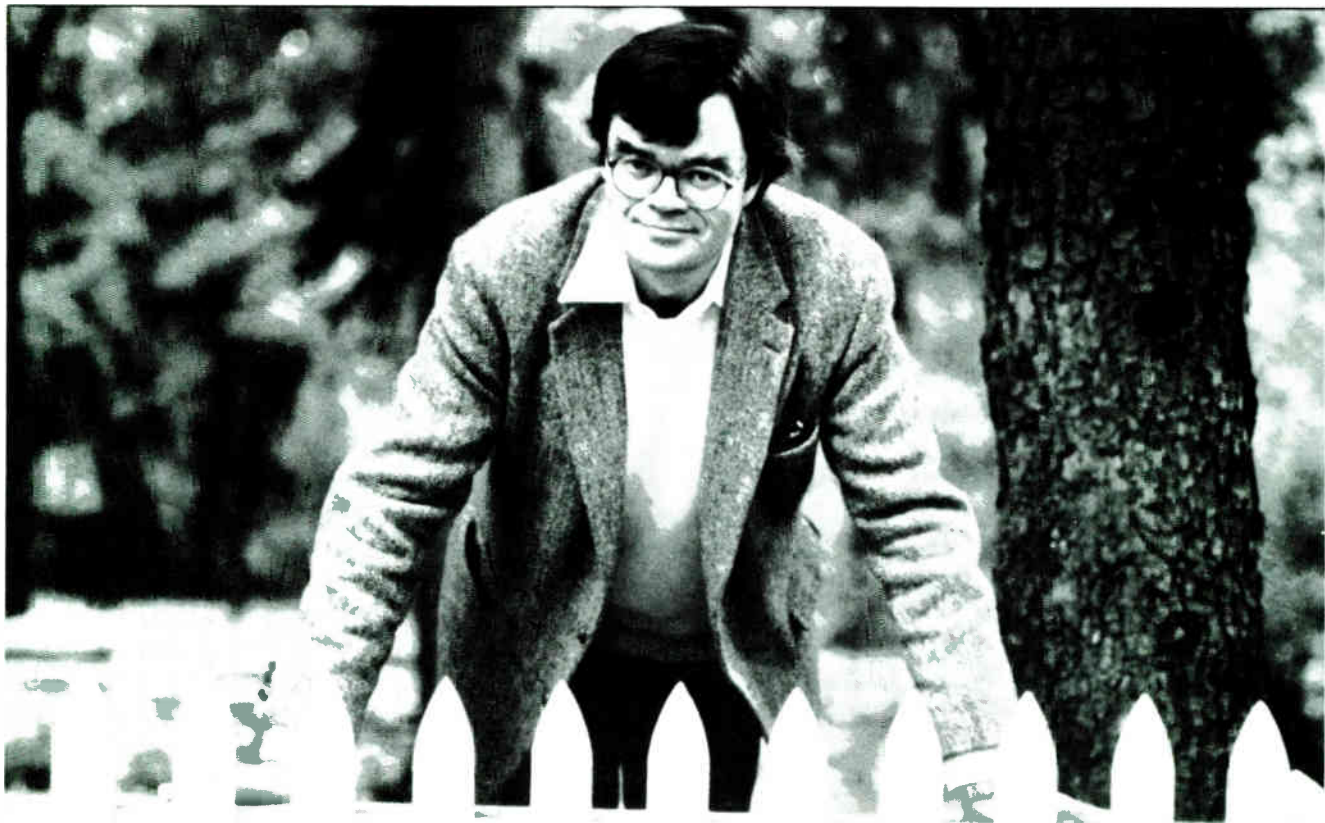


PHOTO: JIM BRANDENBURG

Garrison Keillor, host of "A Prairie Home Companion"

A PRAIRIE HOME COMPANION

Technology Grows with the Corn in Lake Wobegon

by Dan Daley

At precisely 5 p.m. on any given Saturday, the warbled strains of "Hello Love," Hank Snow's homey love song, leave the lips of one Garrison Keillor, author, raconteur and tall (6'4") teller of even taller tales. After hitting the capsule inside an AKG 452 standing on the stage of the World Theater in Minneapolis, Minnesota, his words travel at the speed of light through the bowels of station KSJN-FM, and milliseconds later emerge from the speakers and headphones of the brie and Volvo set for whom Keillor's *Prairie Home Companion* has become a weekend ritual: kick off the Reeboks, sip the Pouilly Fuisse and listen as Keillor spins yarns about the denizens of mythical Lake Wobegon.

The next hour and 59 minutes are then filled with Keillor's monologues, live music ranging from country and gospel to big band and honky-tonk, and an assortment of bogus commercials for sagging mattresses and heavenly powdered milk biscuits. But the downhominess of the show belies the technological process of getting this pastoral symphony on the air and into Bang and Olufsens from Martha's Vineyard to Marin County.

The World Theater is a stately and roomy place, a former home to vaudevillians who played to the descendants of Eric the Red while on their way to warmer venues, like Buffalo. It is an edifice intimate with the communication between performer and audience. But as *Prairie Home Companion* enters its twelfth year, and as its audience

grows with each new sale of Keillor's bestseller, *Lake Wobegon Days*, the World Theater has been undergoing a facelift, and the technical facilities that broadcast the tales of the chimerical Wobegonians are becoming as state-of-the-art as any son of a son of a pioneer could well expect.

Scott Rivard is the soft-spoken technical director for PHC. For the last two-and-a-half years he has mixed the live broadcast of the show on "temporary" equipment that has been in place since the show began broadcasting from the World about five years ago. (Before that, it led a wandering existence, shuttling between school auditoriums and other likely facilities).

"We've been using two portable mixers up till now," says Rivard, "the Studer 169 (a 10 x 2 console) and the Studer 269 (13 x 4). They're very solidly built boards." A Yamaha 512 is used to premix the audience sounds, while a Soundcraft 800B 32-input console is used in conjunction with primarily JBL components to comprise the house sound reinforcement system. Up till the beginning of February, the Studers were set up in the handicapped seating area of the World and mixing was done over headsets, which Rivard acknowledges wasn't the most wonderful



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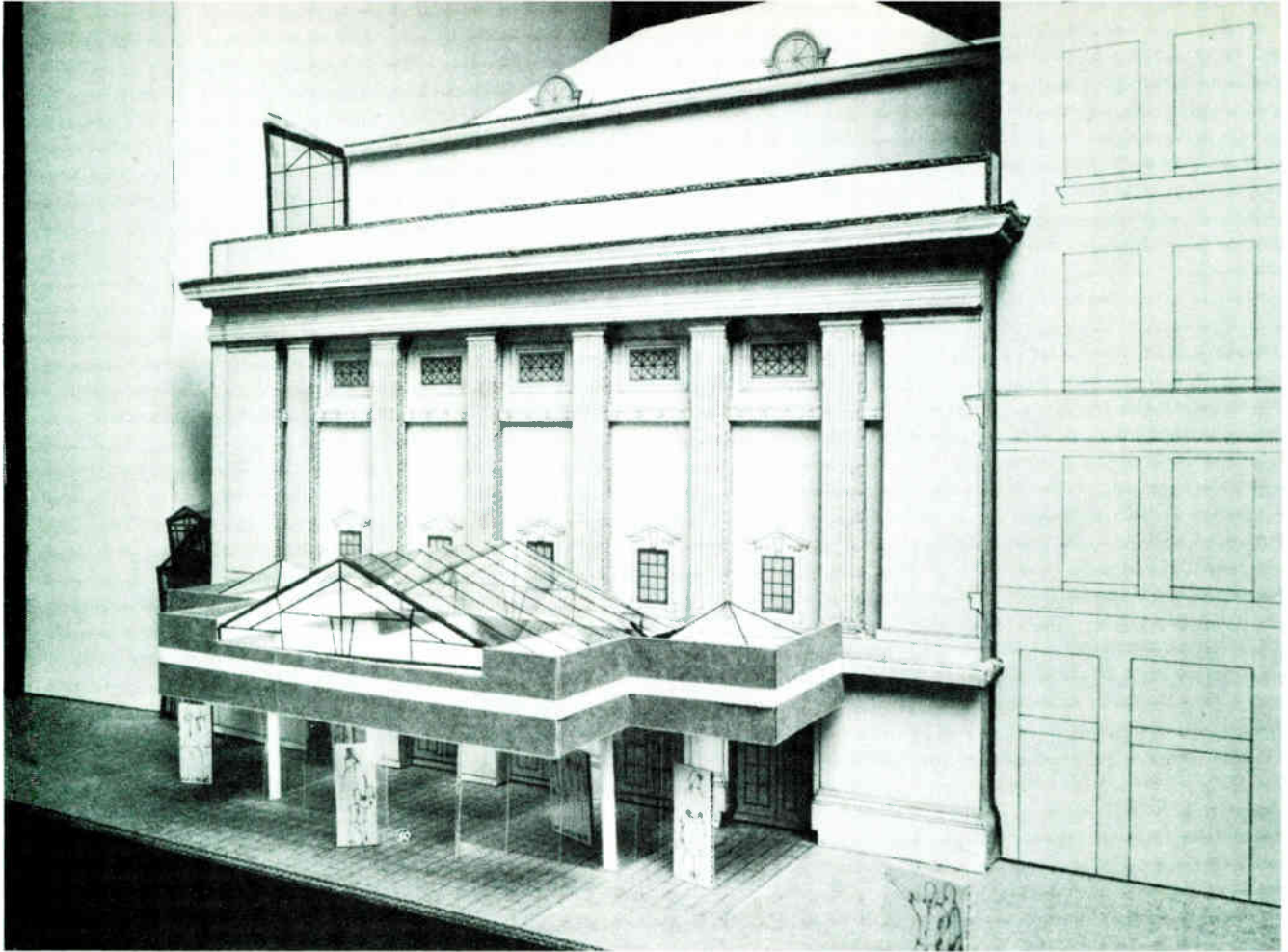
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This cardboard mock-up shows some of the exterior structural changes made to modernize the World Theatre, an old vaudeville palace that is now "home" for Lake Wobegon's colorful crew.

way to mix a live radio show—or perhaps anything else, for that matter. But recently a new control room was finished, reflecting an optimism about the permanence of *PHC*. In it is installed a Neve Series 51-36 x 8 x 4 console. One of the Studers will be kept for the audience pre-mix role, Rivard said.

Signal from the boards is sent to the Sony PCM F1 digital 2-track, which uses a videotape format. "We do that so we have that digital recording for post-production of our monologue-cassette series (Keillor's monologues are considered the high point of the show and can be purchased by mail order.) The Sony then feeds a set of stereo primary lines that go directly back to the station." In the past phone lines were used for this leg of the transmission, but recently some beneficently financed street excavations enabled the station to install a four-inch conduit from the theater to Minnesota Public Radio, the show's producer, located a few blocks away. Using their own land lines now, the signal is sent through Costom modulars which converts the audio signal into an intermediate frequency (IF). It's then moved via

coaxial landlines to a data uplink dish located a few miles away which sends the 6 MHz range signal up to Westar IV in its geosynchronous orbit. From there, it's beamed to over 270 National Public Radio stations across the country, each of which is responsible for its own downlink. The vast majority of these stations carry the show live; the rest tape delay it for an hour or a day.

Since the show is done live, Rivard has his hands full in terms of miking Keillor and his weekly assortment of guest performers. Depending upon the week's talent lineup, he employs anywhere from 16 to 30 microphones, in addition to four audience mics located in the theater (Rivard once had as many as 42 mics set up on stage when a big band came to visit). "It varies from show to show, depending on who's on," says Rivard, a native Minnesotan and who, had he lived in Wobegonian times, might be the taller you'd approach when the Philco went on the blink just when you needed to get your weekly fix of Kate Smith. "You might have three or four different bands on a single show. In these cases, you can get up to a large number of mics very quickly—and that's using

only two mics on the drums; just kick and overhead.

"We've never had the ability to do a really luxurious drum miking setup," he continues, "but on *Prairie Home Companion* what we can do works fine anyway because it's not really a close, tight perspective sort of sound that we want. We use a lot of mics so that we can have control over all the aspects of what goes on onstage, but the aim is to have a live and spontaneous perspective."

Bands appearing on the program generally have to share equipment since there is only a single stage allowing neither the room nor the time to change equipment during a live show. "A bluegrass act, a jazz trio and a cajun band might be on the same show," Rivard says. "They share their equipment and we just re-EQ or repair or whatever we have to do during the show."

The choice of mics presents some problems, too. "We have to find ones that work for both live and broadcast applications," notes Rivard, "but the broadcast aspect is the one that gets the most weight. We've come across a combination that works quite well for

us. For almost all the instruments, we use AKG 452s with CK-1 capsules, the 452 EB, the one with the roll-off on it, and we set the roll-off on either 75 Hz or 150 Hz because when you place the mic close to an instrument, the roll-off helps compensate for the excessive low-frequency build-up." Most of the performers use acoustic instruments, although guitar and bass amps aren't uncommon.

"On vocals, we usually use Shure SM85s. We have nine of those, although sometimes we have to rent a few more. They have real good mic-to-mic isolation and a fairly extensive frequency response. In addition, they give you the great freedom from handling noises and popping. Sometimes our stage crew will have to readjust a mic for height while Garrison is actually talking with someone, so it's important to us that the microphones be forgiving in that respect."

Garrison Keillor himself uses the SM85. "It's been a kind of evolution in terms of his microphones; he's used several over the years," Rivard says. "During the first shows, he used Shure SM5Bs. That mic sounded fine, but it's very low in output level and Garrison talks fairly softly to start with, so we ended up with mic problems insofar as we had such a low level from him coming into the console. The SM85

helped that.

"We also compress him, but very slightly. Most of the shows have been done without compression, but we did purchase a dbx 900 rack last year and we use a slight amount of peak limiting from the "over easy" limiter on that. But the program as a whole goes out uncompressed. We try to mix in such a way that the dynamics of each group go out over the air just as they are heard in the theater."

Now you might begin to think that all this new-fangled technology could perhaps get in the way of the show's folksy charm. Digital recorders? Satellite dishes? "Heavens," Keillor himself might exclaim in his sonorous voice. "There is always that danger as things come off a little more slick," Rivard says. "But our intention is not to let the technology get in the way of the show. The idea is to let this greater technology make life easier so we can be more creative. If you only need two hours to set up instead of four hours, it lets you spend more time on what's actually going on in the show."

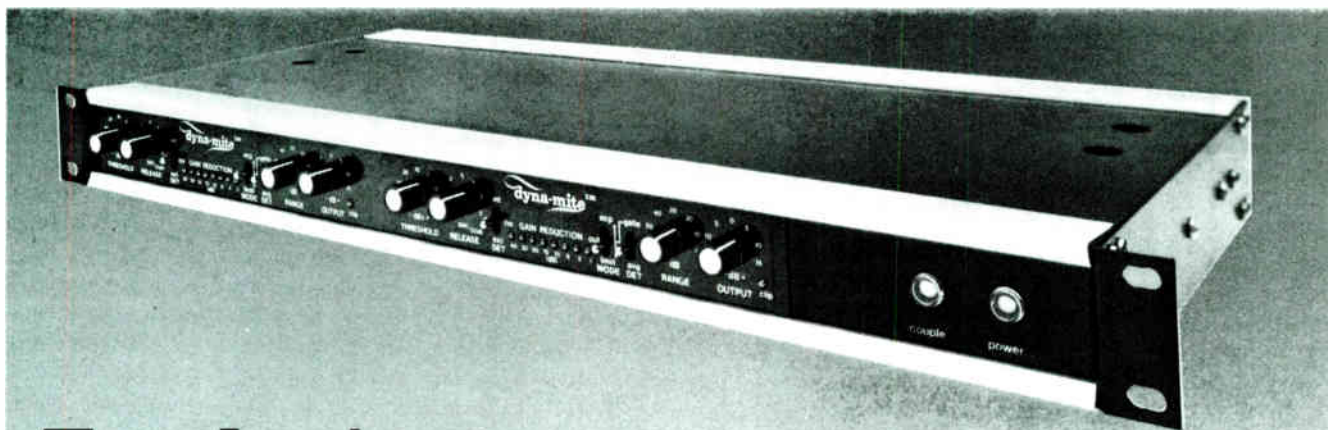
According to the engineer, host Keillor never gets involved in the technical doings of Lake Wobegon. However, Rivard notes, "He will definitely let you know if something's not working properly."

But concern that the technical end

of the show be seamless is understandable. This is live radio. While Rivard dismisses any notions that *PHC* is the latest link in a cultural chain that began with shows like *Jack Benny*, *Fibber McGee & Molly* or *Edgar Bergen & Charlie McCarthy*, it still carries on in a similar tradition. "It is a little loose at times," says Rivard. "The final script changes are made in the hour before the show, and the show's length is adjusted accordingly. But it's not tense at all. Everyone knows their job and they're quite competent about it. And if you make a mistake, it's live radio and that's the breaks and you go on to the next thing and forget about it."

Minnesota Public Radio has shown a commitment to keeping its technology state-of-the-art. In addition to the facilities for broadcast, they operate a recording studio - Studio M - which features a Neve V36 Series console with 36 channels, an Otari 24 track deck, a 3M digital 32 track, two 3M digital four-track decks and Otari 1/4 inch machines. Used for both radio and live applications, the facility is available for outside use.

And so, *Prairie Home Companion* rolls on, with today's technology enabling its host and creator to continue evoking his richly-textured tapestries of times gone by. Say goodnight, Gracie. ■



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24 Tracks + Midi Magic = 48 Tracks

by Bruce Nazarian

How many times have you wished for just *one* more track to add that extra vocal part, or guitar track, or whatever else? If this has happened to you, then this month's In Sync is right down your alley. Using SMPTE or a sync track, MIDI and contemporary sequencing techniques, you can literally double the number of tracks you have available to use in the studio.

Live Sync

The key to this is a technique I call "Live Sync." Simply put, this is the process of adding "live" sequenced drum or synthesizer tracks in sync with previously recorded tracks during the mixdown. The object is simple: by eliminating the need to record certain drum and keyboard parts, you can use more tracks of the multi-track recorder for recording other parts. In some cases, notably 8- and 16-track demo studios, this technique can make

a noticeable difference in the sound of your finished tracks. You can now use the same multiple-tracking techniques that the 24-track studios use, with the resulting "lat," professional sound. One other advantage of this technique is that the sounds you mix in live are all "first generation" when they are recorded into your mix. No tape noise added, and no loss of attack transients!

How It Works

Live sync can work for you in any number of combinations. . . from the simplest (just a drum machine with your 4-track) to the most complex synchronizing an 80-voice Fairlight™ sequence with a 48-track master tape (2 x 24-track). The key to practical live sync is the use of SMPTE time code or a sync-to-tape code as a "computer conductor." Live sync works best with computer-generated basic tracks, as would be the case if you were building up a track using MIDI sequencers and a drum machine. The sync track will clock all of the MIDI sequencers and drum machines in perfect synchronization with your basic tracks and subsequent overdubs.

How To Do It

Live sync is actually the last step in a three-stage process. In order to effectively use live sync, you must first prepare the sequences and drum programs that you intend to use. You then record your basic tracks (drums, bass, reference keyboards, etc.). This forms the "skeleton" you will build your finished track around. In cases, like 8-track, where track space is at a premium, you may wish to pre-mix the entire rhythm track and record it in stereo (or mono) to save tracks. Remember that you will be synchronizing these parts back in live, so you will get full control of each sound source in the final mix. Additional overdubs are then added to the basic tracks. Usually, these overdubs are the instruments (guitars, horns, etc.) and vocals that cannot, for one reason or another, be sequenced in during the mix. After that, you have only to sync up your sequencers and drum machines, roll the tape and mix, mix, mix! I should mention that in order to use live sync, you will need a console that can accept the additional inputs you will be using. For an 8-track facility, a 16-input console would not be too small, especially

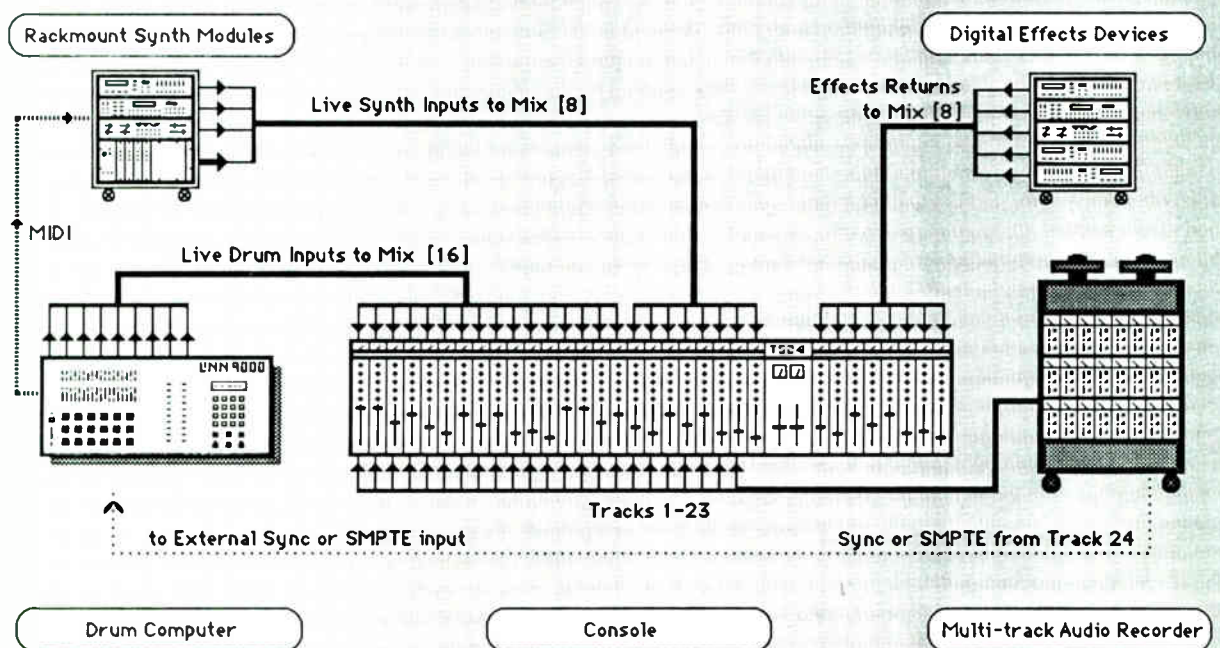


Fig. 1 24-Track Live Sync setup

Reverb, truly realized. Consider this: assemble every conceivable parameter of natural and plate reverberation, incorporate the possibilities of non-linear (gated) reverberation, augment these with a parametric equalizer, use a 16-bit A/D/A converter and a 28-bit parallel-operation signal processor. Put all of that under computer control for one-button convenience, and complete the picture with MIDI control for (no button) convenience. Roland has not only considered these ideas, we have realized them, in the SRV-2000 MIDI Digital Reverb. Roland Corp. US, 7200 Dominion Circle, Los Angeles, CA 90040.



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when you start including several channels of outboard effects returns. In my studio, I use a 32-input Soundcraft TS24 console, which actually has 64 mixable inputs. During some recent mixes using live sync, I managed to use almost all of these! (See Fig. 1)

A Perfect Example

Here's a good example of how a live sync setup can help an 8-track studio. My friend, Mark Nilan, called one day, frustrated by the difficulty he was having in perfecting his drum sound. His 8-track setup just didn't give him the subtle control he wanted on his LinnDrum tracks. He was stuck at the same place a lot of 8-track guys get stuck: if he cut only 2 tracks of drums (a stereo mix), he lost control of the drum sound during the final mix; if he used multiple tracks to record the drums, and then mixed it down with the correct digital reverb and other effects for each drum, he was down one generation by the time he got to the basic rhythm track. Here was a prime opportunity for live sync!

Solving the Dilemma

I suggested to Mark that he try out the live sync technique on one of his next demos. Since he had already programmed the LinnDrum parts, and recorded the Linn sync code, I suggested he cut a *mono* drum reference track using one track on his 8-track machine, then overdub as usual. For the mix, just sync up the Linn to the original Linn sync track, and mix the drums "live" into the final 2-track mix. (See Fig. 2)

This was a new twist on cutting electronic drums, but Mark was certainly game, and gave it a shot. The results were amazing! By keeping each drum input separate in the final mix, Mark was able to optimize the EQ and effects sends for each drum in the kit, giving his 8-track production the 24-track impact he was looking for. On his next project, Mark had a problem. After filling all the tracks with overdubs, he still needed one more track for an important synth solo. Feeling adventurous, he decided to erase the original mono track, and use it to record the solo. To accomplish this, he locked the Linn to the sync track, and brought the live drums up into his monitor mix while recording the solo. Live sync allowed him to create an 8-track production with absolutely *no* drums on the original master tape.

The Downside

Now, before you run right down (or up or out) to your studio to try this, let me clue you in on the possible disadvantages:

First, live sync is easiest to use with a computer-generated rhythm track, as mentioned before. This is because it is much more reliable to lock to an existing sync track than it is to try and create one by following a live drummer.

Second, utilizing live sync to totally replace the regular drum tracks forces you to rely on the sync track to clock everything perfectly. This is fine if you are absolutely certain that your sync track is rock solid. Since the drums are normally the foundation of a pop recording, any shifting of the groove

underneath your overdubs will be immediately obvious, and usually unacceptable. Worse still, if the drums shift and the bass or keyboard tracks don't, your carefully orchestrated computer production can sound a lot like a rhythm section with a hangover! The best way to be certain of your sync is to stripe the tape first (record the sync or SMPTE), rewind and record a quarter note click the whole length of the track, then rewind and play the same click "live" along with the click on tape. Any sync jitter will show up as "flams" or audible double-clicks. If you get this, watch out! You have a sync problem waiting to happen. Better try another track for your sync.

Third, live sync is a blessing for its expanded production possibilities, but it does put a time burden on the production. Somebody has to program all the parts that will eventually be synchronized with the track. This means you will need additional pre-production time to program and debug the necessary sequences. And, of course, computers sometimes act a bit bizarre when you least expect them to, so include some additional time in your mix session to allow for this.

The fourth possible disadvantage is a bit more subtle: the more you rely on the live sync technique, the more you must keep track of the computer data that is associated with it. This means drum programs and sounds, synthesizer patches, sequencer files, MIDI channel assignments, etc. All of these must be set up properly for the track you are mixing. Live sync can enhance the sound of your productions,

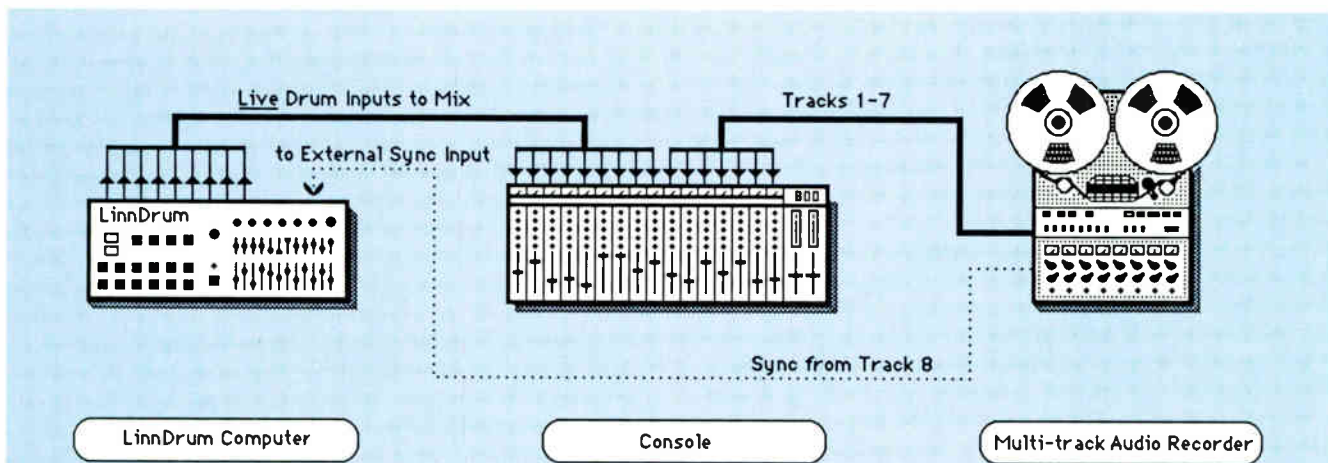


Fig. 2 Live Sync setup for 8-Track

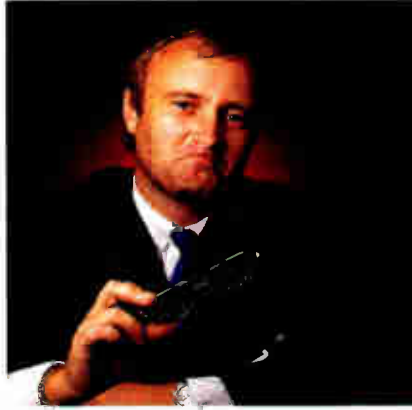
In this example, sync from Track 8 clocks the LinnDrum which is mixed in "live," while Tracks one through seven play back previously recorded material.

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if you are willing to spend the extra time that is necessary to properly program and organize the sequences. (It won't do you a bit of good to have all of your data prepared and ready to go if you can't find it when it's time to mix!)

To sum up, as with any other production technique, you should evaluate the pros and cons of the live sync technique and see if it is workable for you.

SMPTTE on a Shoestring

If you just can't wait to get into SMPTTE but don't have the big bucks for an expensive reader/generator, there is some great new software that can get you started without emptying your wallet!

MicroCode™ is a series of Apple II™-compatible programs offered by

Editing Services Co., of Detroit. Developed by Jim Mack, one of our local video wizards, MicroCode consists of three programs: MICROTTCR, a software-based time code reader, CODECALC, an optional addition to MICROTTCR which adds a "pop-up" time code calculator and programmable external event triggers, and MICROGEN, a companion time code generator. The generator produces "pseudo-SMPTTE" code at microphone level from the Apple's cassette output port. The reader gets its input from the cassette input port. All very neat, and all done in software with no hardware modifications to your Apple. All three programs handle the four common time code formats—24 fps, 25 fps, 30 fps and 30 Drop Frame. The reader in-

cludes some very handy features that can be of great assistance in matching music to picture. The MARK function allows you to snag up to ten time code locations "on-the-fly," and store them for future recall. For flagging sound effects "hit" points, the MARK function is invaluable, especially if you do not own a video deck with shuttle capability. With the CODECALC option, you can recall any of these memories for use as input to the calculator. One note of caution: the time code produced by MICROGEN is compatible with the SMPTTE standard for most purposes, but since it is not "video referenced," it may not be suitable for computer-controlled editing applications. Still, it is a neat, inexpensive way to generate, read, and calculate SMPTTE time code. The program comes unprotected, on a DOS 3.3 compatible disk. (For info, contact Jim Mack c/o Editing Services Co., 615 Fairground, Plymouth, MI 48170 (313) 459-4618.)

We Get Letters . . .

One letter this month comes from Gerry Block, President of TimeLine, Inc., (makers of the Lynx time code modules), who wrote to clarify a point raised in an earlier column, that of "FRAME RATE." Gerry points out:

"The 'frame rate' of NTSC video frames is not 30 fps for color video signals. It is in fact slightly slower, at 29.97 fps. The confusion comes about when you realize that some time code generators run at 30 fps, some at 29.97 fps, and there are even some that are 'locked' to the power line, and run at whatever rate they feel like at any particular time."

Gerry goes on to mention that in an audio-only environment, a generator can be locked to almost any stable reference, but for proper sync-to-picture, great care should be taken to insure that the picture and the generator are locked together! To facilitate this, professional time code equipment usually provides "video reference" input jacks on the back panel. My thanks to Gerry for sharing his insight on this tricky problem.

'Til Next Time

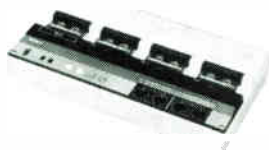
In the coming months, there's much more on tap in our continuing SMPTTE saga. We'll cover audio-to-audio sync, advanced sound effects, and slave reel techniques that give you the equivalent of hundreds of tracks to record on! In the meantime, I'd be happy to get your feedback on subjects you have seen here, or would like to see here. Feel free to write me, c/o *Mix* magazine, 2608 Ninth Street, Berkeley, CA 94710. Until then...stay In Sync. ■

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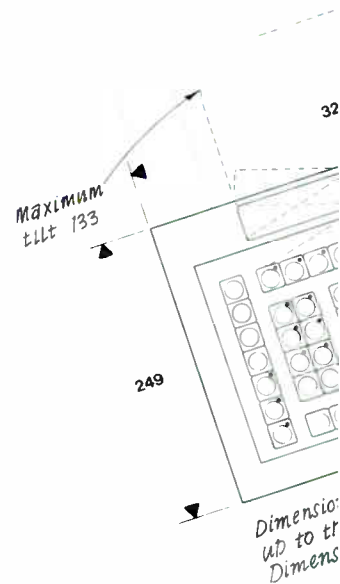
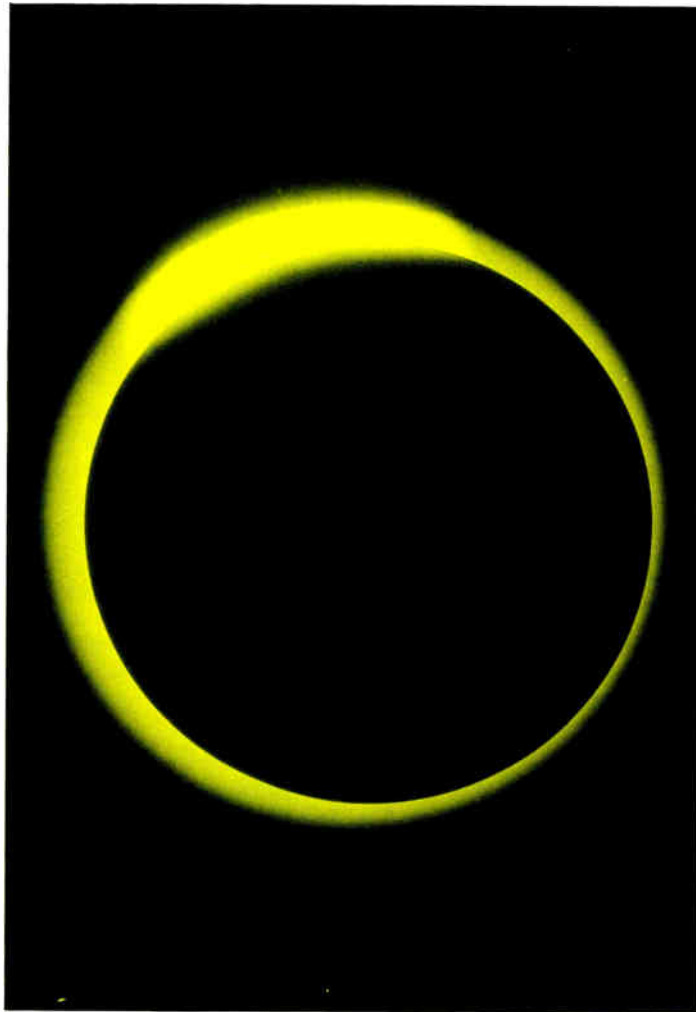
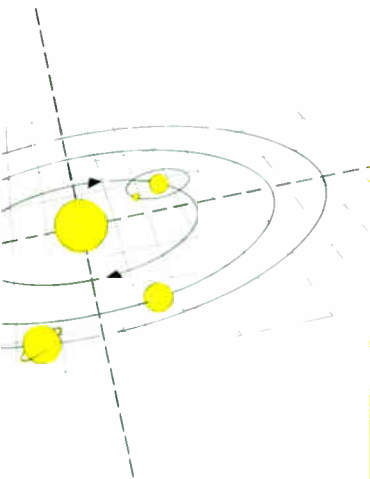
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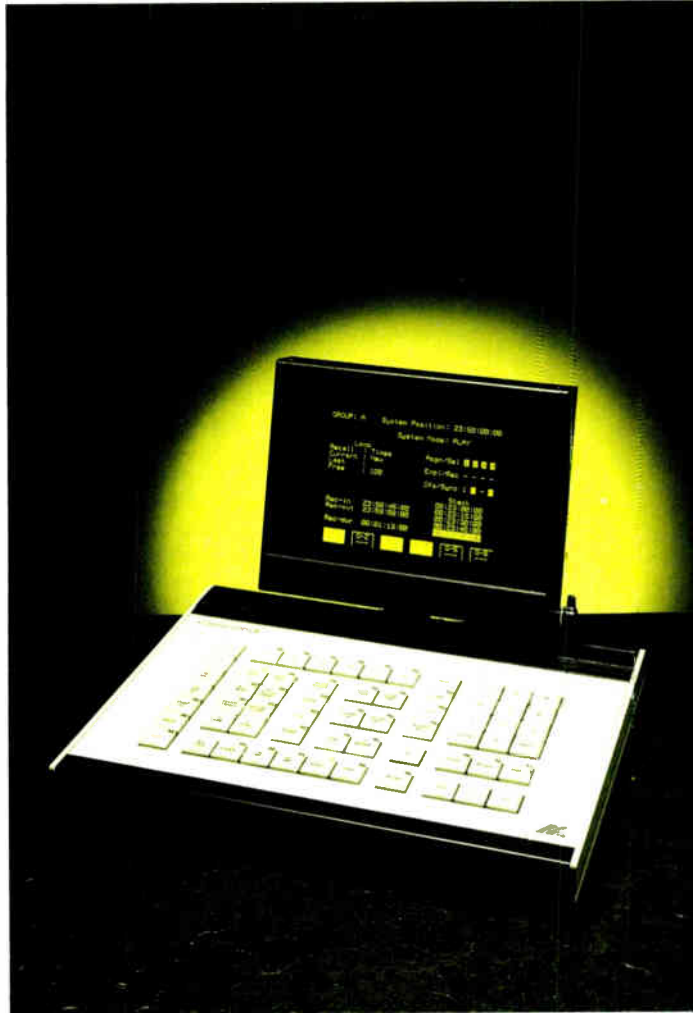
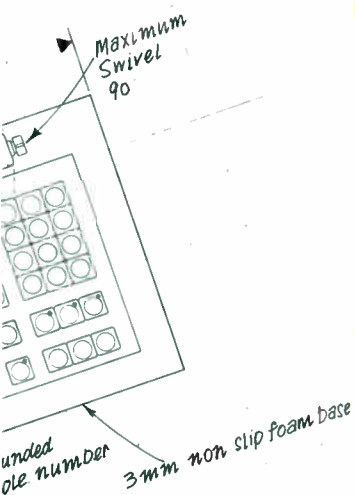
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PAGE

CONTENTS

- 77** VIDEO NEWS by Elizabeth Rollins
- 80** VIDEO MONITORING FORUM by Phil De Lancie
- 90** SOUND EFFECTS POST-PRODUCTION: New Tools and Techniques (Part I)
by Peter Bergren
- 99** EDITEL'S LENARD PERLMAN by Gregory DeTogne
- 104** MVP: The Music Video Producers Association by Lou CasaBianca
- 110** SATELLITES: TV Builds a Space Bridge by Elizabeth Rollins
- 114** HARDWARE/SOFTWARE: New Products
- 116** DALLAS FACILITIES WELCOME NAB
- 120** AUDIO SWEETENING: Problems and Solutions by Blair Jackson
- 128** DIRECTORY OF VIDEO PRODUCTION/POST-PRODUCTION FACILITIES



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VIDEO NEWS



Above: One of the five Sony BVW-30 Betacams provided by BERC of Burbank, CA, for a James Taylor (at right) clip shoot at S.I.R. in Hollywood.

by Elizabeth Rollins



Non-Stop Trade Shows (or, Five Weeks of Finger Food) — With any luck you'll be able to write the

next two months off your income taxes entirely. If you haven't OD'd on hors d'oeuvres after the NAB show at the Dallas Convention Center (April 13 through 16), you'll be just in time to fly east to attend the first New York International Home Video Market show April 17 through 20 at the Jacob Javitz Convention Center. Knowledge Industries Publications is producing, with sponsorship from VCA Technicolor and Bell and Howell/Columbia Pictures/Paramount Video Services. A strong turnout is expected, and companies such as Home Box Office, Embassy Home Entertainment, Warner Music Video, Esquire Publishing, and British Videogram Association will be represented. Admission is \$25. Two seminars are an extra \$85 each, or \$150 for both: "Entering the U.S. Home Video Market," and "Marketing Your Home Video Properties Worldwide."

Billboard has announced co-sponsorship of the International Music and Media Conference (IMMC) in Montreux, Switzerland May 7 through 10. Other sponsors include The European Music Report (publisher of *Eurotipsheet*) and Golden Rose of Montreux, an annual festival for light-entertainment television programming. Rock stars have been attending this increasingly musical event for a while, but *Billboard* hopes to bring the added muscle of American home video publishers, music video production companies, record companies, radio programmers, syndicators and press. That means another music video awards ceremony, folks—albeit with a more international flavor. A multinational live music telecast featuring six emerging international artists May 9 will be co-produced by the BBC's Michael Hurll (*Top of the Pops*) with Swiss Television. A rock film retrospective will also be featured. For more information call IMMC's North American Rep John Nathan at (212) 223-0044, or Jim McCullough, Billboard Publications (213) 273-7040.

Video people who lean in a musical direction should be aware of the second annual Music Business Sympos-

ium, May 2 through 4 at the Ambassador Hotel, a 23-acre hotel complex in Los Angeles. Clive Davis will be the keynote speaker, and an all-day music in film workshop will be offered. Call MBS at (213) 273-1951 for more information.

Midwest Gets New Full-service Facility—If you've been wondering what Jeff Wilkins, former CEO at CompuServe, has been up to since he left last year, he's been orchestrating an ambitious project just outside of Columbus, Ohio.

In mid-'85, Wilkins got funding for Discovery Systems, a large facility with three divisions: interactive video design, video production, and manufacturing. Full service for advanced information technology is the objective—from storyboards to CD (also CD ROM) and LaserDisc mastering and duplication. At press time, Discovery Systems, with its 50 employees, was being housed in a facility about a mile from the projected new plant in Dublin, Ohio, which is slated to include production, post-production, offices, and manufacturing facilities. VP of marketing, Dr. Robert Archibald, says the new plant will go on-line this summer, and that he's pre-sold the manufacture of the company's first CD release, scheduled for August.

According to Archibald, the interactive video department boasts a creative team of five designers, four computer programmers, and four producer/directors who have experience specifically in production for interactive video. The department has three areas of concentration: training discs (called the "mentor series"), point-of-purchase and transaction (called the "access series"), and visual storage and data storage (called the "archive series"). Discovery also offers the draw-disk system from Optical Disc Corporation to help fine-tune disk prototypes at a relatively low cost.

Editel, Los Angeles—An Open House with New Gear for New Year: The Abekas video digitizer, the Steadi-Film pin-registered, anti-weave telecine gate, the da Vinci color correction system (see *Mix* "Video News," January, 1986), and the Quantel Paint Box... these were some of the newest breakthroughs in video post-production that were demonstrated when Editel, L.A. opened its doors to the production community for two days in mid-

January. More than 100 professionals dropped in to examine the first da Vinci system on the West Coast, to see how it can select up to 16 color values per frame and perform incredibly specific correction of both luminance and chrominance. Nashville's Steadi-Film Corporation demoed their anti-weave gate retrofitted to the Rank Cintel Mark III, in conjunction with the new Abekas video digitizer, which stores a digital video signal using a Winchester hard disk drive. The result was the cleanest of edges and the fastest compositing involving film and video signals with Ultimatte.

The Editel Group, which is a division of Scanline Communications, has purchased a total of eight da Vinci systems (three for L.A.), plus Steadi-Film tele-cine systems for each facility (New

York, Chicago, L.A. and One Pass in San Francisco). New Quantel Paint Boxes are up and running in L.A., Chicago, and at One Pass, San Francisco, where Roger Mocenigo recently signed on as video graphics effects designer (formerly of Positive Video in Orinda, CA).

Steady-Film; Young Company with Solid New Product: The Steady-Film anti-weave gate deserves further mention. The previously described Editel demonstration (which configured the gate with a Rank Cintel, the Abekas, and the Ultimatte) involved three layers of action simultaneously in an animated sequence for Kellogg's. Edges were extremely crisp and unwavering. (Partly due, doubtless, to the clarity of the digital signal that the Abekas produces, one must note.)

Steady-Film is different from other anti-weave gates in this way: the Rank or Bosch gates, for example, have transport systems that refer to the film edge, whereas the Steady-Film transport uses registered film perforations to advance the film frame-by-frame for reading.

The Nashville-based Steady-Film Corporation, a division of Cascom, was started about a year and a half ago with a prototype and design from engineers Chris Gyoury and Phil Kroll. These two British citizens had actually built the system in South Africa, and dubbed it, "the Golden Gate." When emissaries from American Steady-Film expressed interest in joining forces, the two moved to Nashville.

Burbank Gets New Facility, Plus, the Gyro Boom: The Burbank Media Center held an open house January 9 to acquaint the local television/film community with its vast array of equipment. The facility has eight video suites, 12 film editing suites, a 36 x 70 foot soundstage with accompanying control room, dressing room and sponsor room, plus a total of 2,100 square feet of office space.

The most interesting production offering featured at the open house was the new Gyro Camera Boom, which was demonstrated by the wild-eyed Texan engineer/inventor Craig Brown, who's been developing the beast since 1978.

The Gyro Booms fits a standard video or film camera on the end of its crane-like arm, which is expandable up to 18 feet. What makes it unique is the ability to pan, tilt, and rotate at almost any angle you can imagine, and at variable speed. The mount can put your camera up to 25 feet in the air, or as low as four inches from the ground. But the best advantage to a remotely, and in this case, robotically, controlled arm and mount is that no cameraman need be endangered by leaving the ground. Camera and tape functions such as zoom, focus, start and stop are servo-controlled by one cameraman who is viewing a five-inch color monitor down at the end of the arm.

Because the Gyro Boom is wired to be robotically controlled, all of these remote camera maneuvers can also be executed from the control room, if the shoot involves proximity risk to the cameraman.

The arm and camera head assembly are a separate system from the existing dolly, and so can be detached from the existing dolly and fitted to another, such as: the Chapman Hustler, Chapman Olympian Crane, the Elmack Cricket, or the Movieola Dolly. The Gyro Boom can be rented or leased through National Distributing, Inc., Burbank, CA (818) 848-5942. ■

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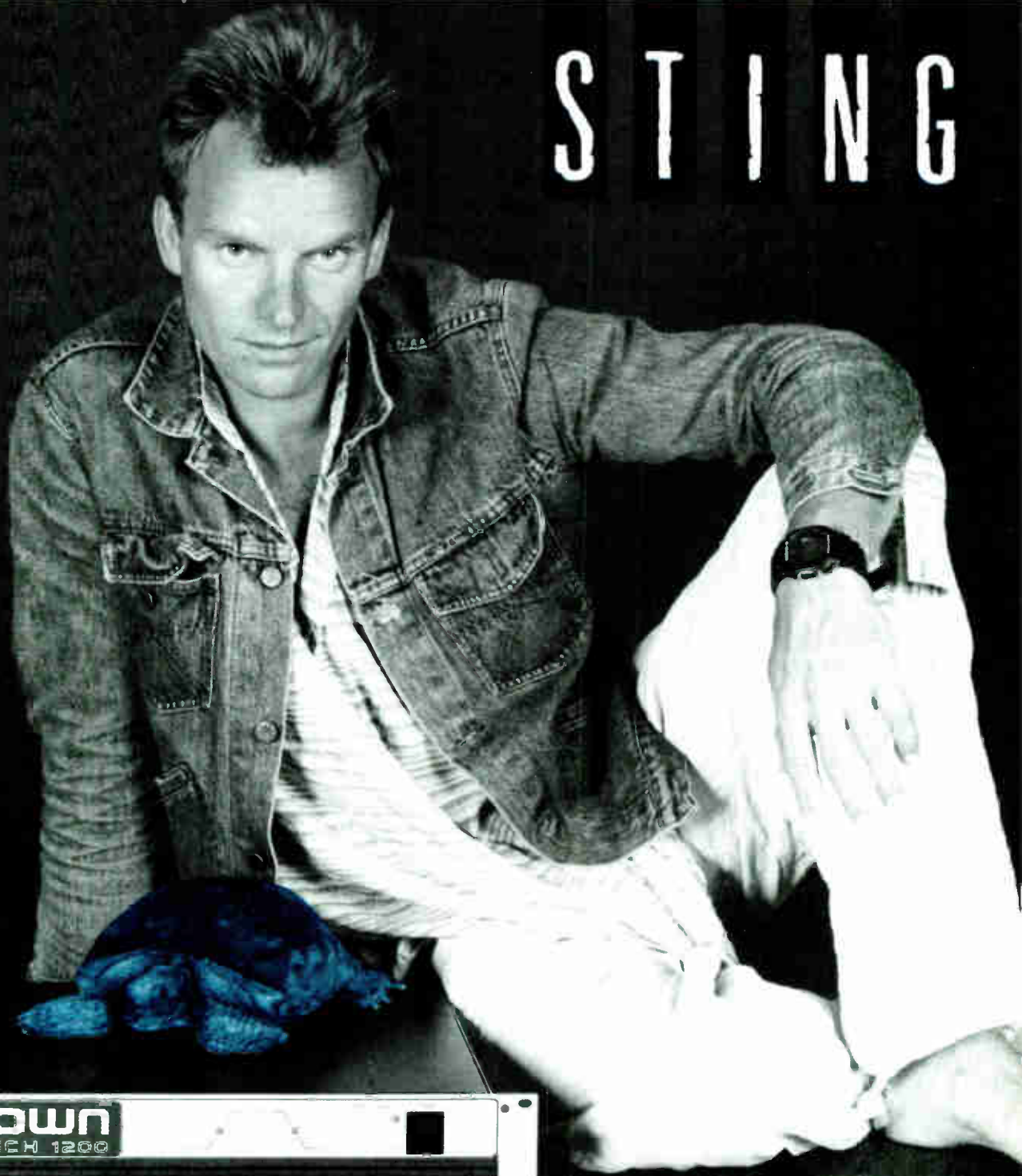


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VIDEO MONITOR FORUM



For audio sweetening and other non-critical picture applications, a good quality consumer model such as the NEC CT-1420A may suffice.

FACILITIES

What monitoring do you use in your audio-for-video rooms, and what factors were important in your choice?

Bill Quinn, chief engineer, Doppler, Atlanta: Right now we're working with Sony PVM 1900s and 1910s, and we have a Sony 25-inch Pro Feel on order. In terms of performance and price, those are good monitors for what we use them for. You can spend a lot more money on monitors than we have, but for what we use them for they look fine. We don't have that much quality control over the video product. We get a reasonable picture, and that's all we're after.

Ben Thomas, audio post-production engineer, Producer's Color Service, Southfield, MI: We have Conrac and Sony Pro Feel. As far as the Pro Feel, we wanted to make sure that it was easily convertible to stereo, and that it looks nice—that the colors are as true as we can get them.

Allen Hale, chief engineer, Sync Sound, New York City: We have 19-inch and 25-inch Sony monitors. We

The advent of the audio control room as a place to create sound for picture has made video monitoring a virtual necessity in today's audio facility. The broadcast, industrial and consumer markets all offer a vast array of products that might be used to fill this need. Given the variety of applications, the disparities in price tags and the range of available features, a thorough investigation of the possibilities by a prospective buyer is

no small job. To assist in this process, *Mix* decided to solicit input on the subject from informed sources. We spoke to engineers at several facilities involved in audio production for video about their present and planned video monitoring. Further, we contacted dealers to get the seller's perspective on the video monitor selection process. The responses of both groups to our inquiries are presented here.

San Francisco Production Group's Edit 1: CMX editing, JBL 4430s and Shibasoku monitor. Design: Randy Sparks, video by Dann Lutz of D2 Labs.

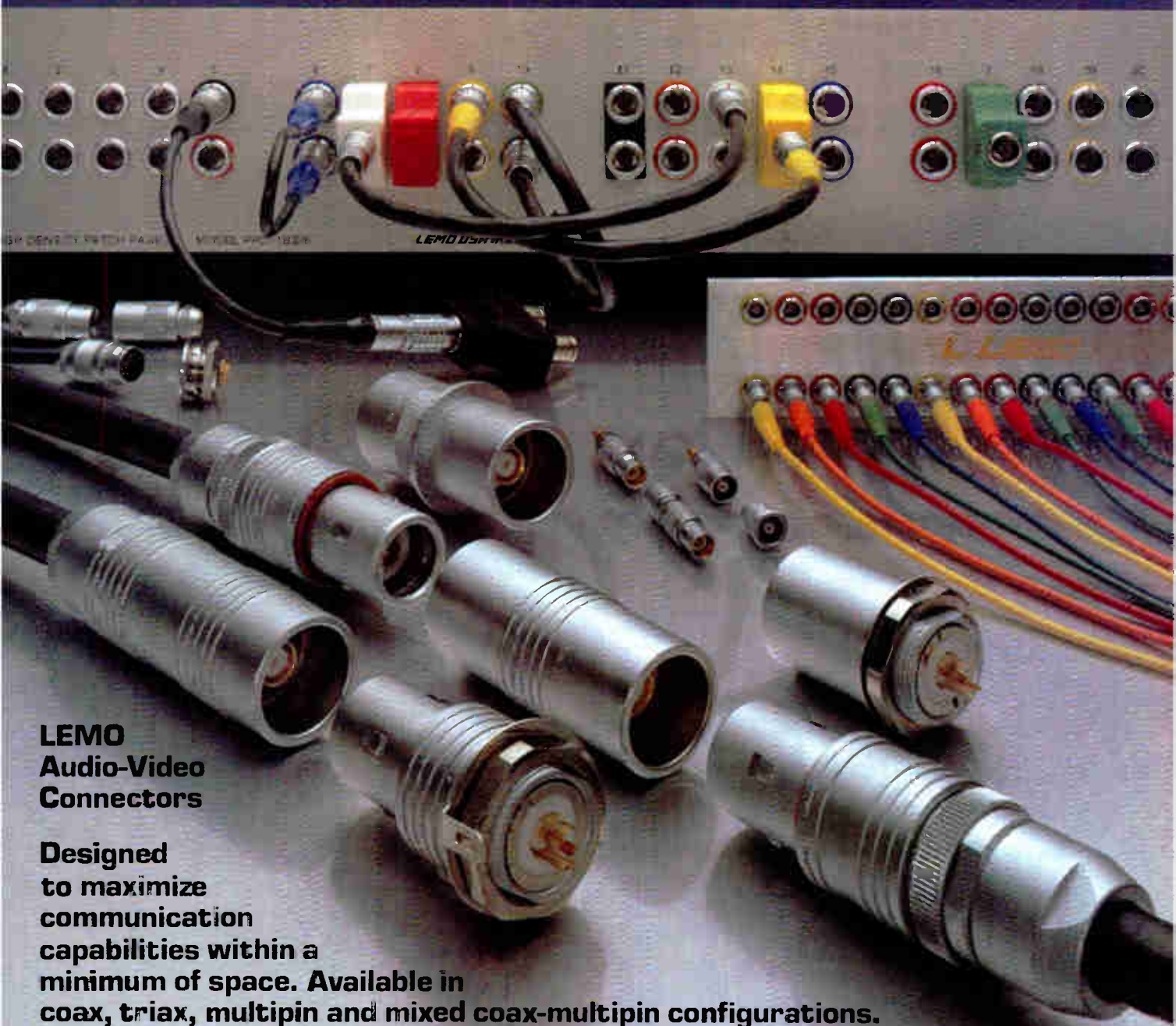


Design Considerations for Video Facilities

As more video monitors make their way into audio recording studios, and conversely as more video production houses expand their facilities to include critical audio monitoring, many designers are facing new problems. Many design factors are applicable to both audio control room and video production suite design. In both applications, ergonomic considerations concerning acuity and eye fatigue are of prime interest. Additionally, equipment requirements such as wiring access, heat dissipation, and isolation from magnetic fields affect the final choice of video monitor placement. And, in the case of video suite design, the interaction between monitor placement and general/task lighting is of great concern.

—PAGE 86

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also have a Panasonic video projection system, which has a 102-inch diagonal screen, in our large control room. What was important was a great looking picture, that would transfer well, and a reliable monitor. Sony tends to make everything look good, which is not necessarily good for video editing, but excellent for us because we're not interested in having our clients go "Oh my god, my product is no good," and running back down the street to the editing house. We want everything to look good no matter what. Since our stress is not on critical video work, we want the picture to look the best it can all the time, and not look different on three or four different monitors. The Trinitron really does the best job as far as that is concerned. They tend to make the picture look good, whether it is good or not.

Also, they look very nice. They're sleek, they're gray, they have a nice profile. They're a good name. That certainly doesn't hurt.

Patrick Flynn, president, Riverton Productions, Hollywood: The video monitor that we have is a Sony CVM 1900. We tried to stick with a standard in all the equipment that I bought. My clients demand that most places they go have a standard, a well-known brand that everybody accepts. The Sony model that I bought seems to be the one that most studios use. Quite a few executives have them in their offices, also. And it seems to give the truest color playback. Even though we don't do any video transferring of any kind, it was still important to have the best color playback.

Have your monitors satisfied the needs and expectations you had at the time of purchase?

Quinn: Yes, they work fine. We've had to have them recalibrated every once in a while, but they seem to work fine. Sometimes we do have people paying more attention to the pictures than the sound, because they'll walk in from a video editing house, and then they'll start critiquing the picture—making comments on the color or the centering of graphics on the screen. But we really don't have the monitors for that purpose.

Thomas: Yes, although it's got some odd characteristics. For example, when you set it up for the room (bright, tint, etc.) it goes back to a pre-set when you turn it off. That's real inconvenient. That may have been our fault for not reading the manual, but a lot of times the literature is not available, and that's a problem. They give you a cute little advertising piece on it, and the price, and there you go.

Hale: Yes. Absolutely.

Flynn: Yes. It's perfect. And it was within the price range I had in mind.

What, if anything, might be different about your next video monitoring purchase?

Quinn: We just built a larger control room. We have a Sony 25-inch Pro Feel on order. The purpose of buying a 25-inch is so that people can get a similar quality picture from a larger distance. It's the same kind of quality as the 19-inch model, it's just larger.

Thomas: We're building an Audio Post II, and we're going to order the Sony projection system. We wanted more of a mixing theater feel. We have a big sound, a good sound, and with a little monitor they almost fight each other. The big listening monitors don't fit with the little TV monitors.

What other comments do you have regarding video monitoring in audio-for-video environments?

Quinn: We use our monitors not only for control room situations, but we also put them out in the studio for performers, people that are doing dialog replacement, or arrangers who have composed music for picture, for them to review the syncs and the feel of the music with the picture. So they get used in a lot of situations. We have them on stands on wheels so we can use them for several things. They seem to fit all the applications equally well.

Hale: The projection systems are getting better and better. I've been very pleased with ours. I think it looks surprisingly better than I expected. I think video projection is certainly going to be a more and more viable way to go in the future.

Flynn: Because the monitor is the center of attention in the room, it should be centered in the room and easy to see from both the client's viewpoint and the mixer's viewpoint.

DEALERS

What lines of video monitoring are available through your company for audio-for-video applications, and how were those lines selected?

Paul Roston, executive vice president, Roscor Corporation, Chicago: Ikegami, Sony, Videotek, JVC, Panasonic and Shibasoku. We always carry the best, but the best is relative. Best for what purpose? Best for what price range? Our concern is to carry the finest lines that offer the best price performance.

Mike Bogen, sales manager, Martin Audio Video, New York City: We carry Sony and JVC. We are at least 85 percent audio. The additional 15

percent of video is in support of audio. We sell video primarily to audio facilities who require the video to lock their audio. So we supply 3/4-inch machines only, and along with the franchise for the 3/4-inch video machines comes the franchise for the monitors. Sony and JVC are the dominant forces in the 3/4-inch market that we deal with, and the monitors are a part of that. They come along for the ride.

Michael Piper, manager of engineering services, R.E. Snader & Associates, Inc., Sausalito, CA: On the high end, we carry Barco monitors, which vary in price anywhere from \$3,000 to \$6,000, depending on the quality of the image that the end user wants. They make large screen projection systems that are superior also, and these have been used where there is a need for a large screen presentation with a bright, clear, crisp image.

We also sell a line made by Sharp Electronics, a price-effective high resolution monitor series available in 19-inch, 13-inch and 9-inch versions. They compete very well with monitors costing considerably more. For somebody who wants a decent image at a reasonable price, our Sharp monitors have been a real good choice.

We also have a full line of Sony industrial monitors ranging in quality and price from the \$400 range all the way up to the \$2,000 to \$3,000 range, depending on the type of quality and look that a monitor can provide.

Panasonic and JVC industrial monitors are not as expensive as the broadcast or high-end monitors, but for a price range between \$300 and \$2,000 they provide an image that can be classified as reasonably good quality, and representative of what the end user, whomever is going to view the product eventually, would probably be seeing.

What factors do you consider when advising audio-for-video clients on their choice of a video monitoring system?

Roston: If the application is a very undemanding application—nobody is making any color judgements; nobody is making any qualitative judgements as to the quality of the video; it's simply a display—then the only thing you have to be concerned about is that the size is correct, and that the monitor is positioned in an ergonomic manner. Also, you want a good quality device which is not going to give you any service problems—that is going to be reliable. Beyond those factors, almost any decent quality monitor will serve the purpose. All you are really doing with that monitor is timing. You're looking at what image is where when, and

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determining what audio elements need to be matched to it.

Obviously in an audio room, just like in a video post-production room, aesthetics is a major concern. Aesthetics not just for the sake of being spiffy, but to provide an interesting and comfortable environment in which to work. Size is maybe one of the major criteria. In addition, video projection is also a viable alternative for consideration. Bogen: Usually you'll find that they come to you saying: "I need something that's 26 inches." Usually the criteria tends to be size, although recently we've seen a demand for on-board stereo monitoring from the video monitor—it must have stereo audio. Size is the primary criteria though. If they are looking to impress the client, and are looking to do it with a video monitor, as opposed to projection television, they'll come and ask for as large as a 30-inch. Other times it's just needing monitors to go in the studio or control room, smaller sizes.

Sometimes we find size constraints. They're putting it up on a shelf, or building the monitor into the wall above the glass, and they only have a particular height available, or width or depth.

Sometimes it's past experience with a product from the same manufacturer. Past experience tends to dictate what future products will be purchased.

Piper: It has to do with what people are paying for the audio sweetening service. The audio people are becoming more knowledgeable about video quality and presentation. The profile of the customer they are dealing with kind of determines the profile of the monitor they're going to be using.

I think probably, in terms of recommendations, we would start them with a Sharp 19-inch monitor, which, for a reasonable price presents a fairly accurate image. If it's a budget or low cost sweetening service, we would probably recommend something from an industrial monitor line of Panasonic, JVC or Sony.

There are some buzz words in the industry. For example, Ikegami has developed a pretty good name in terms of "this is the monitor to have." Also, Asaca/Shibasoku has developed a name for "the monitor to have" for people who market their services to name-conscious customers. That's another aspect of selling monitors. If the kind of monitor you have hits one of the two buzz words of Asaca or Ikegami, in some markets that rings a bell.

Do your audio-for-video clients have any video monitoring needs which are not currently being met by the manufacturers?

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Roston: I think that most manufacturers have an adequate complement of devices that work in that application.

Bogen: No one is clamoring for greater resolution because we're working from workprints on 3/4-inch—we have less than ideal resolution to begin with. The only thing that tends to differentiate products is things like stereo audio vs. no stereo audio.

Piper: At this point, I would say that there really isn't a hole in the monitor market, at least for a sound sweetening application. The large screen projector market is very ably satisfied by Barco. There are a large variety of large, medium and small screen monitors of varying quality. The selection is quite broad.

What developments or trends do you see taking place in the current marketplace?

Roston: I don't think that there is any trend that you could say. It all depends on the particular application. One customer may care for nothing more than an \$800 simple monitor, and another person may want a high quality video projection system. I think it depends on the environment that is trying to be

created. It depends on whether it's a functional environment in which engineers work, or whether this is a client viewing area in which client amenities are the criteria.

Bogen: Before, the only things you had to choose from were professional monitors or home televisions, and no one really wants to have to go into a consumer television through the antenna terminal. Now we find the consumer product is offering more. I have an NEC in my bedroom that is a television set, a composite monitor and an RGB monitor, and it cost pocket change compared to what pro product would cost. So the line (between pro and consumer models) is blurring.

Piper: One of the things that has started to happen is that with the growth of component video, for example Betacam, the ability to record and present an image in component form has created some interest in monitors that can directly receive the component signal from a Betacam player and present it in component form, meaning that it's at its purest. We are starting to see some interest in monitors that are equipped to accept a component input. ■

—FROM PAGE 80

Video Monitor Proximity

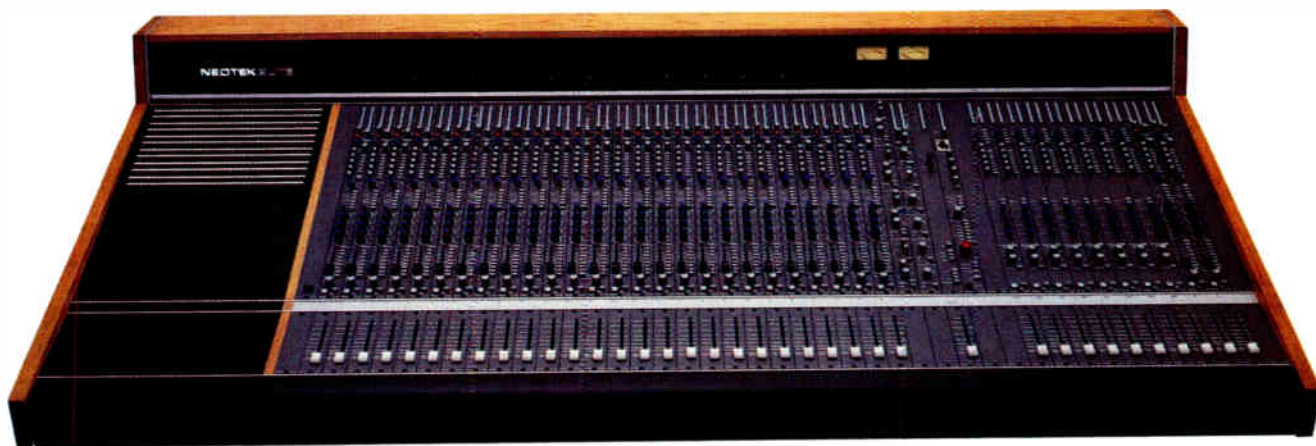
The placement of the main video monitor (in most cases a 25-inch model) within the video edit suite is the subject of much discussion and controversy. However, it seems that three parameters are generally agreed upon: 1) the monitor needs to be close enough to afford the editor a high degree of visual acuity; 2) the monitor should be easily viewed by clients and/or producers; and 3) the monitor should be shielded from any strong magnetic fields which may induce image distortion. Recent observations have suggested that the video monitor should be located no further than seven to eight feet away from the engineer. Some engineers have indicated that at greater distances visual perception is hindered and "edge definition" becomes impaired. However, if the video monitor is located slightly above and some distance away from the editor, producer and client sight lines to the monitor will generally be improved.

In regards to locating a video monitor in an audio control room, all of the above parameters apply excluding the necessity for the monitor to be located so that the engineer can make critical image judgements. However, the concept

of visual acuity does apply to the audio engineer's sight lines into the studio. The video monitor should be located in such a manner as to provide an unobstructed view into the studio. In many audio control rooms, mounting the video monitor between the audio monitors—above the control room window—proves to be a good choice. However, depending on the proximity of the audio engineer to the control room window, this mounting may literally become a real pain in the neck. Should the video monitor be mounted in this location, care needs to be taken to avoid any video picture distortion caused by the magnetic field propagated during operation by the audio monitors. If such distortion should occur, the problem can usually be solved by installing a lightweight steel barrier between the video and audio monitor. This corrective action also applies to similar situations in video suites that have been designed to accommodate critical audio monitoring. Other potential locations for video monitor placement in an audio room may include positioning the monitor in a wall section that is created between a split control room window. Additionally, the use of a portable or moveable mounting for the

—PAGE 88

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SFPG Edit 2 offers CMX editing and Sound Workshop mixer. Monitoring: 25" Shibasoku and JBL 4425s. Design: Randy Sparks. Video: Dann Lutz.

—FROM PAGE 86

video monitor (such as an equipment cart, etc.) may also be a viable alternative.

Lighting Design

The lighting design implemented in a video production suite is critical to the function of the room, especially in the interaction between the lighting and the video monitor. It is crucial that the video monitor be free of any lamp reflection and that the editor's perception be unaffected by the color temperature of the lamps installed. Likewise, although it is not as crucial, lamp reflection in a video monitor used in an audio control room is usually unacceptable.

During the design phase, great care should be given to selecting lighting instruments that exhibit the proper photometrics (light dispersion characteristics) for each particular application. For lights to be used in task lighting (lighting specific areas such as equipment consoles, etc.) instruments possessing sharp cutoff characteristics should be selected. Lamps used in devices chosen for task lighting should usually be of the spotlight type. Many manufacturers provide a variety of "spots" including standard spotlights (denoted typically as SP), narrow spots (NSP), and very narrow spotlights (VNSP). The photometric data for the lamps chosen should

be examined, and anticipated light spill should be indicated on the design drawings to assure that no unwanted light will fall on the video monitor. General area lighting should be accomplished using instruments that provide even diffuse light. Once again, lamps used in general lighting devices should be selected carefully and included in the design in such a manner as to avoid adverse interaction with the video monitor. Colored lighting should not be used where critical judgements are being made concerning the quality of the video image (i.e. chroma adjustments).

All lighting used in design of either an audio control room or video suite should ideally be variable through the use of appropriate lighting dimmers. The ability to vary the intensity of light can aid in the control of unwanted light spill onto the video monitor, as well as accommodate the changing functions of a multi-use environment.

Reducing Eye Fatigue

Eye fatigue is generally not as great a problem as listening fatigue is for most audio engineers. Usually, audio engineers are not preoccupied with the image on the video monitor; they generally have enough on their minds without worrying about the compositional value or chromatic integrity of the picture. However, for the video editor

the picture is everything, and eye strain is typically an occupational by-product. Recent studies indicate that one method of relieving eye fatigue caused by concentrating for long periods of time on one visual plane (i.e. video monitor, computer screen, etc.) is to periodically refocus on other visual planes. It has been observed that if an individual refocuses on something at a distance away from his or her current object of interest, once every ten minutes, eye strain will be greatly reduced.

The opportunity to refocus attention as mentioned can be created within the design of a video suite by locating the video monitor against, or within, a background which creates varied visual planes for the observer. The creation of visual depth around the video monitor can be accomplished by either varying the intensity of light that is spilled onto the surrounding area, and/or by varying the finish materials comprising the surrounding surface area. However, when varying the elements mentioned, care must be taken not to create a distracting background that vies for the editor's attention and inhibits his or her ability to concentrate on the task at hand.

General System and Environmental Considerations

In both audio control room and video suite environments, consideration must be given to providing for the dissipation of heat created by the video monitor. If the monitor should be mounted in a recessed fashion (in a wall or equipment soffit), adequate air space should be allocated around the monitor to avoid heat build up. Also, air ventilation holes should be bored in any box-like enclosure used in conjunction with the monitor mounting. Further, provisions for both control wiring and electrical power wiring should be attended to. When possible, it is usually a good idea to locate an AC receptacle in close proximity to the video monitor. In many areas of the country, the maximum allowable length for any electrical extension cord is six feet.

As with most aspects of our industry, opinions concerning type, number, and placement of monitors are as numerous as the individuals responding to the questions. Hopefully, the information presented above will help you ask the questions and maybe even get you headed in the right direction.

by Randy Sparks

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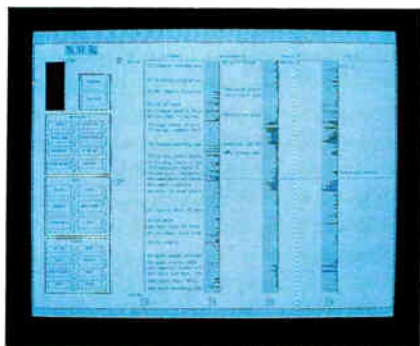


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(L to R) "Electronic Cue Sheet" on the SoundDroid

SOUND EFFECTS

NEW TOOLS AND TECHNIQUES

PART ONE

by Peter Bergren

It's hard to imagine a Steven Spielberg or George Lucas film without sound effects. What would the booby-trapped boulder chasing Indiana Jones be without its bone crushing rumble, or a laser sword battle be without the "ZZZUUUMMMMMPPP!" sound of blades meeting? More mundane films would

lose much of their punch without their quota of footsteps, door slams, gunshots, and other sounds of movie reality. After all, sound effects help establish the drama of what characters do onscreen, and they make actions heard off-screen more *real*.

Until recently, the creation, placement, and mixing of sound effects has

been the province of a group of sound effects specialists trained in film-based methods. These methods allow extremely complicated effects sequences, the results of which have set standards for the film audience. And it's quite possible for this audience, increasingly equipped with sophisticated VCR systems, to hear sound reproduction at home comparable to what is available in theaters. So standards for both the content and reproduction of effects have risen, a factor that may not present problems for large budget features with armies of technicians and expensive facilities. But films with lesser budgets, such as those intended primarily for home viewing, must find means to create sophisticated effects in economical ways. Such projects include features made for broadcast, cable or cassette markets, series television, and to some extent, commercials.

An increasing number of studios and videotape post-production houses have become involved with sweetening film and video soundtracks. Where this task is straightforward, and the number of effects, music and dialogue tracks limited, SMPTE-based time code methods using multi-track storage of sound elements are quite effective. When extremely sophisticated sound design is attempted using tape techniques, the advantages of using magnetic film on sprocketed transports becomes quickly obvious.

Correspondingly, the extreme complexity (and therefore cost) of these film-based methods dictate that other approaches be examined by the industry. Fortunately, recent advances in sound storage, retrieval, synchronization, and modification have particular applications to sound post-production. We'll focus in this, and next month's article, on sound effects production using these technologies. But bear in mind that the same approaches can handle other soundtrack elements too.

Clockwise from left: James A. Moorer, Peter Nye, Bernard Mont-Reynaud, and Curtis Abbott. These are the principal designers and programmers in the Droid Works' digital audio group. They are seated in the audio-listening room by the SoundDroid™ control terminal.



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To give this subject perspective, let's review the traditional film and video methods of post-producing sound effects.

Sources of Sound Effects

Sound effects originate from a variety of sources. The majority of a film's sounds can be recorded on the set, as production sound. However, production recordings often must be replaced in post-production because of interference from other sounds, or for dramatic reasons. Foley artists, working on specially-equipped stages can do such replacements, and sound effects libraries can be combed for the proper sounds. Or, custom produced effects can be made to order, using signal processing or synthesizers. These sources will most likely remain with us. It's the working methods *after* effects have been collected that are likely to change.

Editing and Re-recording

Once a film's effects have been collected, they're transferred to time-coded tape or mag film. Since mag film is punched with sprocket holes, it can be mechanically edited, and locked to picture on relatively simple equipment. Sound editors can overlay several effects together to create a composite effect, with heightened value. A car crash or explosion could consist of two or more separate elements (which might not be crashes or explosions, but something else) locked mechanically together. These composite elements are then pre-mixed during re-recording, which eases the number of channels active during final re-recording. Even with pre-mixing, effects reels mount up quickly in a complex production, and with music and dialogue added, channels on a re-recording console can become filled well past the 24 or 32 common in music production. Preparing the tracks themselves, which is largely hand work with mag film and blank leader, will often press a corps of effects editors into overtime as final sound design is delayed by changes in the final picture edit. Revisions to the picture edit require compensating changes in the sound.

These methods do have significant advantages. First, sync of sound to picture relationships can be "slipped" in time. Since sound elements exist as discreet lengths of mag film on an editor or dummy (film transport), individual tracks can be slipped out of sync (by unlocking the sprocket wheel driving them), established in a new time relationship, and then locked up again with picture or other sounds. This can be done to accommodate changes in the picture edit, or for in-

creased dramatic effect. Second, the final soundtrack of a complex film is a montage of elements, which can be relatively easily handled by the large number of dummies available in major re-recording stages.

Sound Effects Post-production Using Time Code

Modern SMPTE or EBU synchronizers introduce a degree of automation into post-production using tape recorders. If the time relationships between soundtrack elements and picture need to be changed, the offset (time code difference between picture and sound, or sound and sound) can be reprogrammed, and picture and sound transports will follow. But because studios doing such work rarely have as many 2-track machines as film re-recording stages have dummies, the number of sound elements that can be dealt with discreetly and simultaneously is limited. This factor is compounded by the inability of most synchronizers to slave more than a limited number of machines at once.

The obvious answer to this problem is to re-record effects in groups onto a master multi-track recorder. This works very well as long as an individual track doesn't later need to be sync "slipped"

against picture or other tracks. This commonly happens if the picture edit changes, or if an element in a premix needs to be altered. Then, instead of the simple expedience of slipping an individual track using film techniques, it's necessary to re-record that particular track on the multi-track tape. All tracks are, after all, on the same web of tape. If numerous timing changes are required, a lot of track relationships will have to be altered, if the final mix is to occupy the span of time necessary to properly montage sound for an entire sequence.

Clearly some kind of new approach is needed that combines the flexibility of film-style production with the simplicity and economy of time code methods.

New Technologies and Techniques

In fact, if you have the money, the means are already available to build complex soundtracks with great speed and flexibility, using centralized computer control of a sound element "database." These systems are definitely beyond the reach of smaller studios, at least at present, but they point the way to future technologies that should be far less costly.

In terms of hardware, these systems have a central computer, processor and memory, linked to a floppy, hard or optical disk storage media and/or RAM, and user control interfaces. These might include keyboards, hard or softkeys and knobs, touch sensitive screens, and faders. Details of system architecture vary, but a central advantage of all these systems is the disk/RAM storage of digitized sound waveforms and sound addresses. Such storage schemes facilitate almost instantaneous audition of sounds, and their shifting and montaging relative to each other and to picture. And use of time code makes it possible to emulate the flexibility of dummy-based re-recording systems, without retaining their disadvantages. Sound auditioning, editing, and processing is readily possible, in ways that are cumbersome or impossible to duplicate with film or tape. And multiple recording tracks, or sequencer-triggered sound events allow pre- or final mixes to be recorded quickly. Because of the computer-based nature of these systems, it's possible to produce records of the work in progress via a CRT terminal or printer, and to readily alter the design of a sound sequence. This is especially welcome when the inevitable sound

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editing changes arrive with new picture edits. Thus, if sound is treated as data, it's then possible to manage it more effectively. And when sound exists in the memory of a computer, it's more easily accessed, edited, and changed than if it exists as a recording on film or tape.

The SoundDroid™

The SoundDroid, a prime example of the kind of technology I've described, is a development of The Droid Works, a Lucasfilm Ltd./Convergence Corporation affiliate in San Rafael, California. The basic SoundDroid station consists of two computers, one linked with a touch screen and other controls, and the other which controls a high speed Audio Signal Processor or ASP. The ASP in turn controls one or more Digital Signal Processor boards (DSP), which process digitized sound, and control Winchester hard disk drives.

I met Dr. James A. (Andy) Moorer, the Droid's sound designer at The Droid Works. I asked him, for the sake of perspective, what the SoundDroid is, and what it does.

"The SoundDroid station is what we call a general purpose audio processing station. It's possibly the first example of its kind that ever really existed. By general purpose what I mean is that by loading different programs into it, it can do different things. For instance, if you load a mixing program into it, it can be a music mixer, or a film mixing console. By loading another program into it, it can be a music synthesizer. It can be a music recording device, it can perform the functions of outboard equipment, such as pitch shifting, flanging and phasing, reverberation, whatever.

"Now to do that, we had to take what might be considered some radical approaches. We couldn't afford to build a control panel for every different function. So what we've done is make use of the graphic screen. Anyone who's ever worked with a Macintosh or Lisa will find the presentation very familiar, as we've taken ideas from the same place where the Apple people have taken ideas. And we've connected the screen to what we call an Audio Signal Processor. This is a very powerful special purpose device that is tuned toward digital audio processing. It's a computer-like device, but it's hundreds of times faster than normal computers for audio problems. So the touch screen and control computer, and Audio Signal Processor (ASP) work together, work in concert, as the control processor/graphic screen controls the machine, and directs it to do what (the editor or mixer) wants it to do. And then the ASP actually carries out the tasks.

"In addition to this, we also have what we call a disk subsystem, which includes a number of hard disks, that are fixed, not mountable or dismountable. Each disk holds about an hour of stereo, and each disk is capable of about an eight track transfer rate. So, with one signal processor and two disks, let's say, you can have a 16-channel recording station.

"Since we're using hard disks, we don't have the same kind of *timing* restrictions that you have on multi-track tape. Since the tracks are physically next to each other on tape, you can't slip them in time, that is time-slip

"By loading different programs into it, (SoundDroid) can do different things...it can be a music mixer or a film mixing console...a music synthesizer...a music recording device...or outboard equipment, such as pitch shifting, flanging and phasing, reverberation, whatever."

one track with respect to the other without butchering the tape. Using hard disk there's no such constraint since the data on adjacent tracks aren't physically next to each other anyway; they're scattered all over the place. So as a consequence, slipping the timing of one track with respect to another is built into our system."

Dr. Moorer went on to say that the basic 8-track system has limits to how many sound elements it can handle simultaneously, in real time. But with the addition of one or more disk drives, enough discrete, time-adjustable recording channels become available to deal with relatively complex material. "I'd say that 80 percent of the television series could be done on a 16-track SoundDroid station, and in this implementation you'd have four optical players on a machine and you'd walk in with two disks worth of the

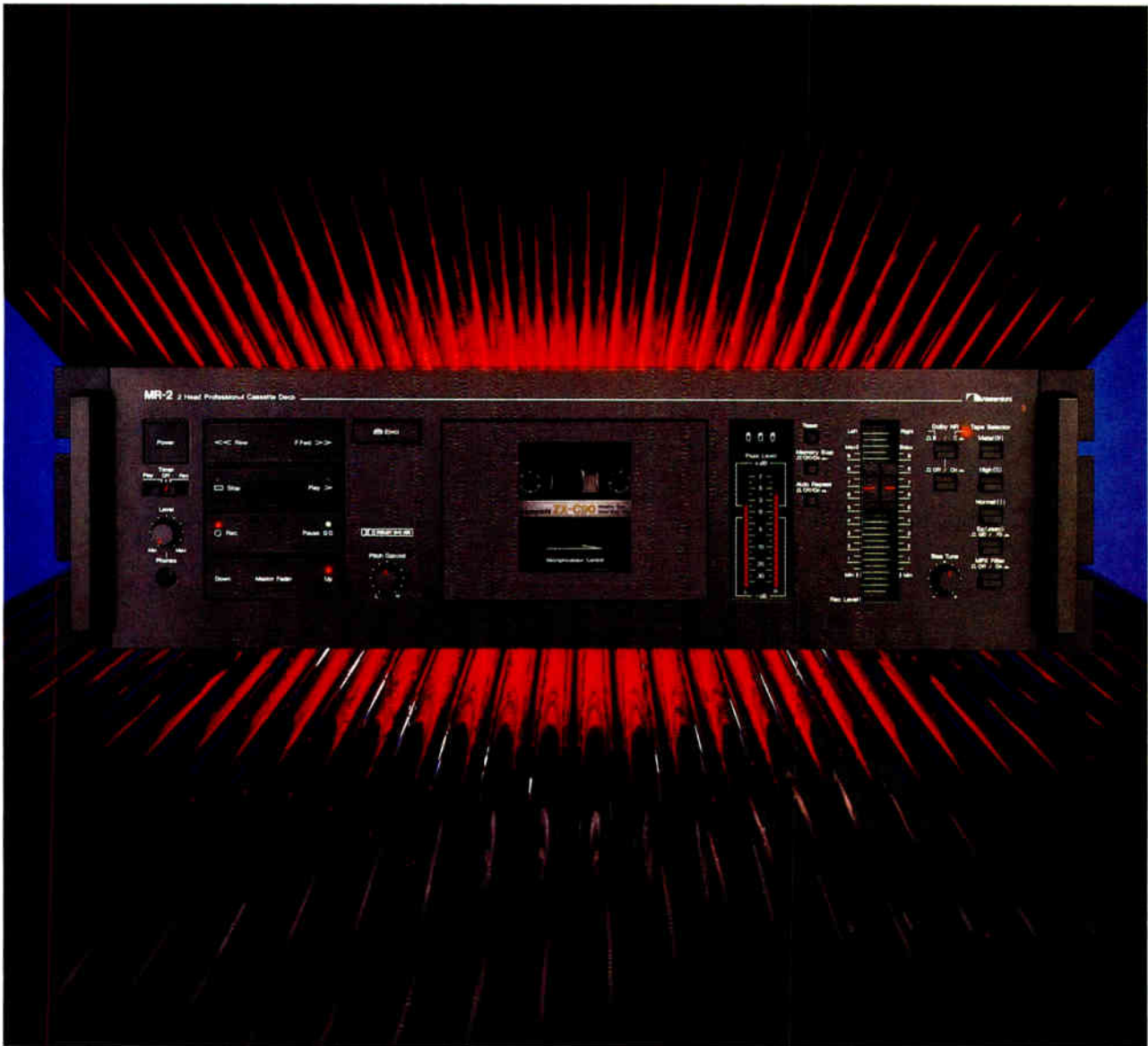
series sound effects, one disk of the series music, and a new disk that's prepared each week that would be the new production dialogue and new music. You could walk into the studio, throw those four disks in, and be mixing in five minutes. So the potential for removing a lot of the tedium, a lot of the hand work in modern entertainment production, is substantial using this kind of approach."

The optical players Andy Moorer refers to are in addition to the magnetic hard disk drives in the standard station. "We also have another kind of disk that can be attached to the device—it's an optical disk—that's built by computer manufacturers for computers. They're either ten-inch or 12-inch flat disks. These are mountable; each disk is capable of holding an hour of stereo on each side. And this is how we store the sound effects library. A small sound effects library might be ten, 12, 14 such disks. A large sound effects library like the Lucasfilm sound effects library might be as many as 50, 60 or 70 disks.

"Once the sound effects are transferred to the disk, and once the catalogue for the effects is entered into the data base system, then sitting there at your terminal you can browse through the library of sound effects, and if you want to play one it will say, 'Please mount disk number four into player number six.' You grab disk number four and place it into player number six, and you hear the effect. Then every time you audition an effect it's transferred to your local disk, and then maybe edited into a cue sheet just like any other sound. So we've unified the operations of auditioning, lay-in, and whatever treatment you do like choosing edit points, tapering the entrance and exit of your sound, and possibly applying processing to it, filtering, or whatever. We've united it into a single station in a single place."

The disk drives Moorer mentions are installed in a central location, and will be shared by SoundDroid stations. Plans call for a programmable robot arm to perform loading functions, somewhat like a '50s jukebox, '80s-style. But if the demands of your production (or your pocketbook) don't require a full scale SoundDroid system, there's another option. "We have another product that isn't quite on the market yet that we call OD Droid, or Optical Disk Droid," Moorer said. "It's sort of like a little SoundDroid; it's a stereo device. It has the optical disk only, and essentially no processing. It has the same software front-end as the SoundDroid. This is a unit that can be walked into any studio in the world, that is any sweetening studio. It acts as a SMPTE slave and simply allows

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them to drop in sound effects and build units which would then presumably be transferred to mag stock or a multi-track tape recorder. It allows the same database access and the same library file mechanism, and the same kind of library storage, and goes a long way in eliminating the extra steps of transfer, semi-automating the transfer.

"You basically scroll around in the picture until you find where you want the effect; until the white puff comes out of the '45. And you stop the picture there. It's been reading SMPTE time code so it knows which frame you're on. Then you go ahead and audition your pistols and find one you like and say, 'OK, drop it into Unit 12.' Although it's a stereo machine, it can actually deal with any number of units at a time; it's just that it can only play two of them at once. But you can build '30 units,' and then transfer them whenever you're finished sliding them around. For a series, you'd use typically 300 to 400 sound effects and use largely the same set of sound effects in each episode. Once you'd done the first two or three episodes, all those sound effects could be put on a separate set of disks; basically just the subset of the ones from the library could be put on your local [current] disks."

I wanted to know more about how

the Droid technology is used for effects work in Lucasfilm projects. Dr. Moorer told me about the sound sources that Ben Burt (Lucasfilm's sound designer) uses in his work. "He uses the sound of his own voice very commonly. And I guess the other thing he uses quite a lot are animal sounds. He goes down to the San Francisco Zoo and records animal sounds—slows them down or speeds them up. In his acceptance speech for one of the Oscars he got, he thanked the numerous walruses, elephants, and jackals and cheetahs he'd recorded at the zoo. Sounds are loaded on a disk, and then you can make a new sound. The example we use is a 'nose crunch'; it's usually at least three different sounds: 'PHHT!' as the fist comes, then there's the 'SSMMMAAACCCKK!' as it hits—often they'll use a pistol shot for that—then there's the 'crunch' sound, which is the 'watermelon thrown out of a second story window' kind of sound. There's a joke that during the westerns era of the '30s, that the single largest consumer of Imperial Valley watermelons was Hollywood! I don't know if that was true or not. Once they generate a composite sound and use it in a film, a lot of the time they want to take that sound and put it in the library. On the SoundDroid system, since all the optical disks we use are read/

write, you can throw the disk back in, and transfer this sound to the library. And it will be entered into the database just like anything else. And the next time you browse the library, you'll see the entry for your new sound there, and it can be used again and again."

I asked Moorer if the Droid could make endless loops of sounds. "We do looping all the time," he said. "In *Indiana Jones and the Temple of Doom*, we set up our first looping program. Ben Burt asked for this. The one we set up had a ten-second capacity. Of the sound he fed in, we could specify the 'loop begin' and 'loop endpoint,' and he could also specify a cross fade so he could 'feather' the ends together. Also, doing varispeed on the loop is relatively straightforward. The other thing we did for Ben for that film was set up an automatic panning scheme, so that once he had the loop set, then he could 'fly' it by the screen, left/center/right at the speed he wanted, adding in the pitch shift—that is the Doppler shift—and also the fade-in, fade-out. It's like you have instant flyby generators. That was used in a number of instances to give you 'arrowbys,' the airplane sound, and a number of other effects."

Obviously, an effect like an "arrow-by" would be extremely time consuming to create with mag film or tape,

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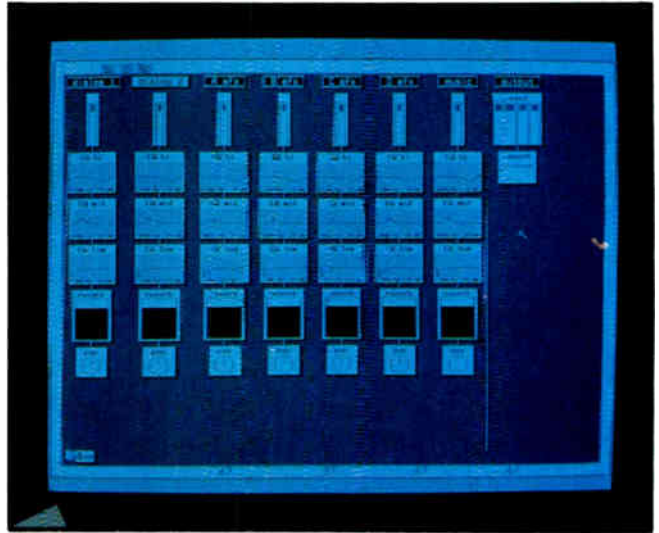
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The SoundDroid with visual monitor and "Electronic Cue Sheet."



A sample of the Droid's "Meter Screen."

involving several recording/processing stages. With digital techniques, life becomes so much simpler. Andy led me across the street to the Lucasfilm office, to a first floor studio where the prototype SoundDroid is installed. The control console is an impressive slate black with ash trim, and comprises a wraparound screen for picture, a touch sensitive CRT monitor, eight servo-faders, and soft knobs and switches. He loaded in a scene from a recent film, and the CRT lit up with the "Electronic Cue Sheet" for that sequence. There were vertical lines showing effects, music and dialogue, with a display of amplitude averages running along each track graphic. A horizontal moving "time line" ran the full width of the track graphics, and passed over written cue prompts as it moved downward, with the passage of time. Using this display, and a menu of "touch boxes," Moorer was able to perform various editing, processing, track transferring, time slipping, and mixing functions. Doing such things would take considerable time, or be next to impossible, using conventional techniques. If paired with its brother machine, the EditDroid™ (which edits picture), picture cut updates can be used to automate a new rough cut of the sound. Such a systems approach to image and sound, where the two elements are truly considered opposite sides of the same coin, will have a profound effect on the way post-production studios are configured and used.

I asked Dr. Moorer how much longer he thought the tape recorder or mag film transport would be with us. "In the long run, the tape recorder as such is going to be a dinosaur. The attraction of random access is going to be cheaper and easier; they're already talking about read/write CDs. Once

you have a read/write CD, the motivation of storing something on a long strip of mylar covered with rust gets very dubious indeed. In the long run, and it's not clear how long the long run is, the tape recorder is essentially a white elephant, and tapeless studios will become more common."

Next month: Interviews with key proponents of the Synclavier and Fair-

light Series III. While these systems are often thought of as music synthesizers, they are also useful as complete post-production systems.

Peter Bergren is a former post-production studio owner, and a freelance engineer, presently employed at Evergreen Recording Studios in Burbank, CA.



Photo: Mark Ross

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USHERING IN A "NEW AGE" AT SPARS

O by Gregory A. DeTogne
n the surface, Lenard Perlman appears an unlikely candidate for the presidency of SPARS (Society of Professional Audio Recording Studios). After all, this is a guy who is a heavy in video post-production—clearly not the type cut from the right mold to help achieve the organization's goals.

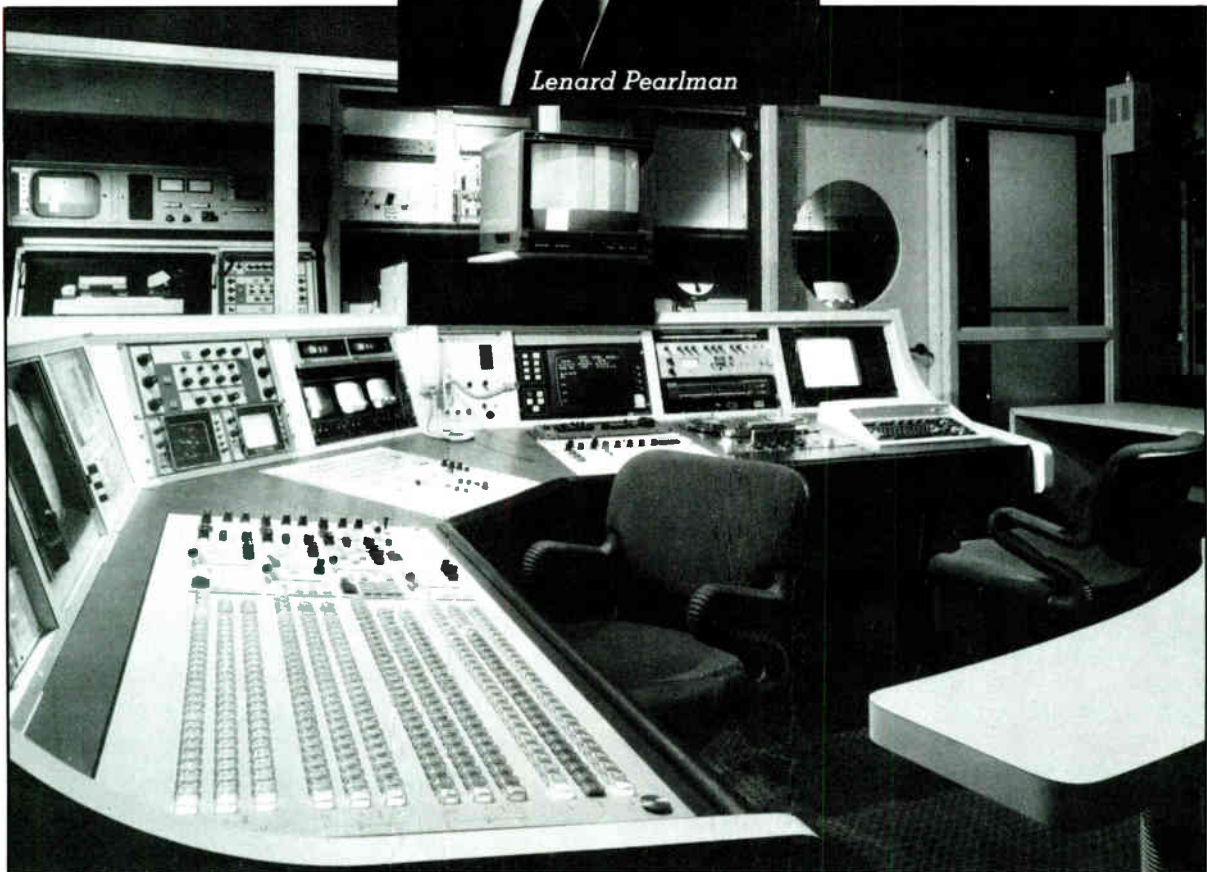
Or is he? According to Len, he can do a lot for SPARS, and then some. While it's true that he has forged his mark in Chicago's competitive post-production market as president of the Midwest branch of a company called

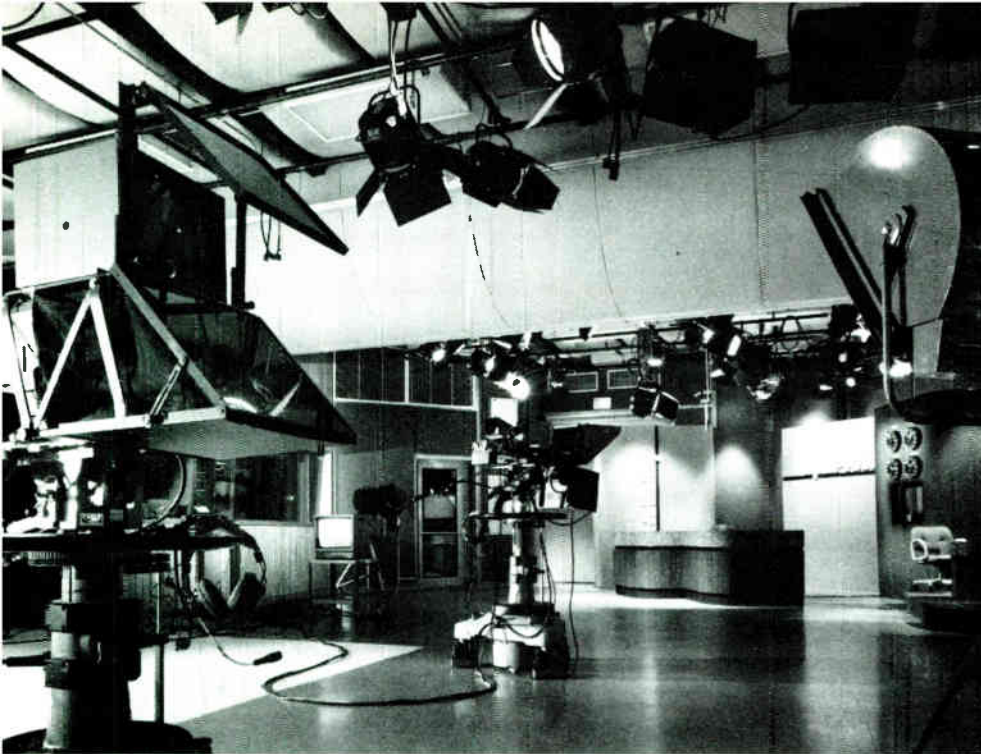


Lenard Pearlman

Editel, his beliefs epitomize an emerging "holistic" attitude in the communications industry. For Perlman, the strict distinctions that have been drawn over the years between the worlds of video and audio are beginning to blur. Today, video houses are concerned with good audio, not just adequate sound, and conversely, recording studios are taking advantage of the potential that exists for them in arenas

Three on-line editing suites are available at Editel, along with two off-line rooms that have interformat capabilities.





Editel's 40 x 60 studio, featuring a sound stage, light grid, hard cyc, a dressing room, and complete kitchen set.

outside of audio, like sound for picture. Cross-pollination between the mediums abounds: stereo, formerly locked into the audio-only domain, has invaded television, and digital audio for video is common as well. A marriage of sorts is developing, regardless of what the parents think, and Perlman perceives himself as an ambassador of goodwill laying the groundwork for the industry's future course. In the following *Mix* interview, Perlman frankly discusses his plans for SPARS, along with recent developments in video post-production at Editel.

Mix: SPARS is going into its sixth year right now, and you've been on the board of directors for the last four. What brought about the appointment of a person with your inclinations to the top post?

Perlman: I believe it was just part of the evolutionary process the organization has undergone. My role four years ago was as the video token who sat in with a few of the major studios to discuss what the industry needed with the manufacturers. My peers on the board were people who had their names plastered all over the credits of albums, whereas I was a different breed—more of a businessman that came from a long line of disciplines that included audio. The recording industry has diversified over the past few years, however, and now there is a growing overlap between video, audio, film, sound reinforcement, and recording. It was just a natural pro-

gression really, and SPARS had to change as the industry broadened.

Mix: Given this trend, how have SPARS' goals come to be redefined?

Perlman: As we've grown—we currently have over 150 studio members and about 25 manufacturer-represented advisory members—our main thrust has been to educate people. When we see needs, we try to create solutions. My operating base as a video person isn't really as important as my being a businessman trying to innovate and play a key role in where the communications industry as a whole is going. SPARS has accepted this change in terms of the composition of the board of directors as well. Our organization is trying to improve communications and further knowledge at all levels, from recording and television down to the consumer who sits down to watch his VCR at night.

Mix: If your main thrust is education, what specific steps have you taken in this area?

Perlman: In addition to the nationwide seminars we've been holding that help members with problems of insurance, management, taxes and the like, we've also branched out with an effort to help those just entering the business or considering it by distributing what we call the SPARS Studio Exam. The test, which was underwritten by a grant from Sony, is given to students as a means to learn where their strengths and weaknesses lie so they can plot career strategies. The

questions are designed in a way that will give a person an idea of what field they would be best suited for, whether it's audio mixing or videotape editing. Besides helping to make decisions, it also provides educational institutions with a sense of direction with regards to what their students need to know.

Mix: How would you say SPARS differs from other industry trade organizations?

Perlman: SPARS differs in that it isn't legally or technically inclined as much. Our end goal is to improve the overall health of our community. Presently, we feel that this can best be accomplished by having people in the business branch out and diversify—take advantage of the numerous opportunities in all areas of the industry. We want everyone to be successful.

Mix: As we see the continued melding of video, film, and audio technologies, what does the future hold for SPARS?

Perlman: Even though we're already moving in this direction, I would like to see more involvement from the video and image areas.

Mix: Won't you have to eventually change the name then?

Perlman: We've talked about it, but I don't think the name is as important as the attitude, and where you want to take the organization. If the charter is right, everyone will rally around it, regardless of what you call it.

Mix: Let's switch gears: how did your association begin with Editel?

Perlman: When I graduated from college in 1973, I had experience and interests in audio, television production and business management. I decided to look for a job with an independent video production company, and wound up finding one at Editel in Chicago. During the ensuing years, I worked in many different capacities, slowly moving up through the ranks all the while. When the company moved to its present location at 301 East Erie, I was given the responsibility of overseeing the construction of the facility, and after we moved in, I was appointed general manager. I was named president after Editel was purchased by ScanLine Communications a little over a year ago. Twelve years ago, there were seven employees at Editel Chicago. Now there are 55, and ScanLine owns two other Editel facilities in New York City and Los Angeles, as well as a sister operation in San Francisco called One Pass, which is where ScanLine is headquartered.

Mix: Obviously, since you're situated

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Perlman: We are capable of doing just about anything here, whether it's post-production or production. Other than the ad agencies, our client base is drawn from the world of music videos, industrial/corporate accounts, syndicated TV shows, and independent producers. We've even acted as the major facility for a pay cable sports network where we took in all of the satellite feeds, did the editorial in our

are available where clients can come in and supervise the editorial decisions of the broadcast product. Commercial work is popular in these rooms. For off-line, we have two other suites that also have interformat capabilities. Rates vary from \$400 to \$600 per hour in the on-line rooms, while an off-line room only costs around \$200 to \$275 per hour. The latter lets you make decisions at a much lower rate, and with the growing popularity and quality of the smaller tape formats, we're seeing an increase in the booking of off-line services. To round out our capabilities, we also have the abil-

broadcasters to play a stereo 2-inch cartridge, which is the format generally accepted in airing a commercial. This problem stems from a lack of standardization in the industry on how to present stereo videotapes to the broadcaster. In time, this dilemma will be ironed out, and as president of SPARS, perhaps I can do something to help move in that direction. Stereo television is especially exciting to me because I've always wanted to see the fusion of good audio with video. Now, not only am I able to see it happen, but I'm able to make a big difference in it too.



Audio control at Editel features a 24-track console.

studio, roll-ins, graphics, and so forth. We've diversified over the years, so one could never view us entirely as going in one direction or after one particular set of clients.

Mix: Could you briefly describe Editel's post-production capabilities from a technical standpoint?

Perlman: I try to describe Editel's post-production capabilities as the hub of a wheel with a lot of spokes. We were the first house in Chicago with negative film-to-tape transfers, and the basis underlying a decision to buy the equipment for that operation or any other lies in the fact that we want to be consistent with client requests or provide better, faster service at a more reasonable price. Three on-line rooms

ity to do computer animation, digital video and audio, Dolby stereo, color correction, matting processes, duplication, and paintbox effects, just to name a few.

Mix: Digitized video is especially useful in your environment because it offers such remarkably superior quality throughout successive generations of the editing process, especially when you're dealing with special effects. Stereo for television is without a doubt going to be the rage of the next decade as well. Do you predict any problems within the industry as one medium changes to another?

Perlman: Right now, stereo is particularly a problem with commercials because there aren't any methods for

Mix: Without question, there is fusion going on between the audio and video worlds these days, but don't you think that there will always be a degree of clashing interests between the two?

Perlman: In certain areas we will always compete, but for the most part, we complement one another. For example, in recording studios, they found out that they could couple two 8-tracks together, and then lock them into a 3/4-inch tape machine and a time code generator, and start to do audio mix for picture. That's great, but clients will still need to deal with a video facility to get certain qualities of video, just like we'll need to deal with an audio facility to get certain qualities of audio. We can complement one another, but there's no way Editel can view itself as the consummate audio studio any more than Universal Recording can view itself as the ultimate in video. The technologies are different, and very expensive, so we each specialize in different areas. It's not a matter of being adversaries.

Mix: Because of the need of superior audio for video, what has Editel done to compensate in equipment?

Perlman: We purchased a 24-track mixing console for one, and we have a wide array of audio sweetening gear. Audio sweetening is essential, because once something leaves here, it's on the air. If there are any last minute adjustments to make on an audio track, and there's not enough time to send it back to the recording studio, I have to make sure that we can handle it.

Mix: We couldn't leave this discussion without talking about computer animation. How has this technological wizardry changed your life?

Perlman: The main advantage of computer animation and things like the Quantel Paintbox is the high resolution that they offer. Resolution of these mediums is so high in fact, that we no longer need film in many situations, which speeds things up. About two-

"SPARS is trying to improve communications and further knowledge at all levels, from recording and television down to the consumer who sits down to watch his VCR at night."

and-a-half years ago, we started dabbling with this equipment and decided to make the investment, with the idea that this was going to be an element clients would want to use for industrials and commercials to enhance image. Some of the effects we produce seem like magic, but realize that these mediums are an outgrowth.

First there was the character generator that could "type" in different letters into the medium. Next, you could color the letters and use different type faces. Then people got the idea that maybe you could make the letters move on the screen. Soon, manufacturers were making devices that could do animation of solid figures right on video. We started getting into the scene, and bought a Bosch FTS 4000, which was the first 3-D animation device. Before I knew it, the paintbox thing happened, and what's exciting there is that opposed to having an engineer or technical person making creative decisions, you now had the ability to inject the artist directly into production, the same way animators were working with the 3-D systems. The artist uses the paintbox in a number of different ways. He can add different depths, different tones or colors, or introduce an entirely new element to the picture. He decides what color it is, and where it should be in the frame. Paintbox techniques are done frame-by-frame and stored in the unit's own recorder. The artist literally draws with a special stylus on a screen, which basically acts as an electronic matte. Medias can be changed to look like chalk, different brush strokes, an air-brush, or whatever. Images from tape or a slide can be put into the paintbox and retouched, completely modified, or multiplied. For video, it brings an artist's palette and imagination into the frame, and is particularly useful for demonstrating ideas to a client that can be quickly changed and rearranged without starting over from square one. Whatever is created on the paintbox is recorded on videotape,

and then married to the master, while building image upon image or whatever it takes to achieve a desired effect.

Mix: With it, you become more than the workers in a post-production house. You're actually introducing creativity into a client's project.

Perlman: That's right. Clients today, especially in the advertising world, are relying upon us for more than just labor. We have to be idea people too, and one of the challenges as the manager of Editel is to promote a spirit of creativity that moves within a corporate environment.

• • •

Shortly after this interview was completed, Editel announced the addition

of a new film-to-tape production package called "Sceance" (so named because of the equipment's ability to bring about a meeting of two "mediums"—film and tape). Sceance came with a price tag of \$650,000. Some of Sceance's more impressive pieces of hardware include: two daVinci Unified Color Correction Systems, a Rank Mark III film transfer system with X-Y zoom (which complements Editel's twin Bosch FDL60Bs), new digital repositioning for the Bosch FDL60B telecines, Steadi-Film; a pin-registered transfer system that permits non-real time film transfers, and an Abekas digital recorder, which Editel will utilize for electronic rotoscoping and matte work. ■

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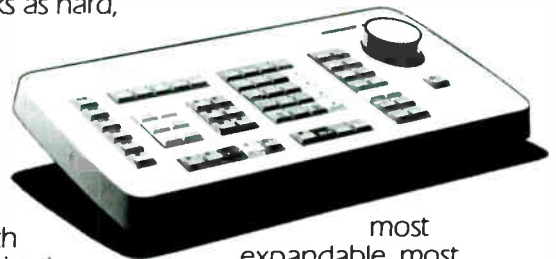
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by Lou CasaBianca



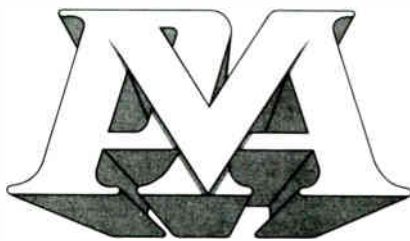
The universal point of agreement at the recent 7th Billboard Music Video Conference is the necessity for budgets to be brought under control if this hybrid commercial art form is to continue to grow, and for new ways of developing financing for music video productions. The Music Video Producers Association (MVPA), was formed almost two years ago. (See *Mix/MVP* March, 1985) Through its membership and its discussions with record labels, it hopes to provide a forum for industry professionals. The group has been meeting with the major record labels and music video producers to discuss the establishment of industry standards and has published its proposal for standardized guidelines for the budgeting and production of music videos.

MVPA Booklet

A 32-page booklet, available from the MVPA, distributed in limited quantity at the Billboard Video Music Conference in Los Angeles last November, contains proposed concept development fees, standardized bidding forms, production payment schedules and policy guidelines for handling cancellation and postponement of contracts, contingency days, non-appearance fees and other information.

Co-founder of the New York-based organization, video producer Ken Walz, (Bruce Springsteen, Huey Lewis, Cyndi Lauper), now claims about 30 members, as well as sister chapters in Los Angeles, London, and a new chapter in San Francisco (Interview *Mix/MVP* February, 1985). Walz says, "Standardizing contracts and bid forms, as well as the procedures used in various situations, seems like the logical way to make the production of music videos more efficient; we're attempting to create a consensus. The guidelines are offered to the labels and the industry in a 'cooperative' spirit." He adds, "We wanted to approach the labels only when we had something down on paper."

The pamphlet is designed to establish standards and operating guidelines for label executives and video music artists, as well as music video producers and production companies. The guidelines and detailed forms are familiar to those in the television commercial production industry. Walz says much of the foundation of the MVPA proposals is drawn from the guidelines



The Music Video Producers Association

originally devised by the Association of Independent Commercial Producers (AICP). "Fifteen years ago," Walz says, "the TV commercial business was in roughly the same place we are now. Every deal was different, there were no standardized procedures from agency to agency, and things were very disorganized." The MVPA retained the law firm of Solomon, Rosenbaum, Dreschsler & Leff, the same counsel retained by the AICP to assist in formulating its procedural guidelines.

"One big difference between the AICP situation and now is that the ad agencies agreed with the producers that standardized procedures would make life easier for everyone," Walz says. While he admits that label business people are "slowly but surely" learning what the producers' problems are, he says the process demands intelligent direction and consensus. "In the music video business, however, everyone has their own way of doing things, and we have to communicate our mutual concerns to effect change."

The Unions

The ongoing record company negotiations with the Screen Actors Guild (SAG) and the American Federation of Television and Radio Artists (AFTRA) are concerns and sources of optimism for Walz and the MVPA. He says "Negotiation with the unions is a good thing. The MVPA would like to be involved with those talks, as it may be the producers who will ultimately be paying for any agreement reached.

"If the labels agree to increase pay scales on some negotiated basis with unions for talent used in music videos, while at the same time keeping production budgets static, the producers servicing the industry will be in an impossible situation. This is music video production. We're not working with feature film or commercial budgets. We want to sit down with the unions, not as feature directors or commercial directors, but as video clip producers and directors. We want to work out realistic budget proposals. We want to use SAG people, because inevitably, they're the best available, but if we have a limited budget and an unrealistic portion of it is arbitrarily allocated to talent costs, and there is no adjustment in the total budget, we are going to have to seek other alternatives."

Budgets

Creating feature film-quality productions on a shoestring budget has historically generated one of several self-fulfilling scenarios: (a) the producers enthusiastically produce a number of "vanity" or promotional productions. They approach or reach "burn-out" reacting to short turn-around requirements of "management by crisis" production schedules of the record labels. The projects lose money; the producers eventually leave the business; (b) the producers eek out a living, barely break even, "burning off" personal and business favors. Projects are "hit and miss." Life for the producers becomes like an endurance-test; success becomes the ability to continue to survive in the nether world of a small high-tech capital intensive production company with no predictable cash flow; or (c) the producers are "hot" and are asked to bid on more projects than they can physically handle. Knowing the game, they bid almost everything that comes along, as experience has shown that even at the "top" only one project in ten materializes. The old "80-20 rule" comes into play—80 percent of the market is dominated by 20 percent of the companies. Successful companies spawn new companies. The producers see their future in mega-budget commercials, and features are under negotiation. Sometimes people respond creatively to the pressure, and resourcefulness is the mother of invention on many projects. This lack of stability and predictability, must be replaced with mutually acceptable standards and policy.

—PAGE 106

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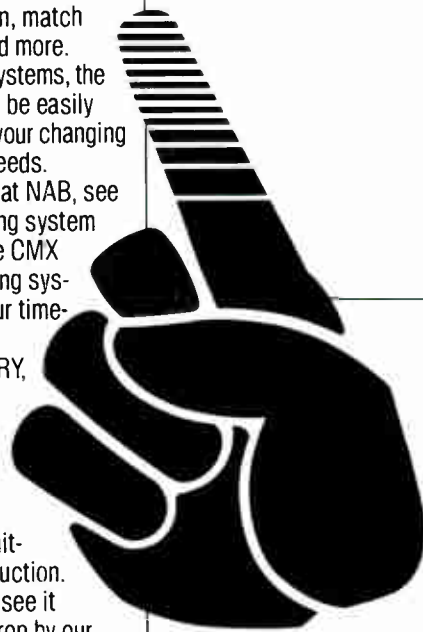
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INTO THE FUTURE

—FROM PAGE 104

MVPA Goals

The stated goal of the MVPA is "the creation of an organized forum for the exchange of ideas, the communication of technical data, the study of industry-wide problems, and to foster improved relations between producers, record companies, artists, labor unions, and government." The association encourages the highest standards in the production of music videos, dissemination of information, and sharing statistical and related data with its members and interested parties. Its intention is to publicize and promote the music video industry and study ways to improve its products.

Ken Walz continues, "The MVPA has among its members the producers of some of the most prestigious videos made to date. Its members have produced more than 3,000 videos collectively, the majority of all music videos ever produced for the contemporary market. The idea for MVPA was generated in the New York area in June of 1984. The future promises exciting and innovative technology, and the MVPA will attempt to contribute to those developments. Our trade association has developed guidelines and forms to help improve efficiency and consistency. The documentation is intended to fill

the needs of music video producers and clients alike, thereby promoting the creativity of our powerful and dynamic form of entertainment. We look forward to a flourishing industry, expanding well into the 21st Century.

The MVPA Guidelines

The MVPA guidelines are intended solely as expressions of the Association's views on particular subjects for the edification of its members. Walz adds, "Although a guideline may represent the Association's view of what constitutes a fair practice, we must emphasize that the adoption of all or part of any guideline remains exclusively the individual decision of each member."

Production Payment Schedule

Firm Bid, the 50/25/25 Plan: The First Billing: 50 percent of the contract price. The first invoice will be billed by the production company within five days after the job has been confirmed. Since this job confirmation has almost always been a verbal order, this first billing will be issued whether or not the production company is in receipt of a written contract, purchase order, or letter of agreement. (NOTE: This provision serves to reaffirm the fact that all proper client authorizations

have been obtained and that the production company is to begin expending time and money on the confirmed job. All subsequent payments will be due and payable upon receipt of the invoice.) Second Billing: 25 percent of the contract price. This amount will be paid upon commencement of photography. Third Billing: 25 percent of the contract price will be paid upon delivery of the final product.


Cost-Plus Fixed Fee, the 50/40/10 Plan: A cost-plus fixed-fee plan is designed to apply a fixed fee based on all approved estimates. All production costs are then paid according to the total actualized costs of a job. This will allow the client to control all production costs.

First Billing: 50 percent of the contract price. The first invoice will be billed by the production company within five days after the job has been confirmed. Since this job confirmation has almost always been a verbal order, this first billing will be issued whether or not the production company is in receipt of a written contract, purchase order, or letter of agreement. (NOTE: This provision serves to reaffirm the fact that all proper client authorizations have been obtained and that the production company is to begin expending time and money on the confirmed job.) All subsequent payments will be due and payable upon receipt of the invoice. Second Billing: 40 percent of the contract price. This amount will be paid upon commencement of photography. Third Billing: 10 percent of the contract price plus all approved additional expenses will be paid costs.

Cancellation and Postponement

The basis for this guideline is to define and set a value for the production company's primary commodity: its time, services, personnel, and equipment. If the production company schedules a block of time on the basis of a firm commitment from a client, then no further effort is made by the production company to sell that time. As the production dates approach, if a project is postponed or cancelled, it becomes progressively more unlikely that this time can be regained. It should be understood that this time represents our primary source of income.

The production company will, if faced with a cancellation or postponement, make all reasonable efforts to resell the time to another client. If the time is resold, then there is an obvious area for discussion; however, if the time is not resold, the following guidelines are recommended. If the cancellation/postponement is given within one to five working days of the commencement of shooting, the client will



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be liable to the production company for the following: a) All out-of-pocket costs; b) Full directors fee as bid; c) Full markup on the job as bid. If the cancellation/postponement is given within six to ten working days of the commencement of shooting, the client will be liable to the production company for the following: a) All out-of-pocket costs; b) Full directors fee as bid; c) 50 percent of markup on the job as bid. If the cancellation/postponement is given prior to ten working days of the commencement of shooting, the client will be liable to the production company for the following: a) All out-of-pocket costs; b) A service charge of no less than 15 percent; c) The directors cost and markup will be subject to negotiation.

Contingency Days and Non-Appearance Fees

The term Contingency Day is defined as: any day where a scheduled film or tape shooting is prevented from occurring as scheduled due to circumstances beyond the control of the production company. These circumstances may include but are not limited to: a) Unfavorable weather conditions (rain, fog, sleet, wind, hail or any adverse

Fifteen years ago, the TV commercial business was in roughly the same place that music videos are now. Every deal was different, there were no standardized procedures...

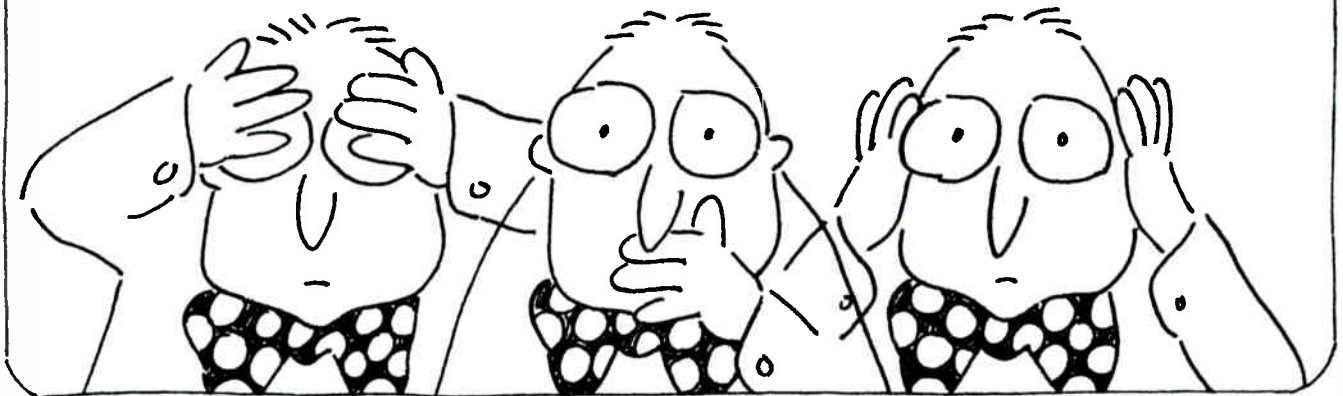
conditions which are not consistent with the prescribed shooting conditions). Non-appearance of talent (illness, physical impairment, drug or alcohol impairment, death); b) Injury or illness involving irreplaceable production members; c) Breakdowns not due to gross negligence on the part of the production company; d) Any events of *force majeure* (earthquake, riot, fire, flood, acts of war, etc.)

Summary

If Music Video Production is considered strictly as commercial "work for hire," then the marketplace will set its own standards. The major producers and directors will expect and accept only those projects with the top budgets. The executives at the major record labels will continue to bid each project by comparison shopping. New artists, operating with limited budgets, will have to "compete" with higher and higher production values and escalating production costs.

The previously outlined Music Video Producer's Association Guidelines have withstood the test of time in the commercial production business. If the emphasis is on the "music" in "Video Music," then the artist/producer agree-

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ments with the record companies are a viable criteria for production co-development agreements. From the "video" point-of-view, television syndication and film distribution agreements could serve as the rights negotiation standards.

The most equitable and potentially galvanizing option for the industry is the re-structuring of programming development packages which help the record company and the artists to re-

couple their costs, and generate profits, while providing a potential royalty income stream and equity participation for the producers. Hopefully, we can begin to help the music video industry to mature into its next phase by insuring fair treatment in the negotiation process, and by establishing more equitable terms of agreement. The acceptance and adoption of the MVPA Guidelines would be a major step in this process. ■

Below: One of the sample forms provided in the MVPA booklet.

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Address: _____

Number & Street

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Zip Code

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Address: _____

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Music Title and Artist: _____

Title of Concept Treatment: _____

Date Submitted: _____ / _____ / _____

Month

Day

Year

Amount due for services rendered in
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NOTE: This fee covers only the service of developing a written Concept Treatment at the request of the Client for the designated music and artist. All rights and copyrights relating to the Concept Treatment remain the property of the Producer and such Treatment and ideas contained therein may not be used or adapted, in whole or in part, in any form, except, however, to the extent that such rights are conveyed by an agreement between the Producer and the Client for the production of the music video by the Producer. This Concept fee does not cover graphics, story boards, models or other specialty presentations.

Signed: _____

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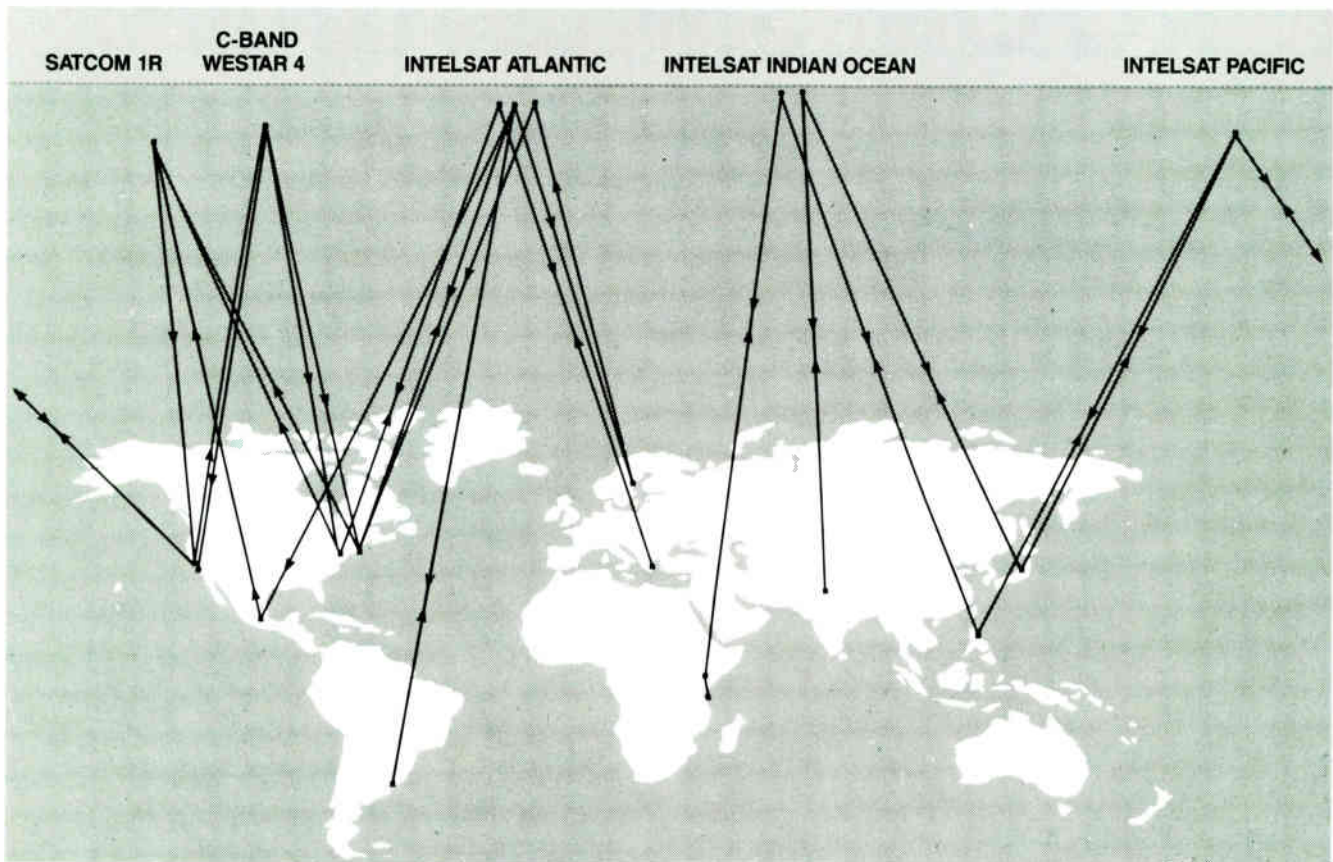
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TELEVISION BUILDS

A "Global Spacebridge"

by Elizabeth Rollins

...The nuclear weapon states have applied traditional doctrines of war in a world where new weapons have made them obsolete. If the old doctrines are applied to the future, the holocaust will be inescapable sooner or later. But nuclear war can be prevented if our voices are joined in a universal defense of our right to live.

—*The New Delhi Declaration; New Delhi, India; January 1985*

Although the American media never seized upon it as a major news story, the meeting that yielded a "five-continent peace initiative" in May, 1984, involved leaders of six nations: Sweden, India, Argentina, Mexico, Greece, and Tanzania. The proposed goal for this group since then has been to break the nuclear weapons deadlock between the superpowers.

The privately-funded, Palo Alto, California-based foundation, Beyond War,

chose to bestow their annual award for 1985 on each of the six leaders who authored the Delhi Declaration (quoted above). It was a showstopper of an award ceremony—in fact, the most ambitious satellite communications effort to date grew from this notion. Beyond War organized and footed the bill for a "space bridge" that allowed people from the capital cities of each of the six countries whose leaders were honored to both watch and interact with other audiences on this six-way circuit.

"Space bridges" are relatively new. Although people like Kim Spencer of Internews (look for an interview in next month's *Mix*) have been tinkering with these interactive satellite transmissions since PBS put up the first domestic satellite in 1979, most Americans may only be familiar with the commercially-syndicated "Citizen Summit," hosted by Phil Donahue on the American side of a two-way live exchange be-

tween Seattle and Leningrad in November of '85. Beyond War also produced a space bridge between high school students in Minnesota and Moscow; this two-and-a-half hour "Peace Child" program was edited down to an hour and shown on PBS in late November '85. Another recent domestic example is the "Great Directors" program, produced by the College Satellite Network on February 19, which allowed students in Los Angeles and Washington to ask questions of five well-known film directors at UCLA. The interactive discussion was fed to hundreds of earth stations at colleges nationwide, with a live concert from London following it.

Phil Martino, director of the five-continent Beyond War Awards ceremony, has worked on a lot of live television in the past 15 years: network sports, talk, comedy, music. After this project, he calls space bridges "the most exciting thing happening in tel-

evision... there's a special impact, an emotional effect that happens when people across the world can actually talk to each other live."

A new techno-specialty is growing as the satellite hacker comes into his own. Organizing the worldwide satellite time and connections is a job in itself. Kim Spencer, veteran of six such space bridges, was responsible for that, along with Beyond War's Wayne Mehl and Ed Kyser.

From a director's standpoint, Martino describes the difference between conventional live television and space bridging: "There's a whole production team coordination that has to happen. It's a lot of relying on planning and relying on the people on the other end, [the associate producers], to do their side of it, which we don't normally have with sports or pageants, or those sorts of things. Logistically, having a complimentary team is essential."

Each associate producer took charge of setting up capability to both send and receive the signal from San Francisco's Masonic Auditorium, where the director was switching. "When you're going into another country with as diverse cultures as these countries had, selecting people to go and help accomplish that was the real key," says Martino. "If anything, I think that was the best decision I made along the way—to select the right people, because it was really a group that was close to begin with. I have a core group of people I work with—the kind that can accomplish commando-type of achievements."

Martino was in a modern San Francisco television studio as he ingeniously juggled two-way feeds using nine satellites on December 14. Associate producers for the other five countries were also using the best facilities available in Mexico, Argentina, Sweden, India and Greece. Problems varied in these places. "In Greece and Argentina, the production crews were on strike. In Greece, the cameraman (who was a friend of the director) stayed and helped get the other guys to come in—just for this event—and then they went back on strike. Every location has these wild stories to tell," says Martino, who listened over the phone lines as problems erupted and resolved themselves during a two week period.

"You had these dignitaries looking at this as really being an indication of their competence—their country's competence. There was an awful lot of national pride involved—to the point of arrogance in some cases," Martino continues. "They were in effect saying, 'We do this all the time. We don't need your help.' So, the big role for these American producers was to deal

with how to work with somebody of a completely different culture and make them feel good about the whole thing. The main goal was *not* to be the ugly American. We proved ourselves to them. We had a solid plan and we needed their help."

But for one of these production commandos, the task was less diplomatic and more basic. For example, there was Phil Olsman in Tanzania... where they have no television, no lights, no camera, no action. (Tanzania is in east Africa). When Martino called him and asked him to be the associate producer for the ceremony to honor President Julius Nyerere at the State House in Dar es Salaam, Olsman said, "I don't know where the hell Tanzania is. So

my wife and I go to get the *Fodor's Guide*," he explains, "and guess what—there ain't no *Fodor's Guide* to Tanzania. So I knew I was in trouble."

Certainly there are many fascinating aspects to the story behind this Beyond War award ceremony—a magnificent attempt to bring the world closer together. From a techno/cultural standpoint, however, the Tanzanian connection was among the most challenging. There is only limited television—mainly on the island of Zanzibar (east of mainland Tanzania, on whose east coast Dar es Salaam is situated). The country has scarce fuel and power. A wicked seasonal northeast monsoon rampages through every December, inflicting its hottest temperatures;

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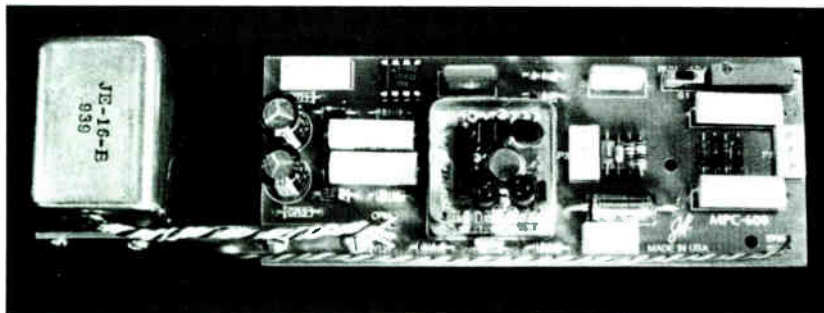
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—FROM PAGE 111

naturally, there is almost no air conditioning. Olsman didn't like the bugs either, comparing them to squadrons of hostile air force bombers.

Here are some excerpts from an interview with Olsman in which he told how he got the signal from the statehouse in Dar es Salaam out to microwave links that led to the satellite uplink in Longenot, Kenya, which then bounced off the primary Atlantic Ocean satellite, entered the U.S. at the Etam international gateway, went up to Satcom, and ended up in John Philips' truck at the Masonic Auditorium in San Francisco. Olsman also managed to pull the downlink signal in through an earth station in Mwengi (outside of Dar es Salaam) that had bounced off the Indian Ocean primary from the Philippines, and before that, had bounced from the Jamesway, CA international gateway to the primary Pacific Ocean satellite. And all that with two seconds to spare. . .

Olsman is quick to credit the Beyond War people for daring to do this, and two Tanzanian engineers, A.B. Mapunda, director of External Communications (Extelcom) and K.O. Almassey, director of Internal Communications (post and telephone).

Olsman: The original plan was to bring the outgoing signal from Dar es Salaam to San Francisco on the Longenot international gateway uplink outside of Nairobi, Kenya, and to bring the return signal from San Francisco in on Longenot's downlink. I found out while flying to Tanzania that the Kenyan government had rejected our application to use their system for two reasons. First of all, the Kenyan president was not involved; secondly, it would have really tied up all Kenyan television broadcasting for that period of time—and that's the time when they usually feed a national news show. So basically they said, "You can use the uplink, but not the downlink." So, I sat down with Mapunda and Almassey, and much to the discomfort of the Beyond War people, said, "We have a major problem."

Mix: How did you change your plan so quickly to get around the problem of not having a downlink for your incoming signal?

Olsman: It turned out that there was an earth station at Mwengi, outside of Dar es Salaam. It was built by NEC of Japan, and shipped totally intact to Tanzania. The control room was in a shipping container, totally self-contained with air-conditioning tied to it.

They were using this 13 meter earth station to facilitate 24 outgoing or incoming circuits of long-distance telephone. This is under the jurisdiction

of Extelcom, the external telecommunications operation. My first question was, "Which satellite is Mwengi looking at?" Although it's a steerable dish, if we were to steer it off of the satellite it was looking at, they would lose long-distance telephone. But it was fixed looking at the primary Indian Ocean satellite—which, by the good grace of God, was the satellite we were using for our return feed.

There are very few transponders available on an occasional basis internationally. For the Beyond War space bridge, I believe we used nine satellites and almost every international transponder available. We used approximately 1.3 million miles of video path. Once the Tanzanians said their Mwengi earth station looks at Indian Ocean primary, I said, "Okay, we're in business." With Mwengi as my downlink, I proposed to use a 23 GHz microwave link to be shipped from the U.S. to interconnect Mwengi and the statehouse in Dar es Salaam, which was where the show was actually taking place—where Nyerere was to receive his award.

The Tanzanians' attitude changed 180 degrees instantly. They went from being spectators in this event, to being hands-on participants. I would like to say I had pre-planned—but in reality, I was much more focused on the technical thing, and I wasn't really too much aware of the sensitivities and all that. The minute I said that—I realized it. The body language changed. These Africans and us became one. We were in this together. It was a profound moment in my life.

We loaded into a Land Rover, and off we went to Mwengi—out there in the middle of nowhere. People living in shacks together with animals. Poverty like you've never seen. And here is this 20th Century earth station, and I said, "Wow, the Africans are hip to the hardware."

Back at the hotel, I got on the phone to the U.S. to order two 23 GHz microwave links and another four or five thousand dollars' worth of support equipment because, in order to get the signal from the earth station to the microwave link, it required approximately 20 meters of coaxial cable that they flat out didn't have in the country. Beyond War had the brilliance to send down one of their guys with it—paid his own ticket and everything. I ordered a thousand feet and every combination of connectors, amplifiers, power converters—everything in the world. I needed to get the signal to the statehouse to show it on the big screen (the return feed), and I needed to get the signal out of the statehouse to get the signal to San Francisco.

I mounted one 23 GHz microwave

link on top of the flag pole on the statehouse, which would send to a central distribution point for the microwaves. I chose the top of the tallest building, Extelcom House. The signal left the statehouse and went to the Extelcom House receiver. That point also had all the incoming and outgoing feeds for their telephone microwave system, which I had to utilize in order to get my signal to Kenya. So I set up another microwave link at Extelcom House, and sent that to the first station of their 600-mile microwave link to Kenya—which is called Janguani.

From Janguani, it went up through the Tanzanian phone system to South Hill, Kenya, which was the last stop in the microwave. That was my outgoing signal. And since I was more concerned with the outgoing signal, I set up a redundant microwave system to get it up to the Janguani link. Then, I took the incoming signal right off the satellite in Mwengi, through the co-ax to the microwave, which delivered it to Extelcom House where I had a 13 GHz unit, which fed to the statehouse. There I had a Barco projector and a screen that came down from Kenya. This was where the audience and the dignitaries would be for the awards presentation.

We managed to throw together—by hook and crook and chewing gum and bailing wire—a three-camera system, but there were no waveform monitors or oscilloscopes anywhere.

[A Dutch bread truck from Kenya was towed in to supply a remote studio with two of the first Sony 3/4-inch VCRs and a Sony industrial switcher. All ten lights in the country were assembled. Generators were checked at each of the pivotal signal relay points. Both ingoing and outgoing signals were secured by Friday (the day before the show) at 3 a.m.]

By Friday afternoon, I delivered television for the first time to the statehouse. I put it up on my big screen Barco. Everything in the capital stopped. They sat down and watched television.

But right before air, we had some problems. The French had reserved a transponder up until 20 minutes before our broadcast, so I couldn't test my outgoing signal. The French agreed to give it up as soon as their news show was over—it was a variable length show—but at best, that would still be at least ten minutes into our show. We were scheduled to go to Tanzania from Sweden, 20 minutes into the show. So it was tight, but hey, it would work—I thought. —PAGE 217

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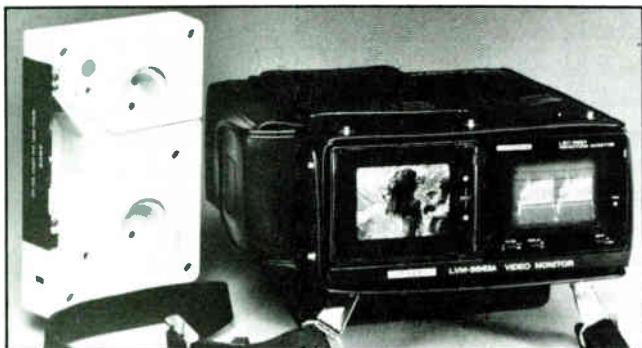
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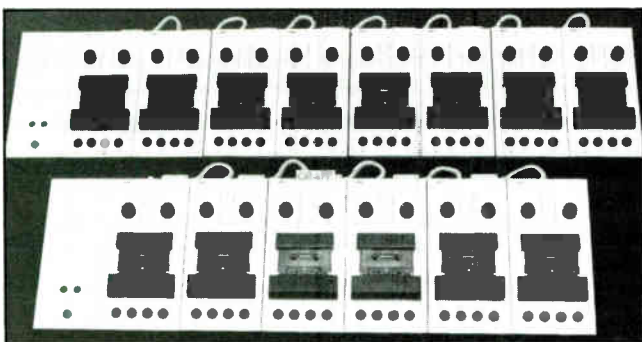


Leader Picture/Audio/Waveform Monitor

The LVM-5863A EFP from Leader Instruments, Hauppauge, NY, is a battery-operated monitoring system that permits performance checking of video cameras and recorders under the most stringent field conditions. In an under-eight pound, 8.75x3.5x10.25-inch package, the unit offers a full color picture display of NTSC signals on a 2.6-inch diagonal CRT. Two-line and two-field waveform displays are provided on the companion CRT etched with an internal graticule for accurate measurements, and an IRE filter facilitates lens opening checks, while the 4x magnifier assists in setup level and black balance checks.

The unit can be powered from 12 VDC vehicle or battery belts and two clip-on rechargeable batteries are available.

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Graff High-Speed Cassette System

The Graff HSCD2, a high speed, in-cassette duplicator distributed in the U.S. by Electronic Systems Laboratories (Ft. Lauderdale, FL) utilizes a microprocessor controlled transport and glass bonded heads that will copy a C-60 on both sides in stereo in 75 seconds. Two user adjustable bias presets as well as level controls for master repro and slave record allow differing tape types to be run in the same chain. Other features include: auto rewind at end of copy, side A/B/both copying, and individual auto stop in each slave—if one tape jams, the remainder of the system will continue. The system is available as a basic one master/one slave system, or with any number of slaves.

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Digital Sound EFX Storage System

Polyphonic FX™, from Polyphonic FX Systems of Los Angeles, is a new digital sequencer for storage and retrieval of sound effects for audio-video post-production. The software-based system provides a simple, cost-effective solution for frame-accurate layback of sound effects to SMPTE time code.

The Polyphonic FX is a 16 channel system for simultaneous or sequential playback, with up to six "voices" per effect. The system digitally records and stores sounds on hard disk, or on an optional 200-megabyte optical laser disk. The system can also store a list of sound effects that can later be edited, providing for basic list management of sound effects. Base price for 16-channel Polyphonic FX systems is \$16,000, including all software and hardware.

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PS713 Intercom Power Supply

The PS713 from Technical Projects (Barrington, IL) is a simple portable power supply interface that serves as an intercom system master in mobile situations. It interfaces to an external DC supply in the range 12 to 30 Volts and contains a circuit breaker of one amp. The unit provides one communications circuit with three sockets. It will provide power for up to 24 Belt Packs or a mixture of headset and loudspeaker stations. Price is \$99.

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Lemo Pocket Reference Catalog

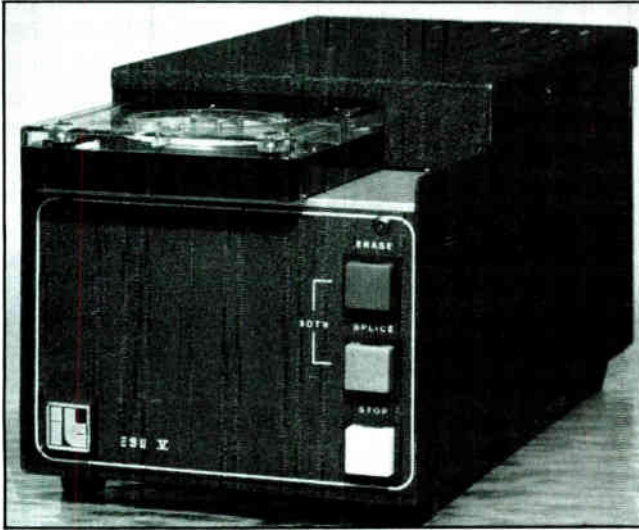
Lemo U.S.A. has published "A Pocket Reference for Connector Specifiers." The catalog's tables are organized around the main elements needed to specify connectors: numbers of contacts, working voltages, amps, and collet range to accommodate cable OD. For a free copy, contact Lemo at Box 11488, Santa Rosa, CA 95406 or call (707) 578-8811.

SynHance™ MIDI Mixers

The SynHance M1X and M1X+ allow two MIDI inputs to be combined into a single MIDI output. These two microprocessor-controlled units include two MIDI input and four MIDI output connectors housed in a compact 8½-inch wide case: two units can be mounted side-by-side on a standard 19-inch rack. In addition to MIDI mixing functions (sometimes referred to as MIDI merging), SynHance M1X+ is also equipped with glitch-less front panel switch-

ing for the routing of any combination of the two inputs to the two sets of MIDI outputs provided. Both products are available from Harmony Systems (of Norcross, GA) and have a retail price of \$295 for the MIX and \$375 for the MIX+.

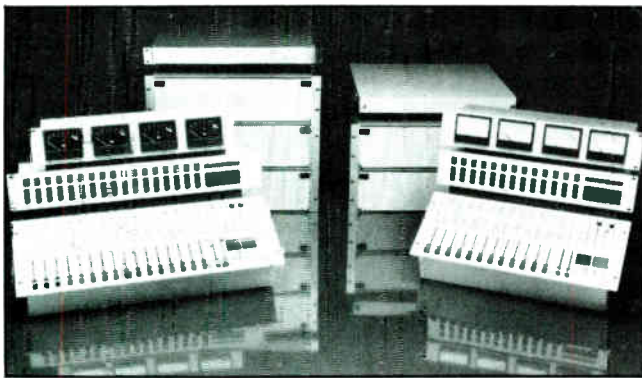
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ITC Cart Eraser/Splice Locator™

International Tape-tronics Corporation/3M of Bloomington, IL, has introduced the Eraser/Splice Locator, which eliminates the tedious task of manually bulk erasing cartridges and visually locating tape splices. The microprocessor-controlled unit achieves a quick, clean erase on NAB A and AA size cartridges, including conventional formulation tapes, and the newer high-output, low-noise tapes such as those loaded in the new ScotchCart® II broadcast cartridge. Clean erasure and high speed (30 ips) splice locating is accomplished in one automatic step.

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Graham-Patten Edit Suite Mixers

The 600 series of audio mixers from Graham-Patten Systems, Grass Valley, CA, are designed specifically for video editing and feature complete edit system integration with CMX, Callaway, Convergence, Grass Valley, and other editors. The series is available in either 12 or 16 input versions (models 612/616) and features include a choice of PPM or VU meters (with a unique cut of phase indicator on the meter panel); balanced XLR inputs/outputs, loop for external processing (pre-fader), monitor mute -20 dB attenuation) on the 616, and a complete sources section for selection of sources that are active at the "to" and "from" edit points. Programmable equalization is optional.

The system separates the control panel and the rack

mount electronics packages, reducing space requirements in the edit suite. The concept allows the placement of the electronics up to 200 feet away, and due to the VCA fader design, no audio signals pass through the control panel, thus avoiding problems that can occur when routing audio through long cable runs.

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Christie MaxERASE-16B

The MaxERASE-16B from Christie Electric Corp. (Torrance, CA), is a universal audio/video tape degausser that handles tapes from 1/4 to 2.6 inches in width, up to 16 inches in diameter and erases high coercivity bulk tape up to 1500 Oersted in a 30-second, automatic one-pass operation. Features include a phase change switch for selecting either horizontal or vertical erasure, tape rotation through the magnetic field to prevent "spoking," and a quiet, continuous duty design with one year warranty.

Circle #081 on Reader Service Card

Noriyuki TC Reader/Generators

Debuting at the NAB Show are two time code reader/generators from Noriyuki, distributed by Coherent Communications of Sylmar, CA. The \$1,100 KS-700 is AC powered and features an alarm for invalid time code, data entry keypad, LED code display, and drop/non-drop frame formats. The YAM7 offers similar features in a pocket sized, 9 VDC package at \$920. Both are available in either 25 or 30 fps versions.

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Star Carry Cases

The Carry Case line of cases from Star Case Manufacturing, Munster, IN, features textured fiberglass covering 4mm plywood with aluminum extrusions for added strength. While the line is not up to the standards of Star's ATA cases, Carry Cases are designed to stand up to moderate shipping situations and offer lightweight protection. Both custom and standard case sizes are available.

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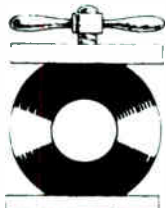
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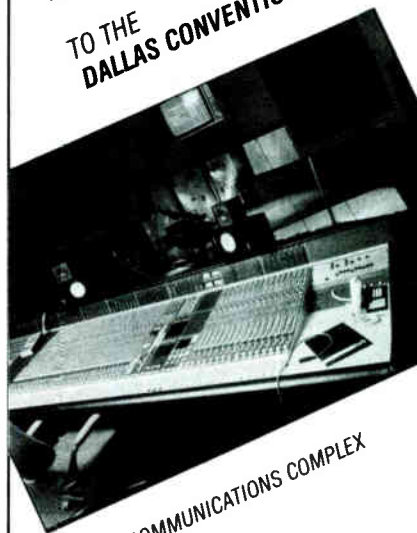
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PROBLEMS • AND • SOLUTIONS

by Blair Jackson

As the union of audio and video becomes more sophisticated and complicated with each passing month (or so it seems), a plethora of new problems associated with the sometimes uneasy mix of technologies is vexing engineers and technicians from coast to coast. Recently, we talked to a number of audio engineers and video technicians about problems they've encountered in sweetening and post-production, and we pass along their

tips in hopes that *their* frustrations might help *you* avoid frustration.

Dan Sokel, Video Post and Transfer, Dallas

"We did an experiment recently that was quite exciting and could lead to some very interesting things in the future. We have an Abekas A62 digital tape machine here and we recorded in the vertical interval—there's only two lines in the vertical interval that the machine usually records—and then we chase-locked a Nagra T to that vertical interval time code on

playback and we were able, by doing that, to effectively turn the Abekas, which is just a digital video tape recorder with no audio capability, into having audio. Then we could control the Nagra's 'record' in and out externally and actually use the machine to record a 30-second spot we were building, and use the Nagra as the audio deck so that when we were finished, we had completely recorded both audio and video and had a digital master. This will allow us to actually use the Abekas as a digital tape machine with audio, whereas before it was primarily



Sony Sync Master controller at P&P Studios in Stamford, CT.



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While your fingers do the walking to find the right place to edit your video, chances are the people at Video Workshop, Inc. are busy building yet another of their do-it-yourself editing/duplicating centers. The Fort Lauderdale, Florida-based chain is out to tap a relatively new market: companies and individuals who need to get into video production for presentations and other small corporate applications; amateur video photographers who don't have either the money or the inclination to pay top dollar to edit their videotapes; and of course, video makers with more serious aspirations who go to Video Workshop for the

hands-on experience it gives them at a relatively low price (\$12.50 per hour). In addition, the Video Workshop franchises also offer a course on editing to make things easier for novices.

Of course, what all this means is that your video will be as good or as bad as you make it. For a little more money, Video Workshop people will help you more and you can avail yourself of their sound effects library and other nice touches. Video Workshop will also transfer slides, photos and home movies onto videotape for a safe and accessible record. The Video Workshop editing suites are equipped with JVC BR8600U and JVC RM86U systems. With camcorder sales jumping to an estimated 1.2 million units in 1986, Video Workshop just may have hit on a gold mine. ■

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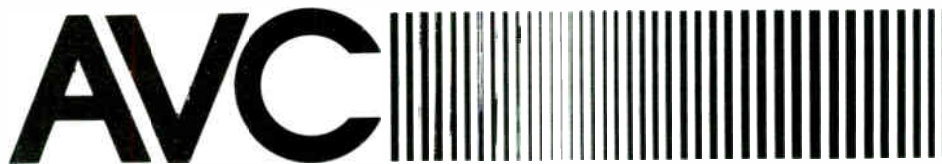
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usable for video effects, but you couldn't sync audio to it. I think I'm going to use it as a digital tape machine any time I have to do a 30-second spot, because besides the ad-

someone else has laid down, or maybe the one-inch has good SMPTE code and the 3/4-inch doesn't. That's probably our biggest problem: the deterioration of the SMPTE code that comes in



The control room at Kansas City's Mokan Productions.

vantages of the Abekas—100 seconds of digital recording—you can truly create a digital first generation master. All the pieces and overlays of your effects are first generation because it records from digital to digital inside the machine; you can take sections and move them around.

"That was the extent of the experiment. We did it with Abekas—they hadn't tried it before—and I think everyone agrees it was very, very successful. The real key is that we now have very high quality audio with the Nagra T, which I really think of all the pieces of equipment I've seen recently, is by far the best. It's a very, very well thought-out piece of machinery. The center track time code and the ability to do sync-ups with it are just amazing. Nagra has always been the epitome of quality, but this machine is really the first studio-related Nagra and I'm really impressed with it. This one runs rings around anything I've ever seen. We've had it for a little over two months and we've been using it extensively for audio sync-up. I couldn't be happier with it."

**Dave Riggs, Mokan
Productions, Kansas City**

"Probably the biggest problem we face—and this might be somewhat unique to our area—would be when the video tape comes in and there's a problem with the SMPTE code that

from another supplier. Let me give you a scenario without mentioning any names.

"We got a project in on one-inch tape. In order for us to view it in our audio suite, we also had to have a 3/4-inch copy of that tape. Well, on this particular project, the one-inch was fine, but when they made the dub to 3/4-inch, they recorded the level of the SMPTE too high. What that does, basically, is freak out the machine; you can't deal with it and it won't work. So how do you deal with that? Well, if you only have a two-machine synchronizer, there's not much you can do because there's really no way to know exactly what the problem is. There's no way to know if it's your synchronizer or your SMPTE code, or the side of bed you got up on in the morning, or what!

"When we started noticing that kind of thing, we upgraded to an Audio Kinetics Q.Lock three-machine system. Now that does a couple of things for you. First of all, by having a three-machine synchronizer, if the one-inch is synchronizing while the 3/4-inch isn't, then it's obviously a problem with the 3/4 tape and not the system, because if it's syncing one it should be syncing both. Secondly, the Q.Lock has a feature called Gen-Lok that regenerates the SMPTE code for you, so what you can do is suck it off the one-inch tape, regenerate it, and re-stripe the

¾ and fix the problem and become a hero to the client!

"It's an unfixable problem if you don't have a three-machine synchronizer, unless you want to send the one-inch and have it re-dubbed, which we couldn't do because of time pressure. There's another way we've overcome that, too. We've installed a full video editing facility—Betacam, one-inch and everything else. So given that same scenario now, we could just run across the hall and re-dub it ourselves!"

"Increasingly, we're finding that people are more interested in making every aspect of their productions as good as they can make them."

Bob Meloche, Producer's Color Service, Southfield, MI

"We do a lot of commercial work for Chevrolet, and a while back we worked on a three-minute spot, which is really a lot of hard work, as you can imagine. This was for the *George Washington* miniseries, and like the show, the commercials were quite an undertaking. What we did was string together several spots going in and out of Sarah Purcell and Ken Howard doing transitions between four 30-second commercials to tie them into one long spot.

"We started with a 35mm workprint with a 35 mag of their sync track. In building the three-minute commercial, we laid down the 35 mag on a couple of tracks of the 24-track, then we laid in from each individual commercial, the music, announcer, and effects. So what we had at that point was like a checkerboard of Ken and Sarah, a piece of commercial, Ken and Sarah, a piece of commercial, and so on. There was no music that went through everything, and to complicate that, some of the music was done in Los Angeles and some of it was done in New York, yet it somehow had to be tied together in those transitional passages without re-recording the existing music and effects. So some new music—which came to us on a 4-track—became another element to lay in and try to tie together with the existing elements. Then, all of that had to be

mixed down into something that sounded like it all belonged together. We ended up locking two 24-tracks—an Otari MTR-90 and an Ampex MM1200—to bounce everything back and forth, and a one-inch Sony 2000. The Otari contained the original or 'built' 24-track for each spot, and since we didn't have an additional 24 tracks of dbx noise reduction, we bounced the encoded tracks, which made it a little awkward to listen to, but it ended up being just fine in the long run.

"We did several three-minute spots for the miniseries and each presented its own challenges because we were always working with pieces that weren't necessarily intended to go together."

Edgar Bernstein, P&P Studios Stamford, CT

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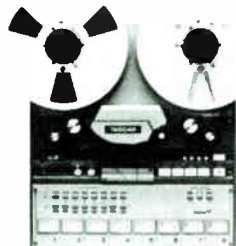
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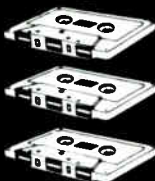
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place prior to the on-line video edit. By having a completed audio mix prior to video editing, the video editor is free to concentrate on the video. Not only does this sweetening technique improve the quality and quantity of audio for video, but it saves us time and money on-line which, of course, benefits our clients. We estimate an on-line time savings of about 30 percent. Time is still spent assembling and mixing audio tracks, but at greatly reduced audio studio rates.

"Not only do our video producers benefit from this process, but so does our audio engineer, Dan Pickering, who also happens to be our music director. Dan told me that the sweetening system makes his job a thousand times easier. You have to keep abreast of the changes and advancements in techniques, and this is one that just developed naturally from our working experience in audio and video. By knowing the necessary production parameters for both mediums, we were able to construct this hybrid sweetening method."

Fred Berkover, Daily Planet Chicago, IL

"In general, a lot of video houses don't put that much into the audio end of their operation. But here, whenever possible, we try to deal with audio in-house. We have a relatively sophisticated audio system—not terribly sophisticated compared to an audio house, but for video... we have a 16 channel mixer, limiters, compression, expanders, Dolby and dbx noise reduction, UREI graphic equalizers, that sort of thing. We have a lot of trouble-shooting equipment. So we can solve problems in this area, and while we're editing videotapes, we have a separate man who deals with audio. Still, beyond that, we are not what I would call a professional audio house. We don't have the people with 20 years of audio mixing experience and we don't know every trick in the book. We own good boxes and can solve maybe 60 percent of all the problems we run into right here. The rest of the time we have to go to an audio house.

"In Chicago, we have a number of good choices—Universal, Streeterville and a couple of other places—and they do fine, just wonderful, dealing with the mix itself, because that's what they do for a living. The problem is that if they need it laid up on a 24-track, a machine I don't have, it takes them longer to lay up the elements on a multi-track machine than it took me to edit it in the first place. Once they get it going they're great, but there's a bit of a knowledge gap on their part on how to deal with video tape, and a gap on my part when it comes to audio.

"In Chicago, our clients are used to very good mixing for commercial work, and most of the studios are top-notch. But I'm never going to put myself in a position to hire some heavy-duty mixer. What I'm going to try to do is continue to grow in knowledge and sophistication in that area. If the audio houses don't get it together, though, they're going to force us to continue to step into their business, and I'd rather not do that. We have our hands full with video."

Jimmy Dolan, Streeterville Studios, Chicago, IL

"Increasingly, we're finding that people are more interested in making every aspect of their productions as good as they can make them. Of course, some places that have heavy volume are still just churning out tracks and can't be concerned with follow-through, but that's going through a transition, too. There's much more concern on the clients' end with making sure something is good from top to bottom. More attention has to be paid at every step of the process because you'll be able to hear it if it isn't done with care.

"Everything we're doing now in terms of commercials is stereo-mono compatible. That's not new for us, either. Since we do records, it's been our orientation all along, so it's not like, 'Hey, we're going stereo now!' We decided some time ago that all the commercial formats would be stereo, which would be great for presentations and for the clients.

"It's all worked out well because we've managed to grow and change to meet the demands of the business. On one of our floors, we have two main 24-track rooms and we added a third multi-track facility that at that time—1978—was a remix facility. It's subsequently been turned into a finishing facility. Since we've been able to dedicate a room to finishing and mixing, we're not constantly setting up and tearing down to allow for other work to go on there. It's allowed us the luxury of refining the room and really getting involved in it and keeping it stable. Other studios are buying synchronizers and setting up for video, and if you're moving equipment around constantly and setting up and tearing down every few days, there's more margin for error, because the technology is new and the human interface is new. So having a stable environment in this area and consistent people has allowed us to be a lot more aggressive in this area and lets us pursue things that a lot of people in our market and around the country haven't been able to do.

"Based on the type of work we're

doing here, the best thing we could offer our audio clients is audio decision-making capabilities, from down-beat all the way through finish, and all that tied to picture, where they could go back to being a film medium after they make their audio decisions. Our goal is to be able to give that producer picture reference at all times because that allows them to make more accurate, precise decisions."

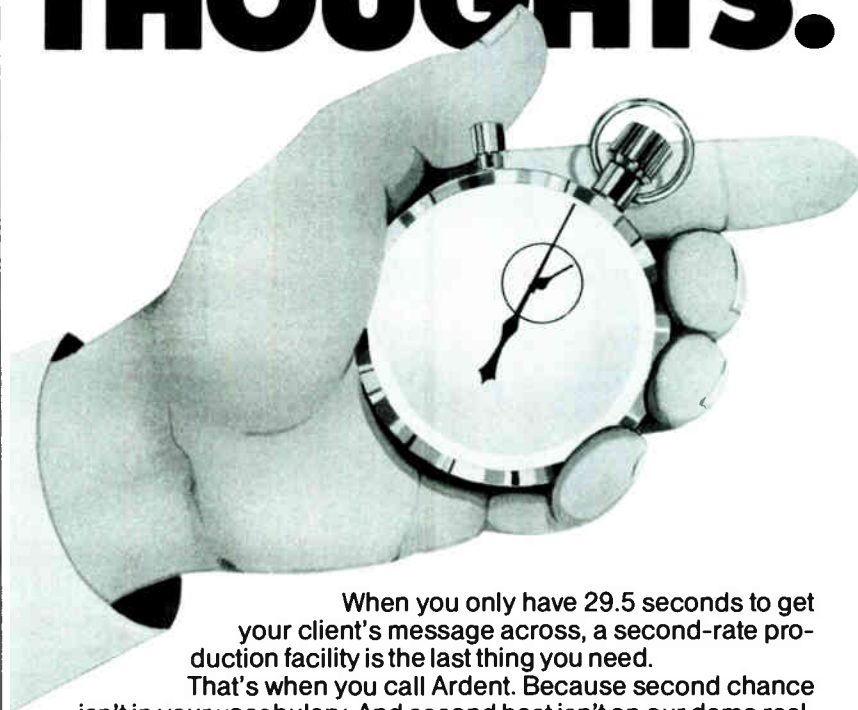
Rob Hill, Century III Teleproductions, Boston, MA

"The CMX audio sweetening system called the CASS 1 should solve a lot of the problems we've traditionally had with machines talking to each other, because it talks to the automa-

tion and fires off the GPIs and controls six machines, and you just need a comm line to any of the one-inch machines we have in the building. It can lay back to both the master and a protection master at the same time, and all that kind of good stuff.

"What makes it really so cumbersome now is that synchronizers just don't have the power; the computers aren't strong enough and aren't controlling enough forces to make it easy for you. But it's growing real fast. I have high hopes for the CMX system. What we need for audio is something more like the way that video machines are talked to. We need to have some sort of serial port or other way of talking to the machines more easily. We

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have to eliminate a lot of these separate boxes—the autolocator, the track-assign. Right now, you have your console and a bunch of these damn boxes piled up on top of it. SSL has the right idea of incorporating it all into the console, but not everyone can swing one of those, to say the least. Basically, though, we need more control.

"Each type of job you do has its own set of problems and solutions. Rock videos, for example, present unique problems. The key problem is that people don't know what to do in the early stages. [The producers] need to get us the master or safety master that

tion, and they can go into the edit and cut to it and be guaranteed that if it does come back into mixing to picture—to add sound effects or anything—you're always sure that song is going to sync up.

"Very few people seem to have that concept down. They either roll it from an audio cassette or they roll it from a machine not locked to anything, or they're all over the map. That's one of the reasons most rock videos look awful when it comes to sync. If more people would go through this extra step I've described, it would probably save them a lot of grief down the road."

sic on one 4-track Ampex and my dialog on another and do the mix from there. If you're at all familiar with film mixing, you know they're always moving tracks, and very seldom do you get into trouble moving effects as combined elements. Where you run into problems is when you want to move an effect and the music is sitting there locked on the same machine. The way I do it, you can keep the dialog intact and slip the effects until you get out of the particular problem, and then just go on.

"I've done sweetening a lot of places in this town [Hollywood] and I don't like it at all. It's too expensive. I've been burned at places that are supposed to be the best facilities around. They have all this grandiose super-computer stuff with all the effects and everything, but they record it onto a little 6-track. This 6-track had hum, the board had hum; it was a nightmare. I spent two days over at that place because I was in a time bind. I should have come over here and edited it the manual way. No one seems to have an answer to this.

"And it's like that all over. I had a narration tape that I took to one of the big post houses here, and the guy there was cueing the narration tape on an ATR-104 with an Adams-Smith but he was using chalk marks, because it's not a true servo. The master 24-track and the one-inch all are interlocked, but this little ATR is just launched. I just wanted the narrator moved back ten frames, so he went and made this little chalk mark and moved it back ten frames!

"I have the United Media Commander, which fully interfaces audio decks. The problem with the Commander, though, is that there are still bugs that haven't been worked out. It does interface the audio decks—it treats audio decks as if they were video tape machines, so I have the track select, where it went, etc., but it's far from perfect."

Jim Flis, John Sullivan & Associates, Boston

"Annoying background hum is a problem that frequently occurs when you're shooting in a situation like a computer room or near large air conditioners. Record the shots you need, and then record the hum by using an out-of-phase XLR microphone cable, made up by reversing the hot and negative [pins 2 and 3] leads on one end. When you mix, combine the signals—aligned in time code—and the noise will cancel if the phase alignment is exact. You have to play with it somewhat, but you can get the sound to almost completely disappear. It's a strange phenomenon, but it works!"

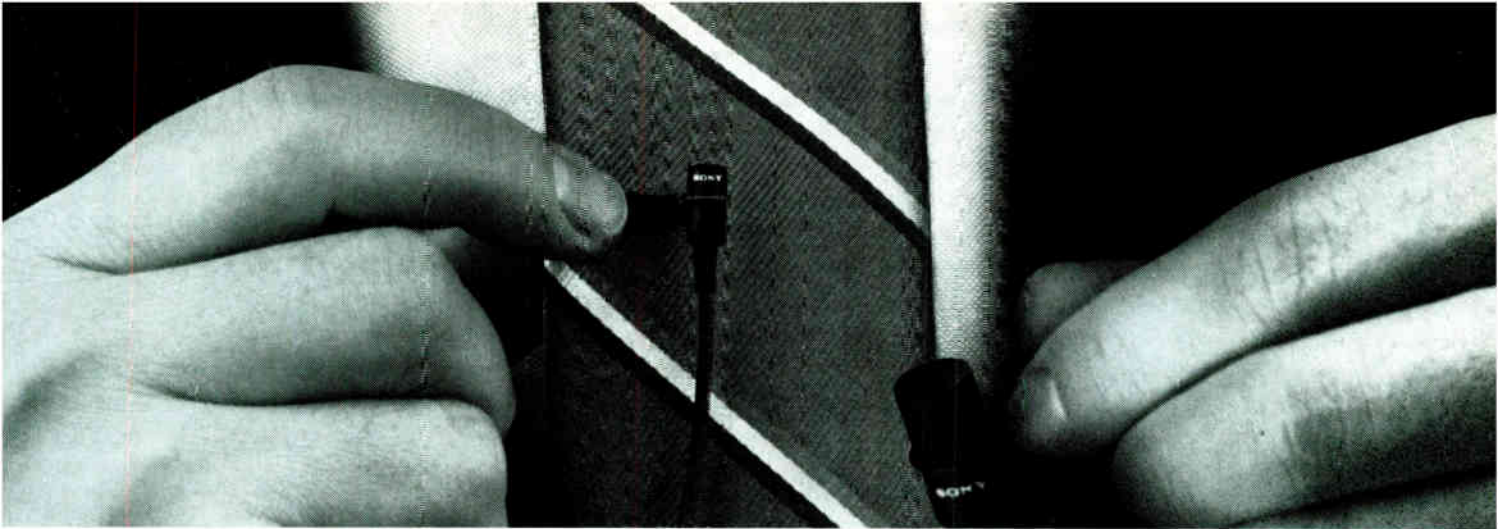


Century III Mix-to-Picture/Audio Sweetening room: Rob Hill, VP and head of the audio division, at the MCI-636 automated console.

they're going to use in the final product and let us center track time code it. Then we lock up to any other video source in the house as a frame of reference, and while it's locked up, we make the playback copies for use in the field, because we establish the time base which is on the safety master of the song. They can go through all the playbacks on the loca-

Bruce Austin, Bruce Austin Productions, Hollywood, CA

"I come from a film background and I decided that's how I'd approach mixing, so I do things a little differently than most people when mixing video. I have three machines, as opposed to a 24-track—[two Ampex] ATR-104s and a Fostex 16-track. I build all my effects on the Fostex and put my mu-



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As the world's leader in lavalier microphones, we've just taken some very important steps to ensure that we retain that distinction.

For one, we've taken our mics in a new direction with the addition of the Sony ECM-66 uni-directional. Its wide-angle cardioid pattern provides better off-axis frequency response than the classic pattern—while also providing an unprecedented level of isolation from ambient noise.

We've also made the least of a good thing: The new ECM-77 is the smallest microphone in Sony history. We've even made our new cable housing smaller—and more durable.

We've made more of some good things, too. The new ECM-55, for one: the latest refinement of our successful ECM-50 series.

And we've expanded our line of accessories—with new color windscreens; pencil-type, safety-

pin and necklace-type clips; and a power supply holder that clips to your belt.

Sony lavalier microphones operate on either a single AA battery or phantom-power. You also have a choice between black or satin-nickel finishes; and XLR, pigtail or Sony wireless-compatible output configurations.

So to see (barely) and hear (very clearly) the results of Sony's refusal to rest upon its laurels, call your Sony representative: Eastern Region, (201) 368-5185; Southern Region, (615) 883-8140; Central Region, (312) 773-6000; Western Region, (213) 639-5370. Or write to

Sony Professional Audio Products, Sony Drive, Park Ridge, NJ 07656.



SONY
Professional Audio

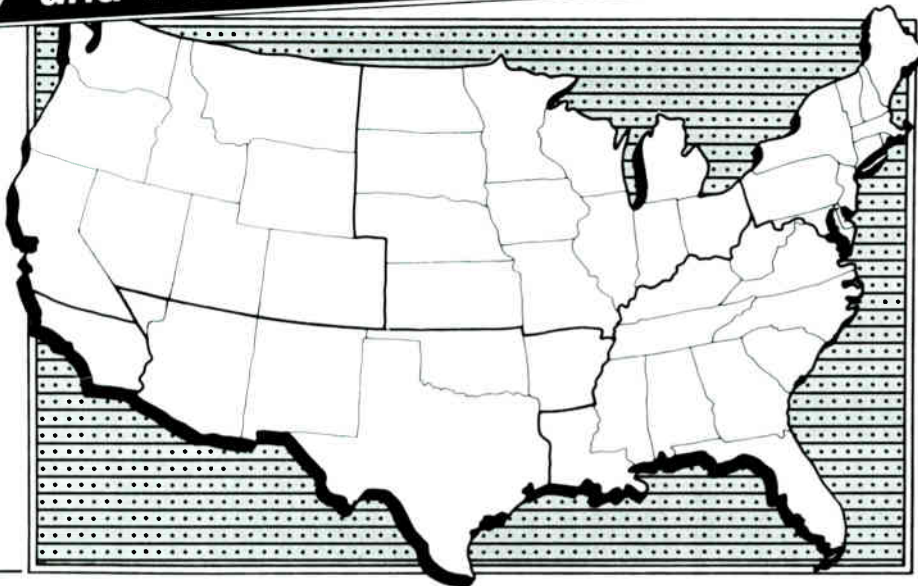
© 1985 Sony Corp. of America. Sony is a registered trademark of Sony Corp. Sony Communications Products Company, Sony Drive, Park Ridge, New Jersey 07656.

VIDEO PRODUCTION

and POST-PRODUCTION FACILITIES

The following studios span the spectrum from audio recording studios with basic video interfacing equipment to full video production centers with audio sweetening capabilities.

As this area is in a dynamic growth and update period, we encourage readers to contact the facilities for specifics.



In the following listings each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

NORTHEAST

RAY ABEL PRODUCTIONS, INC.
VPF, OLVP, VPP/E
Shore Dr., Port Chester, NY 10573
(914) 939-2818
Owner: Ray Abel
Manager: Jim Key

AB STARLITE INC.
VPF, OLVP, VPP/E, APPV
In both Philadelphia and Bucks County, PA
(215) 752-7491
Owner: B.W. Feldman
Manager: Ross R. Davies, Jeff T. Santoro
EQUIPMENT
Synchronizer: Microtime 220 FITs, FOR-A 430, FOR-A 450.
VTRs: Panasonic Broadcast ¾-inch.
Video Monitors: Conrac, Tektronic, Panasonic.
Switchers/editors: Sony Director, FOR A component.
Cameras: Sony DXC M3As
Audio recorders: TEAC 50s.
Audio mixers: TEAC, Shure.
Other major equipment: MicroTime digital video effects (Genesis W/ACT-1), chyron and character effects, computer graphics.
Rates: \$75/hr. for entire studio (except AB roll—which is \$95/hr. on line)
Direction: We are expanding as a post-production house offering no loss ¾-inch editing which uses "component" processing and digital effects... and competes with 1-inch editing—but much cheaper! Our new facility will house several editing suites, duplication, animation, char. gen. effects, and other related services. In addition to digital effects, we offer extensive special and color effects, plus high tech color correction. We offer a unique low cost, relaxed atmosphere for high quality ¾-inch in the 1-inch market.

A.D.R. STUDIOS INC.
OLVP, APPV
325 West End Ave., New York, NY 10023
(212) 486-0856
Owner: ADR Studios Inc
Manager: Stuart J. Allyn

AERO MEDICAL TRAINING INSTITUTE
VPF, OLVP, VPP/E, APPV
125 James Way, Southampton, PA 18966
(215) 355-9100 x 288, 287
Owner: Public Stock
Manager: Robert A.G. Montgomery, Jr.

AIDEN VIDEO PRODUCTION, INC.
VPF, OLVP, VPP/E, APPV
80 Commerce St., Glastonbury, CT 06033
(203) 633-9481
Owner: Aiden Design Inc.
Manager: Kenneth W.A. Soudan

AIR IMAGE TECHNOLOGY
VPF, OLVP, VPP/E, APPV
Minuteman Airfield, Stow, MA 01775
(617) 897-8303
Owner: Robert E. Pooler
Manager: John W. Petrie

JOHN E. ALLEN, INC.
VPP/E
116 North Ave., Park Ridge, NJ 07656
(201) 391-3481
Owner: John E. Allen
Manager: Gene Kerber
EQUIPMENT
VTRs: Ampex 1-inch, JVC CR-850 U and Sony ¾-inch, Panasonic ½-inch.
Other major equipment: Rank Cintel MK III Telecine: 16mm/35mm, slide capable, 16 and 35mm Wetgate equipment shortly.
Direction: Film restoration specialists, shrunken film transfers, optical to magnetic sound transfers, full service 16 and 35mm duplication of old, shrunken, damaged and deteriorating film, film-to-tape or film-to-film, extensive stock footage library, covering 1890 thru 1955.

AMERICA FILM & VIDEO STUDIOS, INC.
OLVP
297 Dunbar Hill Rd., Hamden, CT 06514
(203) 288-1753
Owner: William F. Burns
Manager: Dennis Peters

ANDIAMO FILMS
VPF, OLVP
6 E. 30th St., New York, NY 10016
(212) 683-7478
Owner: Mitchell Sklare
Manager: Charmaine Kiehne

ANGELSEA PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
55 Russ Street, Hartford, CT 06106
(203) 241-8111
Manager: Douglas Muntford

ANGLE FILMS
OLVP
358 Central Ave., Jersey City, NJ 07307
(201) 659-5193
Owner: John Engel
Manager: Jamie Charbonnet

ANIMATION ARTS ASSOCIATES, INC.
OLVP, APPV
1100 E. Hector St., Conshohocken, PA 19428
(215) 825-8530
Owner: Alice M. Ziegler
Manager: Harry E. Ziegler, Jr.

APERTURA
VPF, OLVP
Main St. (P.O. Box 12), Orford, NH 03777
(603) 353-9067
Owner: John Karol
Manager: John Karol

ARC VIDEODANCE
VPF, VPP/E, APPV
88 Lexington Ave., New York, NY 10016
(212) 777-4764, 924-1007
Owner: Jeff Bush
Manager: Jeff Bush

ARDEN FILMS/VIDEO
VFF, OLVP, VPP/E, APPV
801 S. Harrison St., Wilmington, DE 19805
(302) 571-1754
Owner: Georgi Marquisee
Manager: Georgie Marquisee

JOEL ARONSTEIN PRODUCTIONS
VFF, OLVP, VPP/E
41 Park Ave., New York, NY 10016
(212) 685-3671
Owner: Joel Aronstein

ASL MOBILE AUDIO/VIDEO
APPV
P.O. Box 791, Flushing, NY 11352
(718) 886-6500
Owner: Aura Sonic Ltd.
Manager: Steven Remote

ASSOCIATED PRODUCTION MUSIC
APPV
888 7th Ave. 12th Fl., New York, NY 10106
(212) 977-5680
Manager: Jerry Burnham

ATLANTIC VIDEO PRODUCTION
OLVP, APPV
171 Park Lane, Massapequa, NY 11758
(516) 798-4106
Owner: Michael Canzoneri
Manager: Lia Volland

AUDIO-IMAGES
VPP/E, OLVP, APPV
Ste. 305, 200 James Pl., Monroeville, PA 15146
(412) 372-8850
Owner: David J. Stana, Curtis J. Brooks

AUDIO VIDEO PRODUCTIONS
VFF, OLVP, VPP/E
P.O. Box 6287, Lawrenceville, NJ 08648
(609) 882-5570
Owner: Mel Obst
Manager: Manny Obst

AUDIO VISUAL CENTER
OLVP
235 N. Broad St., Philadelphia, PA 19107
(215) 563-6872
Owner: Richard DeRose
Manager: Randy C. Wolfson

AUDIOLINK
APPV
1380 Soldiers Field Rd., in the Filmarts Prod. Center
Boston, MA 02134
(617) 244-2224
Owner: Steve Olenick
Manager: Ruthie Ristich
EQUIPMENT
Synchronizer: (3) Timeline Lynx modules.
VTRs: JVC 6650U ¾-inch; tie line to Ampex 1-inch type-C recorders.
Video Monitors: Sony.
Audio recorders: Otari MKIII 8 and Otari MTR-10 with center stripe time code track.
Audio mixers: Soundcraft 600, 24 inputs.
Other major equipment: Yamaha QX1 digital sequence recorder, TX216, DX7, RX15; Oberheim Xpander; other keyboards; Neumann TLM170.
Rates: Please call for our competitive rates.
Direction: Sweetening and mix-to-pix as well as original music production; library music; sound effects; voiceover recording. Layback to 1-inch through interface with complete video post-production facility. Extensive national TV, industrial and home video credits.

AVI VISUAL PRODUCTIONS LTD.
VFF, OLVP, VPP/E, APPV
10 E. 21st St., New York, NY 10010
(212) 505-9155
Owner: Tom Prezioso, Benito Ruiz, Jr.

AVON PRODUCTIONS
VFF, OLVP, VPP/E, APPV
123 Mattis, So. Plainfield, NJ 07080
(201) 756-0643
Owner: F. Lipowitz

B & B ENTERPRISES
VFF, OLVP, VPP/E
2 Half Mile Common, Westport, CT 06880
(203) 226-4489
Owner: Bill Buckley
Manager: Ellie Buckley

BACKTRACKS LOCATION AUDIO
OLVP, APPV
3½ Kent St., Montpelier, VT 05602
(802) 223-2551
Owner: Mike Billingsley
Manager: Geoff Brumbaugh

BALLENTYNE BRUMBLE COMMUNICATIONS
OLVP
906 N. American St., Philadelphia, PA 19123
(215) 923-5454
Owner: John Ballentyne, Dianne Brumble

CHRIS BALTON PRODUCTIONS, INC.
VFF, OLVP, VPP/E
310 E. 46th St., New York, NY 10017
(212) 557-9834
Owner: Chris Balton
Manager: Jenny Herron

BAM MEDIA SERVICES
APPV
53 Parkview Terr., Lincroft, NJ 07738
(201) 530-1030
Owner: Bnan Mackewich
Manager: Brian Mackewich

**BELL & HOWELL/
COLUMBIA PICTURES VIDEO SERVICES**
VPP/E
505 Fifth Ave. #600, New York, NY 10017
(212) 697-7355
Manager: David C. Cuyler

BIG APPLE STUDIO
OLVP, APPV
353 W. 48th St., New York, NY 10036
(212) 974-1755
Owner: Bernard Fox
Manager: Larry Harlow

BLTV
VFF, OLVP, VPP/E
458 W. 55th St., New York, NY 10019
(212) 582-4014
Owner: Bob Lampel
Manager: Harvey Gold

CAM BOYCE, VIDEOGRAPHER
OLVP
3929 New Dale Rd. #4, Chevy Chase, MD 20815
(301) 652-1707

FRED BRINK'S COMPANY
OLVP
94 Harvard Ave., Brookline, MA 02146
(617) 566-5223
Owner: Fred Brink

BROAD STREET PRODUCTIONS
VFF, OLVP, VPP/E, APPV
50 Broad St., 20th Fl., New York, NY 10004
(212) 480-8031
Owner: Drexel Burnham Lambert
Manager: David Dreyfuss

BRODY FILM & VIDEO
VFF, OLVP, VPP/E, APPV
1400 Mill Creek Rd., Gladwyne, PA 19035
(215) 649-6200
Owner: Louis Brody
Manager: Duncan Love

BUDGET PHOTO-VIDEO PROMOTIONS
OLVP, VPP/E
313-B W. Water St., Toms River, NJ 08753
(201) 244-8306
Owner: Kryn Peter Westhoven

BUSINESS BROADCASTING SYSTEM, INC.
VFF, OLVP, VPP/E
One Richmond Square, Providence, RI 02917
(401) 331-0370
Owner: Anthony Giorgianni
Manager: Duncan Dickson

C&C AUDIO-VIDEO STUDIOS
VFF, OLVP, VPP/E, APPV
RD #1 Box 581-A, E. New St., Glassboro, NJ 08028
(609) 881-7645
Owner: Ed Candelora, Jr.
Manager: Tern Candelora

CABSCOTT BROADCAST PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
517 7th Ave., Lindenwold, NJ 08021
(609) 346-3400
Owner: Larry Scott
Manager: Anne Foster

CAESAR VIDEO GRAPHICS
VFF
137 E. 25th St., New York, NY 10010
(212) 684-7673
Owner: Peter Caesar
EQUIPMENT
Synchronizer: CMX 340X.
VTRs: (4) Ampex VPR-3s, Sony BVH-2000.
Switchers/editors: GVG 300-3A.
Cameras: Quantel Harry DCR-7700 real time digital cel recorder; (2) Quantel DPB-7000 Paintboxes; SFX ADO.
Audio recorders: Otari MTR-10 ½-inch 4-track.
Audio mixers: Neve 5452 (16 x 2).
Other major equipment: Interactive Motion Control 4 x 4 video animation stand with 3565 Computer system; NEC SP-3A CCD color camera; (2) Dubner CBG-2s; (2) Chyron 4100s; UREI 813B speakers; Dolby "A." Yamaha PC2002 240 watt power amp; Klark-Teknik ½ octave room equalizer.
Rates: On request.
Direction: High technology computer generated graphics and video animation, state-of-the-art computer video editing and digital cel recording/editing; music videos, creative concepts and design.

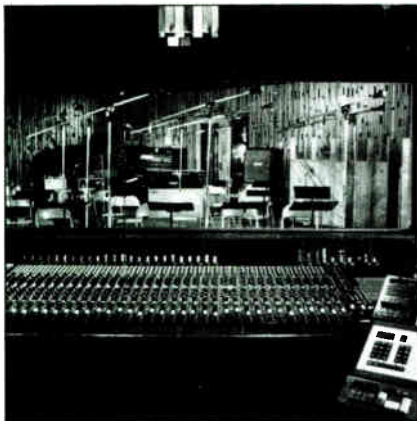
CALLISTO VIDEO ARTS
OLVP, VPP/E, APPV
210 7th St., S.E. Ste. D-1, Washington, DC 20003
(202) 543-1003
Owner: The Ganymede Group
Manager: Ves Bennett

**CAMBRIDGE VIDEO GROUP/
DAVID TITUS PRODUCTIONS**
VFF, OLVP, VPP/E
77 Huron Ave., Cambridge, MA 02138
(617) 876-5682
Owner: David Titus, Susanna Doyle

CAROB VIDEO
VFF, OLVP, VPP/E, APPV
250 W. 57th St., New York, NY 10107
(212) 957-9525
Manager: Robin D. Spergel

CBP FILM TO TAPE
VPP/E
517 7th Ave., Lindenwold, NJ 08021
(609) 346-3400
Owner: Larry Scott
Manager: Elaine R. Goldstein

All the information in this directory is based on questionnaires mailed to facilities earlier this year. If your studio is not listed here, please contact us at *Mix* to be included in our next directory. Staff, locations and equipment may change, so verify critical information with the facilities directly. *Mix* does not take responsibility for the accuracy of the information supplied to us by studios.



CELEBRATION RECORDING, INC.
New York, NY

CELEBRATION RECORDING, INC.
APPV
2 W. 45th St. 16th Fl., New York, NY 10036
(212) 575-9095
Owner: MZH&F Inc.
Manager: Chris Terjesen

EQUIPMENT
Synchronizer: Audio-Kinetics Q.Lock 3.10.2
VCRs: JVC CR8250; JVC CP5000V
Audio recorders: Studer, 3M 24-tracks, 4-tracks, 2-tracks mono.
Audio mixers: Harrison 3624, Harrison 3232.

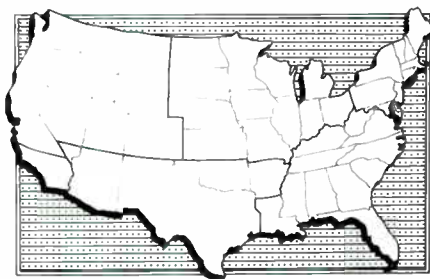
Other major equipment: Installation of new production, editing, dubbing room including 35mm (1-, and 3-track).
Rates: Please call for complete promotional package.
Direction: Celebration Recording is owned and operated by MZH&F Inc., a music production company with 35 years experience writing and producing music for television and radio commercials, made-for-TV, feature release and educational films and videotapes, and corporate presentations. Daylight hours are booked with pre- and post-scoring of commercials, both in house and for other production firms; album work occupies the evenings and weekends. Credits include hundreds of commercials for every major agency and many gold albums. 48-track audio lock-up available.



CENTURY III TELEPRODUCTIONS
Boston, MA

CENTURY III TELEPRODUCTIONS
VPF, VPP/E, APPV
651 Beacon St., Boston, MA 02215
(617) 267-6400
Owner: Ross Cibella
Manager: VD-Post Production, Rich Parent

EQUIPMENT
Synchronizer: Phaser IIA.
VTRs: Sony BVH 2000, BVH 2500, BVU 800, BVW 10, 5850.
Video Monitors: Ikegami, Bosch, Conra-
Switchers/editors: Grass Valley, CMX 3400A.
Cameras: Ikegami 357-A, HL 79D, HL 79E
Audio recorders: Oari MTR-90 2, 12-inch 24-tracks, MCI JH 110-C, (1-inch) 8-track; Studer 81D, w/SMPTE; MTE 636, 16mm and 35mm film.
Audio mixers: MCI 636 w/Troisi EQ and complete automation, MCI 6.8 w/parametric EQ
Other major equipment: BTX Shadow synchronizers,



NORTHEAST

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BTX Softouch edit controller, BTX Cypher time code generator, Kurzweil 250, Moog and Roland synthesizers, Bosch FDL-60.

Direction: Ed Bullman, John Sloan, George Gage; three national award-winning commercial directors, (Clios, Telly's, Art Directors, etc.)

CHARLIE & CO.
VPF, OLVP
251 W. 30th St. #14E, New York, NY 10001
(212) 736-2658
Owner: Debbie Ross

CHERYL-LYNN PRODUCTIONS INC.
OLVP
605 Main St., McKees Rocks, PA 15136
(412) 331-0800
Owner: Samuel and Anna M. Sappo
Manager: Samuel R. Sappo

CIANI/MUSICA, INC. AND C/M STUDIOS
APPV
30 E. 23rd St., New York, NY 10010
(212) 777-7755
Owner: Suzanne E. Ciani
Manager: Marina Belica

AL CRAVEN PRODUCTIONS
VPF, OLVP, VPP/E, APPV
6 West Ave., #3K, Larchmont, NY 10538
(914) 834-3304
Owner: Al Craven
Manager: John Leitch

CREATIVE MEDIA CONCEPTS
VPF, OLVP, VPP/E
82-51 249th St., Bellrose, NY 11426
(718) 347-1221
Owner: Tim Horsting
Manager: Tim Horsting

CREATIVE SOUND STUDIOS
APPV
601 N. Sixth St., Allentown, PA 18102
(215) 439-8004
Owner: Hal Schwoyer
Manager: Carole Silvoy

CUE RECORDINGS INC.
APPV
1156 Ave. Of The Americas, New York, NY 10036
(212) 921-9221
Owner: Mel Kaiser
Manager: Bruce Kaiser

THE CUTTING CORPORATION
VPP/E
4200 Wisconsin Ave. N.W., Washington DC 20016
(202) 363-3566
Owner: James H.B. Cutting
Manager: Mary D.L. Cutting

dbf A MEDIA COMPANY
VPF, OLVP, VPP/E, APPV
P.O. Box 900, Waldorf, MD 20601
(301) 843-7110
Owner: Don Mattingly
Manager: Randy Runyon

DEMOCRATIC MEDIA CENTER
VPF, OLVP, VPP/E, APPV
430 S. Capitol St., Washington, DC 20003
(202) 485-3400
Owner: Democratic Congr. Campaign Committee, Inc.
Manager: Jim Eury

STUART DEUTSCH PRODUCTIONS
OLVP
319 W. 11th St., New York, NY 10014
(212) 691-2734
Owner: Stuart Deutsch
Manager: Stuart Deutsch

DEVLIN PRODUCTIONS INC.
VPF, OLVP, VPP/E, APPV
150 W. 55th St., New York, NY 10019
(212) 582-5572
Owner: Sandra Devlin
Manager: John Krams, Howard Weiss

DIGITAL SOUND
APPV
210-J Church St., Philadelphia, PA 19106
(215) 922-1340
Owner: John Hodian

THE DOVETAIL GROUP INC.
VPF
343 West End Ave. Ste. 1, New York, NY 10024
(212) 496-0750
Owner: Gerri Brioso
Manager: Paul Freitas

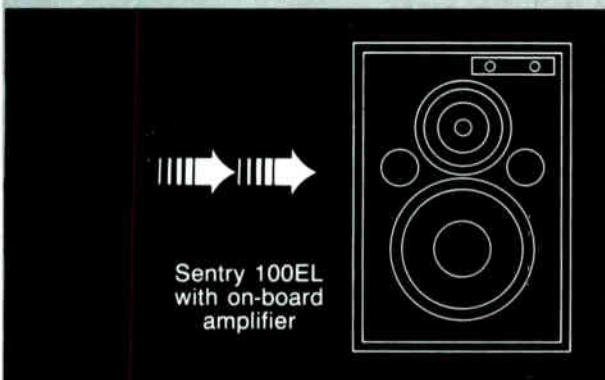
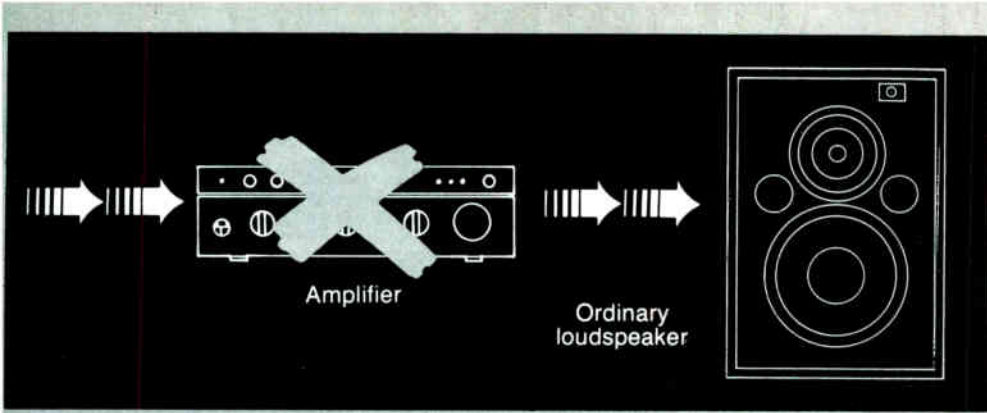
DU ART FILM LABORATORIES, INC.
APPV
39 Chapel St., Newton, MA 02158
(617) 969-0666
Owner: Du Art Film Laboratories, Inc.
Manager: Steve Izzi, David Dowling

DU TEL PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
P.O. Box 7515, Newark, DE 19714
(302) 994-5360
Owner: Samuel R. Johnson
Manager: Samuel R. Johnson

D-V-X INTERNATIONAL
OLVP, VPP/E
1038 Bay Ridge Ave., Brooklyn, NY 11219
(718) 680-7234
Owner: Demo-Vox Sound Studio, Inc.
Manager: Frank J. Grassi, Laura B. Grassi

EQUIPMENT
VTRs: 3/4-inch Sony and JVC; 1/2-inch Panasonic, Hitachi, (industrial VHS).
Video monitors: Panasonic.
Switchers/editors: Panasonic WI-3500 system; Sony SEG; Panasonic NV-8500 editing.
Cameras: Panasonic WV-3400; 3500s gen-lockable; Sony B&W; JVC-G71 gen-lock.
Audio recorders: Tascam 80-8; Revox HS-77 2-track. Dolby and dbx available.
Audio mixers: Custom built 12 x 4 available through Demo-Vox Sound Studio.
Other major equipment: Recoton processing amplifier; colorizer/solarizer, Nady wireless mics, Mega-tech graphic equalizer, DeltaLab 1024 digital delay.
Rates: 1 camera \$100/hr.; 2 camera "iso-cam" \$200; 2 camera w/director \$300. Editing: \$35/hr. w/editor; copies \$15/hr. + tape.
Direction: Specializing in documentary shooting. We have shot oldies concerts with Little Anthony, Regents, Reparata & the Delrons, Coasters, Drifters, etc. We also specialize in remote shoots for schools; sales/training, community theatre, and local access cable TV. We offer professional results on tight budgets.

DYNAMIC RECORDING
APPV
2846 Dewey Ave., Rochester, NY 14616
(716) 621-6270
Owner: David Kaspersin
Manager: Phyllis Bishop



Finally, a Monitor System with the Power to Make Things Easy

Imagine a monitor speaker that provides its own power. Fits in tight spaces. Simplifies setup. And reproduces sound with test-equipment accuracy.

If you can imagine all that, you've just pictured the **Sentry 100EL powered monitor system** from Electro-Voice.

Designed and created for your monitoring convenience, the 100EL combines the superb audio reproduction of the Sentry 100A with an integral, 50-watt amplifier.

With speaker and amplifier in one compact, rack-mountable package, this monitor system solves problems like limited rack space, equipment transport on remotes or cramped spaces in video editing booths.

Also, by requiring less hardware—fewer cables and connectors—the 100EL keeps setup simple

and reduces potential interconnect problems. And there's no possibility of power loss caused by resistance from a lengthy speaker cable.

The on-board amplifier in the 100EL makes it ideal for single-channel monitoring. Why buy one speaker and an extra amplifier channel, when the Sentry 100EL does the job all by itself? And because amplifier power is perfectly matched to the speaker system, there's no chance of damage from inadvertent signal overload.

But convenience and trouble-free operation are only part of the package. Like all Sentry designs, the 100EL offers uncompromised accuracy. So you can be certain of quality sound.

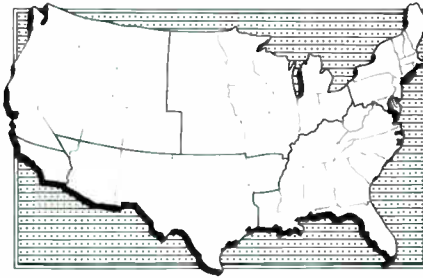
The Sentry 100EL - with the power to make your job easier. For more information, write to: Marketing Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107.



EV Electro-Voice®
SOUND IN ACTION™



EASTERN SOUND & VIDEO
Methuen, MA



NORTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

EASTERN SOUND & VIDEO
VPF, OLVP, VPP/E, APPV
462 Merrimack St., Methuen, MA 01844
(617) 685-1832
Manager: Pat Costa

EQUIPMENT
VTRs: Panasonic, JVC, Ampex.
Video Monitors: Panasonic.
Switchers/editors: Panasonic computerized editing (stereo with Dolby NR).
Cameras: (3) JVC KY-1900U 10 x 1.
Audio recorders: MCI/Sony JH-24, JH-110C; dbx 700 digital; Nakamichi MR-1 cassettes.
Audio mixers: MCI/Sony JH-636, 36 channel automated.
Other major equipment: 42 x 30 room; UREI and Westlake monitors; large outboard and mic complement; Fairlight CVI digital video computer w/color modification, mikes, pixelation, strobe, chroma-key and paint facilities; Forel TBC; Panasonic 4600 switcher, Knox character generator.
Rates: Rates are negotiable. Please call.
Direction: In-studio sound stage for 1/2-, 3/4-, 1-inch format broadcast-quality video production with up to three cameras. This entire system can be interfaced with our audio facilities: in-studio or on location. Contact Pat Costa for more information.

EAST SIDE FILM & VIDEO CENTER
APPV
216 E. 45th St., New York, NY 10017
(212) 867-0730
Owner: Gordon Enterprises Ltd.
Manager: Don Engle

EDITEL N.Y.
APPV
222 E. 44th St., New York, NY 10017
(212) 867-4600
Owner: Scanline Comm.

EIKASIA PRODUCTIONS, INC.
OLVP
P.O. Box 278, Boston, MA 02113
(617) 720-4906
Manager: Debra Marranca

SHERIDAN ELSON COMMUNICATIONS, INC.
VPF, OLVP, VPP/E
20 W. 37th St., 8th Fl., New York, NY 10018
(212) 239-2000
Owner: Bob Elson, Bill Sheridan
Manager: Kathleen Held

THE ENTERTAINMENT GROUP, LTD.
VPF, OLVP, VPP/E, APPV
348 Willis Ave., Mineola, NY 11501
(516) 747-5100
Owner: G. Raffa

EVERETT STUDIOS INC.
VPF, OLVP
22 Barker Ave., White Plains, NY 10601
(914) 997-2200
Owner: Robbie Everett
Manager: Rick Everett

MARTIN EZRA & ASSOCIATES
OLVP, VPP/E
48 Garrett Rd., Upper Darby, PA 19082
(215) 352-9595
Owner: Martin Ezra
Manager: Martin Ezra

FALCON VIDEO STUDIOS
VPF, OLVP, VPP/E, APPV
271 Cleveland Ave., Highland Park, NJ 08904
(201) 247-4740
Owner: Raymond A. Walker
Manager: Raymond A. Walker

FELTNER ASSOCIATES
VPF, OLVP, VPP/E
4698 State Rd., Drexel Hill, PA 19026
(215) 259-6410
Owner: Karl Feltner
Manager: Karl Feltner

**STEVEN FIERBERG PRODUCTIONS/
SEF SATELLITE FILMS, INC.**
OLVP
668 Washington St., New York, NY 10014
(212) 929-4199
Owner: Steven Fierberg
Manager: Steven Fierberg

FILMFUTURES CORP.
OLVP
799 Broadway Ste. 325, New York, NY 10003
(212) 686-0544
Owner: Ilan Duren
Manager: Aliza Cohen

FILIPPONE SOUND & VIDEO
VPF, OLVP
176 Garner Ave., Buffalo, NY 14213
(716) 881-4483
Owner: Randall Filippone
Manager: Karen Dalessandro

FILMSPACE INC.
VPF, OLVP, APPV
615 Clay Lane, State College, PA 16801
(814) 237-6462
Owner: Thomas E. Keiter, James A. Summerson
EQUIPMENT
Other major equipment: Amek, Cypher, Otari, Sony, Tascam.
Direction: 2-, 4- and 16-track audio recording, BTX Soft-touch interlock to complete Sony 3/4-inch off-line editing. Full production services in all areas of film, video, audio, and multi-image.

DONALD P. FINAMORE MOTION PICTURE EDITING
VPP/E
619 W. 54th St., New York, NY 10019
(212) 582-5265
Owner: Donald P. Finamore

FINE TUNING INC.
OLVP, VPP/E, APPV
322 Spring St., New York, NY 10013
(212) 431-4788
Owner: Eric Schneider

FIRST CHOICE ENTERTAINMENT, INC.
OLVP, VPP/E
3967 William Penn Hwy., Murrysville, PA 15668
(412) 733-2388
Owner: Gary Ransom, Patrick McDevitt
Manager: Patrick Cline

FLYING TIGER COMM, INC.
VPF
155 W. 18th St., New York, NY 10011
(212) 929-1156
Owner: Kaye Armstrong
Manager: Valerie Mylonas

FOREMOST FILMS & VIDEO, INC.
VPF, OLVP, VPP/E, APPV
459 Union Ave., Framingham, MA 01701
(617) 879-4775
Owner: David Fox

FOTOVISION MULTIMEDIA CORP.
VPF
140 B. Brook Ave., Deer Park, NY 11729
(516) 595-2225
Owner: Frank Abadie Jr.

FRANKLIN COMMUNICATIONS
VPF, OLVP
16 W. 32nd St., New York, NY 10001
(212) 244-1017
Owner: Franklin Feinberg
Manager: Patricia Ediciz

FRED/ALAN INC.
VPP/E
870 Seventh Ave., 28th Fl., New York, NY 10019
(212) 586-6333
Owner: Fred Seibert
Manager: Stephen Shepard

GARRETT FILMS INTERNATIONAL
VPF, OLVP, VPP/E, APPV
Box 253 Rt. 3, Bernville, PA 19506
(215) 488-7552
Owner: Rodney E. Garrett

GASPI PRODUCTIONS
OLVP
581 6th Ave., New York, NY 11217
(212) 691-8050
Owner: Anthony Payne

GATEWAY VIDEO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
225 Ross St., Pittsburg, PA 15219
(412) 471-3333
Owner: Peter R. Gianni
Manager: Robert Gianni
EQUIPMENT
Synchronizer: Sony Sync Master (8-track, 2-track w/center SMPTE, BVU-800 3/4-inch video).
VTRs: (3) Sony BVH-1100A, Sony BVH-2500, (2) Sony BVU 800, Beta, VHS, (2) 2-inch RCA.
Video Monitors: Conrac, Bosch, Asaca.
Switchers/editors: Sony 5000 editor, Apex switcher, color correction.
Cameras: (2) CEI cameras, Ikegami HL-79EAL and digital setup CCU, 8 x 14 lens Beta compt.
Audio recorders: Sony/MCI JH-110C 1-inch 8-track, Sony APR 5003 2-track center SMPTE, Ampex ATR-802 and ATR-102 2-track full dbx.
Audio mixers: Sound Workshop Series 40, 12 x 8 x 2.
Other major equipment: Bosch FGS-4000 animation and 3-D paint, Ampex ADO digital effects.
Rates: Upon request.
Direction: Film and video; location and studio; commercials, industrials and 3-D computer animation. Consistent quality with a full-time staff.

GEOMATRIX ASSOC. INC.
OLVP, VPP/E
305 Bic Dr., Milford, CT 06460
(203) 878-6066
Owner: Cathie Reese, Guy Ortoluca

GLOBAL VIDEO PRODUCTIONS, INC.
VFF, OLVP
1012 Atlantic Ave., Atlantic City, NJ 08401
(609) 347-7846
Owner: Michael Pedicin
Manager: Lee Tofaneli

GROUP TWO, INC.
VFF, OLVP, APPV
428 E. 25th St., Baltimore, MD 21218
(301) 467-9000
Owner: Dan O'Toole
Manager: Fran Rutherford

HOUSE OF DAN
OLVP, VPP/E
32 Woodland Ave., North Brunswick, NJ 08902
(201) 846-5555
Owner: Dan Nachtsheim
Manager: Dan Nachtsheim

GOBO PRODUCTIONS LIMITED
VFF, OLVP, VPP/E, APPV
(718) 230-3193
Owner: George Kane
Manager: Pat Chowley

HALLE COMMUNICATIONS
VFF, OLVP, VPP/E, APPV
Sparkill, NY 10976
(914) 359-6969
Owner: George J. Torok
Manager: Kathleen Doherty

IF WALLS COULD TALK STUDIOS
APPV
15 Knollwood Dr., N. Caldwell, NJ 07006
(201) 226-1461
Owner: Glenn Taylor
Manager: Glenn Taylor

GOLD COAST RECORDERS
APPV
14 Leslie Lane, New Hyde Park, NY 11040
(516) 354-5078
Owner: Ken Klokel
Manager: Ken Klokel

HELIOTROPE STUDIOS LTD.
VFF, OLVP, VPP/E, APPV
21 Erie St., Cambridge, MA 02139
(617) 868-0171
Owner: Boyd Estus, James Griebisch
Manager: Boyd Estus

ILLUMINATED STUDIO, INC. (VIDEO GRAPHICS)
VFF
53 Shore Rd., Old Greenwich, CT 06870
(203) 637-8017
Owner: Jeffrey Gatrall
Manager: Jeffrey Gatrall

GOLDEN APPLE MEDIA, INC.
VFF, OLVP, VPP/E, APPV
112 W. Boston Post Rd., Mamaroneck, NY 10543
(914) 381-4141

HIGHWAY FILMS
OLVP
359 W. 39th St. Ste. 2C, New York, NY 10018
(212) 695-3505
Owner: Bob Gaydos
Manager: Adam Davis

IMAGE MAKERS
OLVP
17 Dorine Park, East Hanover, NJ 07936
(201) 386-0044
Owner: Ellen Brooks
Manager: Ellen Brooks

Owner: Lauren O'Neill
Manager: Lauren O'Neill
EQUIPMENT
Synchronizer: BTX Shadow system.
VTRs: Sony BVH-2500, (3) Sony BVU-800s.
Switchers/editors: Crosspoint Latch.
Audio recorders: Ampex 24, MCI 4-track, Ampex 2-track.
Audio mixers: Syncon 24-channel, Ramsa for video.
Other major equipment: Convergence 203T editor, Lexicon 224 digital reverb, Chryon VP-1.
Rates: Upon request.

Direction: Golden Apple provides complete video production, from concept development to broadcast-quality master. Our extensively equipped post-production suite is fully interfaced with our 24-track recording studio, so we offer the full range of audio and video services, including lay-back, sweetening, animation and duplication. Located just 35 minutes from Manhattan, we produce music videos (one earned the 1984 International Film & TV Festival bronze medal), commercials and corporate videos (clients include PepsiCo, Nabisco, General Foods and Grey Advertising).

HILL & KNOWLTON, INC.
VPP/E
1201 Pennsylvania Ave. N.W., Washington, DC 20004
(202) 638-2800
Manager: Rosemary Duggins

INDUSTRIAL STRENGTH AUDIO/VIDEO PROD.
APPV
48 W. 27th St., New York, NY 10001
(212) 532-7294
Owner: Cousins, Tousky, Overn
Manager: Michael Overn

DAVID HODGE PRODUCTIONS
OLVP, VPP/E
935 8th Ave., New York, NY 10019
(212) 245-3623
Owner: David Hodge

INNOVATIVE VIDEO ASSOCIATES
VFF, OLVP, VPP/E
13 Fern Ave., Collingswood, NJ 08108
(609) 858-4120
Owner: Lawrence M. Chatman Jr.
Manager: Lawrence M. Chatman Jr.



REMOTE TRUCK INVENTORY

Vehicle:

30' Custom Diesel Mack Truck, Heated and Air Conditioned for Comfort, Liebert Computer Power Regulator, Spacious Oak & Carpet Control Room

Console:

Trident Series 80, 32 Input, Amek Scorpion 16 Input

Tape Recorders

(2) Sony PCM 3324 Digital 24-Track
(2) Studer A80 24-Track
(1) Studer Revox PR99
(2) Technics Cassette Decks

Monitors:

Urei 811B, Yamaha NS-10

Microphones:

Shure, Sony, Beyer, AKG, Crown PZM
Sennheiser, Neumann

Reverb & Delays

Lexicon 200, Lexicon Prime Time II

Limiters & Gates, Equalizers

(2) Urei 1176
(2) DBX 160
(2) DBX 160X
(4) Valley People Dynamites
(2) Orban Parametric Equalizers

Time Code:

BTX Cypher Time Code
Generator/Reader/Inserter

Communications:

RTS Communications, Closed Circuit
Video System

Interface:

200' of 52 Pair Audio Snake, 48
Channels of Jensen Transformer
Isolated Mic-Splitters, 200' Main
Power Cable

Additional Power and Audio Cable Available If Needed

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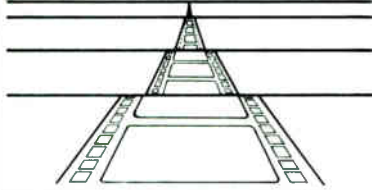
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Whether you have conceptual music video in mind, or an actual performance captured "live" on video or film, Viewpoint Communications has all of the equipment and facilities to accommodate your needs.

- 16 or 35mm film, 3/4" or 1" or Beta Cam video formats.
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- Single or multi-camera production.

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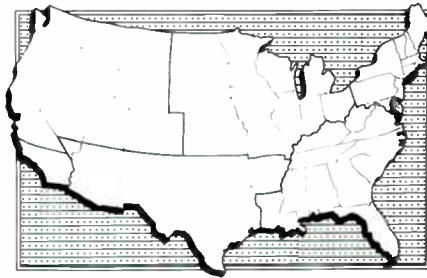
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VIEWPOINT
COMMUNICATIONS

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NORTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

INTER-MEDIA ART CENTER, INC. (aka: IMAC)
VPF, OLVP, VPP/E
370 New York Ave., Huntington, NY 11743
(516) 549-9666
Manager: Michael Rothbard

INTERCONTINENTAL TELEVIDEO INC.
VPP/E
29 W. 38th, New York, NY 10018
(212) 719-0202
Owner: Gerry Citron
Manager: Nigel Toovey

INTERFACE VIDEO SYSTEMS, INC.
VPF, VPP/E
1333 New Hampshire Ave. N.W.
Washington, DC 20036
(202) 861-0500
Owner: Tom Angell
Manager: Elise Reeder

INSIGHT ASSOCIATES
OLVP
373 Rte. 46 West, Bldg. E, Fairfield, NJ 07006
(201) 575-5521
Owner: Raymond E. Valente
Manager: Judith S. Rose

IPC
VPF, OLVP, VPP/E, APPV
514 W. 57th St., New York, NY 10019
(212) 582-6530
Manager: Ian Graham

IRIS SOUND
VPF, APPV
237 Main St., Royersford, PA 19468
(215) 948-3448
Owner: David Ivory
Manager: David Ivory

IZEN ENTERPRISES, INC.
OLVP
26 Abby Dr., East Northport, NY 11731
(516) 368-0615
Owner: Ray Izen

JAM
VPF, OLVP, VPP/E
300 Main St., E. Rochester, NY 14445
(716) 385-6740
Owner: John A. Marszalek
Manager: Anthony W. Busch

JBH PRODUCTIONS
VPP/E
6025 Western Ave., N.W., Washington, DC 20015
(202) 686-0771
Owner: J.B. Hancock

KNOWLES
OLVP, VPP/E
408 West 57th St. 6K, New York, NY 10019
(212) 581-4591
Owner: Gregory W. Knowles

JIMMY KRONDES ENTERPRISES
VPF, OLVP, VPP/E, APPV
2 Musket Lane, Darien, CT 06820
(203) 655-3660
Owner: James J. Krondes
Manager: Florence Manning

LASER RADIO
VPF, APPV
P.O. Box 1262, Stamford, CT 06904
(203) 324-2417
Owner: John Guthrie

LAUREL VIDEO PRODUCTIONS
OLVP, VPP/E
1999 E. Rt. 70, Cherry Hill, NJ 08003
(609) 424-3300
Owner: Steven C. Tadzynski

LA VERGNE BROADCAST VIDEO
VPF, OLVP, VPP/E, APPV
170 Avenue D. Apt 8-B, New York, NY 10009
(212) 477-2694
Owner: Hector LaVergne
Manager: John Ross

BARRY LEE LEWIS VIDEO
VPF, OLVP
87 Ripley St., Newton, MA 02159
(617) 332-1516
Owner: Barry Lee Lewis
Manager: Ann Dugan

LIES BROS. PRODUCTIONS
OLVP, VPP/E
P.O. Box 79014, Pittsburgh, PA 15216
(412) 343-0633
Owner: Lies Bros
Manager: Michael Lies

LIGHTSCAPE PRODUCTIONS, INC.
VPF, OLVP
420 W. 45th St., New York, NY 10036
(212) 757-0204
Owner: Jeffrey Poretsky
Manager: Mary Geraci

LINDAJAY PRODUCTIONS
OLVP, VPP/E, APPV
832 Rogers St., Lanoka Harbor, NJ 08734
(609) 693-1813
Owner: L.J. Becker
Manager: L.J. Becker



LONG VIEW FARM
North Brookfield, MA

LONG VIEW FARM
VPF, OLVP, VPP/E, APPV
Stoddard Rd., North Brookfield, MA 01535
(617) 867-7662, (800) 225-9055
Owner: Gil Markle

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Wheaton, MD 20906

(301) 946-7364

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Manager: Andrea Merchand

EQUIPMENT

Synchronizer: BTX Shadow/Cypher.

VTRs: BVU 800s, JVC.

Video Monitors: Videotek, Proton.

Switchers/editors: Convergence ECS 195; Crosspoint Latch, Dual TBC.

Cameras: Ikegami, JVC.

Audio recorders: Studer, Otari, MCI.

Audio mixers: MCI 528, 28 x 28; Sound Workshop 34, 32 x 24.

Other major equipment: Sound stage built for Rolling Stones. Fully lit, with catwalks and elevated dolly ways for cameras. Accommodates audience of 350. Entire facility linked via video and audio tie lines throughout.

Rates: Negotiable, call for details.

Direction: Ideal for rock concert sweetening, film scoring, etc. Luxury live-in accommodations and full-support staff. Studio musicians and arrangers on premises.

LOOKING GLASS FILM COMPANY

VFP

5914 Overbrook Ave., Philadelphia, PA 19131

(215) 473-2329

Owner: Michael Constant

Manager: Ruben Masters

LUCAS CHRISTIAAN PRODUCTIONS

VFP, OLVP

177 Water St. 2nd Fl., Brooklyn, NY 11201

(718) 596-0649

Owner: Ronald L.C. Kienhuis

Manager: Ronald L.C. Kienhuis

LYONS, INC.

OLVP, VPP/E, APPV

715 Orange St., P.O. Box 8860, Wilmington, DE 19899

(302) 654-6146

Owner: William N. Spiker

Manager: Jim Heffernan

MAGNETIC PRODUCTIONS

APPV

1533 Cherry St., Philadelphia, PA 19102

(215) 563-2010

Owner: Franklin Broadcasting Co.

Manager: Noble Smith

MANHATTAN VIDEO PRODUCTIONS, INC.

VFP, OLVP, VPP/E

12 W. 27th St., New York, NY 10001

(212) 683-6565

Owner: Gus Theo, George Cautiero, Tom Schoenwandt

JOHN MANIA

OLVP

725 11th Ave., New York, NY 10019

(212) 586-3578, (201) 652-7162

Owner: John Mania

R.J. MARTIN COMPANY, INC.

OLVP, VPP/E, APPV

321 Commercial Ave., Palisades Park, NJ 07650

(201) 592-0952

Owner: Richard J. Martin

Manager: Kurt Von Seekamm

MASTER SOUND ASTORIA

VPP/E, APPV

34-12 36th St., Astoria, NY 11106

(718) 786-3400

Owner: Ben Rizzi, Maxine Chrein

Manager: Kathy Boyle

MAVERICK MEDIA

OLVP, VPP/E

63 Mavedrick Sq. Studio #1, Boston, MA 02128

(617) 567-2672

Owner: Mario Thormina and Don Reed

Manager: Mario Thormina, Don Reed

McVEE PRODUCTIONS, INC

VFP, OLVP, VPP/E

140 Bradley St., New Haven, CT 06511

(203) 776-4800

Owner: Mario Vilecco

Manager: Amy Strongin, Marsha May

MED/ART VIDEO & CINEMAGRAPHICS

VFP, VPP/E, APPV

5904 Char Leigh Circle, Frederick, MD 21701

(301) 694-0541

Owner: Robert L. Medvee

Manager: Robert L. Medvee

BRYSTON

BROADCAST PHONO PREAMPLIFIER

REQUIREMENTS

- Musicality
- Serviceability
- Low Distortion
- Balanced XLR Outputs
- 27dBm RMS 600 ohms balanced
- Cartridge load adjustment
- High Overload Threshold
- Linear Frequency Response
- Reliability
- Low Noise
- 1 Space Rack Mountable
- Accurate RIAA ($\pm .05$ dB)
- 21dBm RMS 600 ohms unbalanced
- Non-reactive Phono Stage
- Fully Discrete Gain Blocks
- Drive Loads as low as 300 ohms

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In the United States:

BRYSTON VERMONT

RFD #4, Berlin, Montpelier, Vermont 05602
(802) 223-6159

In Canada:

BRYSTON MARKETING LTD.

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

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321 West 44th Street, New York, NY 10036 (212) 586-7376

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Superb, reliable power amplifiers from 50W/channel stereo to 800W bridged mono, with balanced inputs, modular channel electronics, and dual independent power supplies. Professional preamps also.

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Also: **White** equalizers and crossovers, **Westlake** and **Fostex** monitor speakers, **Valley People** signal processing, **Audio Digital** delays and effects, **Ursa Major** digital reverb and signal processing, **Audio Kinetics** Q-LOCK synchronizer systems—and other fine products.

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MEDIA ACTION
VPF, OLVP, VPP/E, APPV
 175 Elm St., Somerville, MA 02144
 (617) 625-7882
 Owner: Co-op
 Manager: Richard Roth

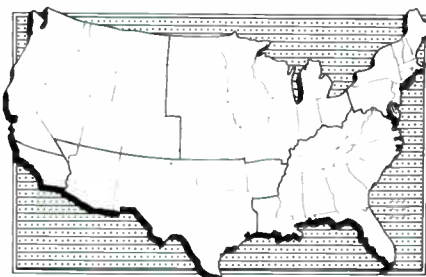
MEDIA GENERATION
OLVP
 461 Eliot St., Milton, MA 02187
 (617) 696-0231
 Owner: John Bishop

MEDIA NORTHEAST
OLVP
 6506 41st Ave., University Park, MD 20782
 (301) 927-7788
 Owner: Tiegh Thompson

METRO TAPE EAST
VPF
 5 TV Place, Needham, MA 02192
 (617) 449-0400 ext. 4362
 Owner: Metro Media Television
 Manager: William Lowell

MILBRODT COMMUNICATIONS INC.
dba MUSIC & SOUND DESIGN STUDIO
APPV
 1425 Frontier Rd., Bridgewater, NJ 08807
 (201) 560-8444
 Owner: Bill Milbrodt
 Manager: Bill Milbrodt

JON MILLER PRODUCTION STUDIOS
VPF, OLVP, VPP/E, APPV
 7249 Airport Rd., Bath, PA 18014
 (215) 837-7550
 Owner: Jon K. Miller
 Manager: Chris Miller



NORTHEAST

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MILNER-FENWICK, INC.
VPF, OLVP, VPP/E
 2125 Greenspring Dr., Timonium, MD 21093
 (301) 252-1700
 Owner: Richard Milner
 Manager: Neil Rubenstein

MODERN TELECOMMUNICATIONS INC. (MTI)
VPF, OLVP, VPP/E
 885 2nd Ave., New York, NY 10017
 (212) 355-0510
 Owner: Robert Weisgerber
 Manager: Ken Mochtak

MOTOR REFLEX
OLVP
 135 Eastern Parkway #3K, Brooklyn, NY 11238
 (718) 783-3312
 Owner: Daniel N. Owen
 Manager: Richard B. Owen

MOVIELAB VIDEO, INC.
VPP/E
 619 W. 54th St., New York, NY 10019
 (212) 956-3900
 Owner: Sales Dept.

EQUIPMENT
VTRs: Sony 1-inch VTRs: 1100, 2000, 2500; Sony 3/4-inch 800, 820; Ampex 2-inch; JVC VHS-Hi Fi; Beta.
Video Monitors: Conrac; Shiba Soku.
Switchers/editors: CMX 3400; ISC.
Cameras: Hitachi SK-91.
Audio recorders: MCI 1/2-inch.
Audio mixers: Wheatstone.
 Other major equipment: ADO/ADO Concentrator; DVE; Vidamatics; Chyron 4100; Rank Cintel film-to-tape transfer suites with Dubner computer.
Rates: Rate card available upon request.
Direction: Movielab Video, Inc. is a full service post-production facility offering film-to-tape transfers, 1-inch editing as well as interformat, Betacam and off-line editing. Mass duplication in all formats is also available. GE large screen video projection in Movielab Theatre, in addition to exclusive VideoPrints™.

THE MULTI VIDEO GROUP LTD.
VPP/E
 50 E. 42nd St., New York, NY 10017
 (212) 986-1577
 Owner: David Binstock, Bennet Canarck

MULTIVISION
VPF, OLVP, VPP/E
 161 Highland Ave., Needham Heights, MA 02194
 (617) 449-5830
 Owner: Donald O'Sullivan, Jay Heard
 Manager: Joanne Oakes, Nancy Nelson

MUSIVISION, INC.
VPF, OLVP, VPP/E
 185 E. 85th St., New York, NY 10028
 (212) 860-4420
 Owner: Fred Kessler

M-Y MEDIA PRODUCTIONS, INC.
OLVP, VPP/E, APPV
 2175 Lemoine Ave. Ste. 602, Fort Lee, NJ 07024
 (201) 585-9424
 Owner: William A. MacNeil and John T. Yanko
 Manager: William A. MacNeil and John T. Yanko

NATIONAL AUDIO-VIDEO TRANSCRIPTS
OLVP, VPP/E
 250 W. 49th St. Ste. 401, New York, NY 10019
 (212) 586-1972
 Owner: Ron Pobuda
 Manager: Linda Alvers
EQUIPMENT
VTRs: Sony-Broadcast BVU 850s and 870.
Switchers/editors: Grass Valley 100.
Cameras: Sony M3As and Ikegami HL-79E.
Other major equipment: Abekas A52 DVE, Convergence 204 edit controller.
Rates: Quoted per project.
Direction: On location video production of educational meetings for professional associations. Post meeting editing, with duplication capability in all formats: 3/4-inch, VHS, Beta, and 8mm.

NATIONAL VIDEO CENTER/RECORDING STUDIOS
VPF, OLVP, VPP/E, APPV
 460 W. 42nd St., New York, NY 10036
 (212) 279-2000
 Owner: Hal Lustig and Irving Kaufmann
EQUIPMENT
VTRs: Ampex VPR-3 and VPR-6.
Video Monitors: Conrac, Asaca, Shiba Soku.
Switchers/editors: GVE 300 and 1600 w/(3)M/E. Paltex Espnt and CMX 340X editors.
Cameras: (7) RCA TK-47B with Fujinon lenses and Vinten Fulmar pedestals.
Audio recorders: 48 total, including Otari, MCI-Sony, Ampex, mono to 46-tracks locked to picture.
Audio mixers: 16 consoles, including SSL 6000 w/56 channels, automated 24-track MCI, Trident.
Other major equipment: Complete stock of outboard equipment including dbx, Lexicon, Dolby, UREI, Evenhug, Yamaha, Kepex, Crown, Bryston, Nakamichi, Juno 106,

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- Lowest prices
- From any master

RESOLUTION

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Chace Mill
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 Burlington, Vermont
 05401-1514

Circle #110 on Reader Service Card

DX7, ARP, Kurzweil 250, etc.
Rates: Available on request-call Bill Kelly.
Direction: Full service audio and video facility. SSL 48-track and MCI 24-track music studios. Film and video mixing. Voice recording. Custom music and EFX plus libraries. (2) video studios, (6) on-line edit rooms, (2) interformat rooms, (2) color correction suites. Computer animation with paintbox, Mirage, Abekas A62 and Chyron 4100, (4) ADCs and DVE. Live transmission. Activities include commercials, network programs, music albums, corporate, cable, animatics and music videos.

NBC TELESALES
VPF, OLVP, VPP/E, APPV
 30 Rockefeller Plaza, Rm. 412, New York, NY 10112
 (212) 664-4754
Owner: National Broadcasting Company
Manager: Bill Vassar

NEVESSA PRODUCTION
APPV
 76D Route 28, West Hurley, NY 12491
 (914) 679-5211
Owner: Chris Andersen
Manager: Melody Huffer

NEW VENTURE MEDIA INC.
OLVP
 P.O. Box 721, Neptune, NJ 07753
Owner: L. Gilinsky

NEWSREEL SERVICE
OLVP
 360 W. 22nd St., New York, NY 10011
 (212) 243-5950
Owner: Lawrence Racies
Manager: G.J. Williams

NEXT STATION STUDIOS
OLVP, APPV
 254 New Norwalk Rd., New Canaan, CT 06840
 (203) 972-3929
Owner: Michael Smolen, Paul Tocco
Manager: Perry Cantor

VERN OAKLEY PRODUCTIONS
OLVP, VPP/E
 316 W. 19th St., New York, NY 10011
 (212) 243-2009
Owner: Vern Oakley

OKOVIC/GOODMAN PRODUCTIONS
OLVP
 718-B S. 22nd St., Philadelphia, PA 19146
 (215) 546-1448
Owner: J. Okovic
Manager: Robert M. Goodman

OMEGA RECORDING STUDIOS
APPV
 5609 Fisher's Lane, Rockville, MD 20852
 (301) 946-4686
Owner: Bob Yesbek
Manager: Bill Brady

OURTOWN TELEVISION PRODUCTIONS
VPF, OLVP, VPP/E
 78 Church St., Saratoga Springs, NY 12866
 (518) 899-6989
Owner: Steven J. Rosenbaum
Manager: Steven J. Rosenbaum

P&P PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
 17 Viaduct Rd., Stamford, CT 06907
 (203) 359-9292
Owner: John R. Fishback
Manager: Edgan Bernstein

EQUIPMENT
Synchronizer: Sony SyncMaster.
VTRs: Sony BVU 800s and Sony 1-inch layback machine.
Video Monitors: Videotek/NEC.
Switchers/editors: Videomedia Eagle.
Cameras: Ikegami 79 DAL, 79 EAL.
Audio recorders: Sony/MCI 24-, 8-, 4-, 2-track, Ampex 4-, 2-track.
Audio mixers: Syncon A (28 x 24), Allen Heath (8 x 4).
Other major equipment: dbx and UREI compressors, Eventide Harmonizer/Omnipressor, ART digital reverb, Yamaha digital delay, Loft analog delay, synthesizers/drum machine.

Rates: Sweetening: 8-track \$85/hr., 24-track \$125/hr., with 1-inch layback: 8-track \$150/hr., 24-track \$200/hr.
Direction: P&P Productions is a Stamford-based production house—producing video, film, multi-image and audio—and a service facility for audio recording, sweetening, ¼-inch editing, music composition and custom audio cassette duplication. We've become a leader in our field because of our 15-year commitment to quality and innovation. Our years of experience with both the audio and video media, allow us to maximize production values for our clients.

PACIFIC ST. FILM PROJECTS INC.
OLVP, VPP/E
 22 1st St., Brooklyn, NY 11231
 (718) 875-9722
Owner: Joel Sucher, Steve Fischler
Manager: Joel Sucher, Steve Fischler

PALACE PRODUCTION
VPF, OLVP, VPP/E, APPV
 Center 29 North Main St., S. Norwalk, CT 06854
 (203) 853-1740
Owner: Chris Campbell, Jim Campbell
Manager: Larry Eskridge

SHELTON LEIGH PALMER CO.
APPV
 360 E. 57th St., New York, NY 10022
 (212) 980-3445
Owner: Shelton Leigh Palmer
Manager: David Post and Wayne Nelson-Page

THOMAS PAYNE PRODUCTIONS
OLVP
 77 Ives St. Ste. 58, Providence, RI 02906
 (401) 831-7527
Owner: Thomas Payne
Manager: Thomas Payne

PCI
VPF, OLVP, VPP/E, APPV
 703 Atlantic Ave., Rochester, New York 14609
 (716) 288-5620
Owner: Theodore W. Hummel
Manager: Richard Leathers

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CRAMOLIN® is a fast-acting, anti-oxidizing lubricant that cleans and preserves all metal surfaces, including gold. When applied to metal contacts and connectors, **CRAMOLIN®** removes resistive oxides as it forms a protective molecular layer that adheres to the metal surfaces and maintains maximum electrical conductivity.

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Capitol Records	Hewlett Packard	Motorola	Studer-Revoc
Dolby Laboratories	McIntosh Labs	NASA	Switchcraft

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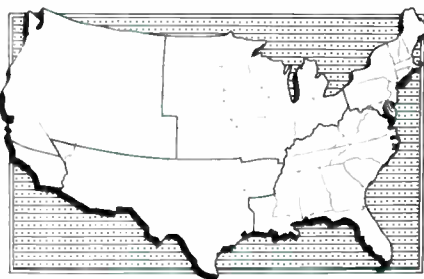
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Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

PENNY LANE STUDIOS

APPV
1350 Ave. of the Americas, New York, NY 10019
(212) 687-4800
Owner: Harley Flaum
Manager: Leslie Blacater

PERIHELION

VPF, OLVP
428 E. 6th Ave., Roselle, NJ 07203
(201) 241-3319
Manager: Steve M. Butynes

PHILADELPHIA MUSIC WORKS

APPV
P.O. Box 947, Bryn Mawr, PA 19010
(215) 825-5656
Owner: Andy Mark
Manager: Andy Mark

PHOENICIAN FILM PRODUCTIONS

OLVP
One Union Square West Ste. 609, New York, NY 10003
(212) 989-6422, 874-5300
Owner: Andrei Jackamets
Manager: Andrei Jackamets

PLUM STUDIO

VPF, OLVP, VPP/E, APPV
2 Washington St., Haverhill, MA 01830
(617) 372-4236
Owner: Richard Tiegen
Manager: Richard Tiegen

PLUNGE PRODUCTIONS

OLVP
78 E. 4th St., New York, NY 10003
(212) 674-6069
Owner: B. Mason, P. Brownscombe

POTORTI VIDEO PRODUCTION

VPF, OLVP, VPP/E
10005 Lacy Ave., Morrisville, PA 19067
(215) 945-3990
Owner: Carl Potorti
Manager: Robert Potorti

POWER PLAY RECORDS INC.

VPF, OLVP, VPP/E, APPV
198 Bloomfield Ave., Newark, NJ 07104
(201) 481-0972
Owner: Power Play Records Inc.
Manager: Greg Furgason
EQUIPMENT
Synchronizer: Audio Kinetics Q-Lock 4.10
VTRs: Ampex VPR-2B, Sony BVU-800, VO-5850, SL-2000 BVU-110.
Video Monitors: Ikegami, Panasonic and Sony.
Switchers/editors: Grass Valley 1600-3G, 1400, 1-L; Panasonic WJ-4600; Pallex Esprit; Sony RM-440.
Cameras: Ikegami EC-35, 357s; Thomson 601As; Sharp XA-1; Sony BVW-3 Betacam.

Audio recorders: Sony PCM-3324, PCM-F1, DMP-100, Ampex 1200, Tascam 85-16B/dbx, Otari MX5050 MKIII-2, Otari MX5050-8D, Tascam 122B, Ampex ATR-104.
Audio mixers: Soundcraft 2400 40 x 24 x 2, NEOTEK 20 x 8 x 2, 12 x 4 x 2, Yamaha PM-700 12 x 2, Shure M67 4 x 1.
Other major equipment: Ursa Major Stargate, Yamaha REV7, Klark-Teknik DN 780, dbx 166, dbx 163s, Eventide Omnipressors, Lexicon PCM41, PCM42, Valley People gates, Simmons SDS-7, Linn LM-1, Yamaha DX7, Kimbell grand piano and 3M D-5000 character generator.
Audio monitors: Altec Big Reds, E-V Sentry 100A and Auretones.

Direction: "WWHT-TV U-68 Music Logo," "WNET-TV New Jersey's Young Filmmakers Festival '84 and '85," Dow Jones "Wall St. Late News" billboards and tags, "Peace of Mind" the National Children's Liver Foundation theme, Manhattan Coffee Soda. Soundtrack music videos: "Breaking Down Barriers" by Falgares, "It's the Same Old Song" by Al Camp, "Women at Large" by the G-Men, "Run to Hide" by the Blokes, "Nazis in New Jersey" by Joe Mystery group.

ROBERT POWER PRODUCTIONS

APPV
203 E. 74th St., New York, NY 10021
(212) 288-7694
Owner: Robert Power

POWER STATION RECORDING

APPV
441 W. 53rd St., New York, NY 10019
Owner: Bob Walters, Tony Bongiovi
Manager: Barry Bongiovi, Ben Kaye

JOHN J. PRESCOTT & ASSOCIATES, INC.

VPF, OLVP, VPP/E
1449 N. Street N.W., Washington, DC 20005
(202) 462-5000
Owner: John J. Prescott
Manager: Michael Peizer

PRIMALUX VIDEO

VPF, OLVP, VPP/E, APPV
30 W. 26th St., New York, NY 10010
(212) 206-1402
Manager: Barbara Stumscher

PRINCZKO PRODUCTIONS

VPP/E
9 E. 38th St., New York, NY 10016
(212) 683-1300
Owner: Gary Prncz and Richard J. Korn

PRIVATE EYES

VPF, VPP/E
12 West 21st St., New York, NY 10010
(212) 206-7770
Owner: Robert I. Shalom
Manager: Mark Ghuneim

PRODUCERS EAST MEDIA, INC.

VPF, OLVP, VPP/E
535 Broadhollow Rd. (Rt. 110), Melville, NY 11747
(516) 420-5680
Owner: Harvey Birnbaum
Manager: Harvey Birnbaum

PRODUCTION HOUSE OF PITTSBURGH

VPF, OLVP, VPP/E, APPV
2275 Swallow Hill Rd. Bldg. 400, Ste. #2
Pittsburgh, PA 15220
(412) 279-8300
Owner: Ed Keen and Don Baret
Manager: Ed Keen and Don Baret

PRODUCTION ONE

VPF, OLVP, VPP/E, APPV
610 S. 2nd St., Philadelphia, PA 19147
(215) 925-1124
Owner: Mike St. John, Jeffrey A. Singer
Manager: Jack L. Miller

PROFESSIONAL VIDEO PRODUCTIONS, INC.

OLVP
115 E. 34th St., New York, NY 10016
(212) 683-3615
Owner: Richard Namm
Manager: Howard Small

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PROSPECT PRODUCTIONS
OLVP, VPP/E
 1308 Amosland Rd., Prospect Park, PA 19076
 (215) 237-9074
 Owner: Jack Kahler
 Manager: Jack Kahler

PUBSAT-PUBLIC AFFAIRS SATELLITE SYSTEM
VFP, OLVP
 1012 14th St. N.W., Washington, DC 20005
 (202) 628-2600
 Owner: John Sullivan, Tom Tucker
 Manager: Robert Bass

QED ENTERPRISES, INC.
VFP, OLVP, VPP/E
 4802 5th Ave., Pittsburgh, PA 15213
 (412) 622-1500
 Owner: Metropolitan Pittsburgh Public Broadcasting, Inc.
 Manager: Rick Abrams

QUAD RECORDING
APPV
 723 7th Ave., New York, NY 10019
 (212) 730-1035
 Owner: Lou Gonzalez
 Manager: Laurie Gonzalez

QUARK VIDEO
VFP, OLVP, VPP/E
 421 Hudson St., New York, NY 10014
 (212) 807-8504
 Manager: Michael Levin

BILL QUINN PRODUCTIONS
VFP, OLVP, VPP/E
 2517 Rt. 35 S., Manasquan, NJ 08736
 (201) 223-9075
 Owner: Bill Quinn

RAYTHEON SERVICE COMPANY
VFP, OLVP, VPP/E, APPV
 2 Wayside Rd., Burlington, MA 01803
 (617) 272-9300 x2679
 Owner: Raytheon Company Media Services
 Manager: Ed Dextraze

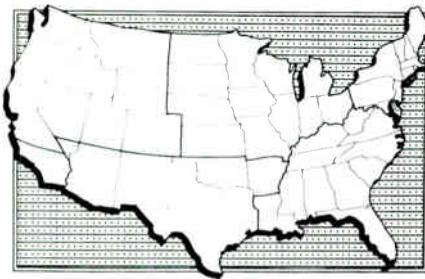
RBV RECORDING & VIDEO
VFP, OLVP
 920 Main St. N., Southbury, CT 06488
 (203) 264-3666
 Owner: Jack Jones
 Manager: Marjorie Jones



REGENT SOUND STUDIOS, INC.
 New York, NY

REGENT SOUND STUDIOS, INC.
APPV
 1619 Broadway, New York, NY 10019
 (212) 245-2630, 245-3100
 Owner: Robert Liftin
 Manager: Sandi Morrof

EQUIPMENT
 Synchronizer: (3) EECO MQS 103A, Convergence 104,
 (3) BTX Shadows, (2) Time Line Lynx.
 VTRs: (5) JVC 8250, (2) Sony BVU-800DB, (2) Ampex
 VPR 6, (1) Ampex VPR-80, (1) Ampex VPR-2.
 Video Monitors: Conrac, Videoleck, Sony.



NORTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VFP (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

Switchers/editors: Panasonic, Convergence.
 Cameras: Ikegami 730A w/Fuji-104 14 x 9 (2).
 Audio recorders: (2) Ampex ATR 124, ATR 116, MM1200
 (5) w/P.U.R.C. and rehearse functions, ATR 104 (3), ATR
 102 (6), ATR 100 (4), 440, modified mono Nagra, TEAC
 40 4, Magna-Tech 16/35 mm mag dubber, AIWA cassette
 decks (5), Nakamichi cassette deck 500, Sony digital
 PCM 1610, PCM 10, F1, Sony 3324, CompuSonics DSP-
 2000.

Audio mixers: MCI: JH-528, JH-532, JH-536, JH-618.
 Other major equipment: EECO time code generator,
 time code reader, Datametrics and Esse character gener-
 ators, programmable Autofade, Ampex Sync-Lock (2), Sierra/
 Hidley audio monitors, IBL 4313s and 4311s, Canton
 LE 900, RORs, Auratones, Lexicon DDLs, Lexicon 224s,
 Audicon Plate, AKG BX-20, UREI 565 filter sets, 360 systems
 programmable EQ, plus standard outboard equip-
 ment, Klark-Teknik.

Rates: Please write or call.
 Direction: Electronic editing with or without picture and
 digital recording, and editing all sample rates tape or hard
 disk.

REGISTER A/V VIDEO SYSTEMS INC.
VFP, OLVP, VPP/E
 50 Kane St., Baltimore, MD 21224
 (301) 633-7600
 Owner: The Register Group
 Manager: R. Eugene Foote

RENAISSANCE TELEVISION PRODUCTIONS
OLVP, VPP/E
 140 Kimber Dr., Bridgeville, PA 15017
 (412) 941-2081
 Owner: Ronald J. Bruno
 Manager: Ronald J. Bruno

RESOLUTION, INC.
VFP, OLVP, VPP/E, APPV
 Chace Mill, One Mill St., Burlington, VT 05401
 (802) 862-8881, 1-800-862-8900 (US toll free)
 Owner: Corp.
 Manager: William H. Schubert

JONATHAN RHO PRODUCTIONS
OLVP
 155 Allen St., New York, NY 10002
 (212) 475-7251
 Owner: Jonathan Rho
 Manager: Mark Juergens

ROCKAMERICA
VFP, OLVP, VPP/E, APPV
 27 E. 21st St., New York, NY 10010
 (212) 475-5791
 Owner: Ed Steinberg

RICHARD H. ROFFMAN ASSOCIATES
VFP, OLVP
 697 West End Ave., New York, NY 10025
 (212) 749-3647
 Owner: Richard H. Roffman
 Manager: Mal Cohn

ROLLINS CABLEVISION OF CONNECTICUT
VFP, OLVP, VPP/E
 44 No. Branford Rd., Branford, CT 06405
 (203) 488-7042
 Owner: Rollins Inc.
 Manager: Thomas Gallagher

WARREN ROSENBERG VIDEO SERVICES
OLVP, VPP/E
 308 E. 79th St., New York, NY 10021
 (212) 744-1111
 Owner: Warren Rosenberg

THE RUTLEDGE CENTER, INC.
VFP, OLVP, APPV
 1604 Pennington Rd., Trenton, NJ 08608
 (609) 883-5600
 Owner: Richard Politi
 Manager: John Blazejewski

RICH SANDERS MUSIC
APPV
 130 W. 42nd St. Ste. 906, New York, NY 10036
 (212) 398-1458
 Owner: Rich Sanders

SCHEMBRIVISION
VFP, OLVP, VPP/E, APPV
 2156 Story Ave., Bronx, NY 10473
 (212) 863-2986
 Owner: Salvador Schembri
 Manager: Sal Schembri Jr.

GABRIELA SCHONBACH/THE MEDIA GROUP
VFP, OLVP
 1837 IngleSide Terr. N.W., Washington, DC 20010
 (202) 231-3506
 Owner: Gabriela Schonbach, Joseph Keyerleber
 Manager: Gabriela Schonbach, Joseph Keyerleber

HOWARD SCHWARTZ RECORDING
APPV
 420 Lexington Ave., New York, NY 10170
 (212) 687-4180, (800) 327-7787
 Owner: Howard M. Schwartz
 Manager: M. Laskow, B. Levy
EQUIPMENT
 Synchronizer: EECO MQS 100A, Adams-Smith.
 VTRs: NEC TT7000, NEC TT 8000, JVC-8250, BVU-820.
 Video Monitors: Various.
 VCRs: BVU 200B.
 Audio recorders: Studer, MCI JH114-110B.
 Audio mixers: MCI 556C-538C, SSL, MCI.
 Other major equipment: Events, port delegation, audio
 relay, code time base correction and conversion, full jam
 sync and all code formats.
 Direction: All three networks, commercials, and shows.
 Most complete audio post on East Coast.

SEA STAR PRODUCTIONS INC.
VFP, OLVP, VPP/E, APPV
 135 Lafayette Rd., Rye, NH 03870
 (603) 964-5675
 Owner: Georgeanne F. Baine
 Manager: Georgeanne F. Baine

SHADOW LIGHT PRODUCTIONS
VPP/E
 12 W. 27th St., New York, NY 10001
 (212) 689-7511
 Owner: Marie Chelnir
 Manager: Julianne Hausler

SHEFFIELD AUDIO/VIDEO PRODUCTIONS
VFP, OLVP, VPP/E, APPV
 13816 Sunnysbrook Rd., Phoenix, MD 21131
 (301) 628-7260
 Owner: John J. Ariosa Jr.
 Manager: Nancy Riskin

EQUIPMENT
 Synchronizer: BTX synchronizer.
 VTRs: Ampex VPR-2B (3), Ampex VPR-6 (1), Ampex VPR-
 80 (1), Ampex VPR-5 portable.
 Video Monitors: Ikegami, Tektronix, and Videotek.
 Switchers/editors: Ampex 4100L switcher, Ace editor.
 Cameras: Thomson 601A (2).
 Audio recorders: Studer B67 2-track, 16-track 1-inch.
 Audio mixers: Sontec 32 input console.
 Other major equipment: Ampex ADO, NEC system 10
 digital effects unit, Chyron character generator.
 Rates: \$200/hr., including digital effects.
 Direction: Commercial, industrial, PBS, documentaries,
 music video.

FIL SIBLEY PRODUCTIONS
VPF, OLVP, VPP/E
 1306 Appley Rd., Baltimore, MD 21209
 (301) 358-8684
 Owner: Fil Sibley
 Manager: Linda Scher

SIGMA SOUND STUDIOS, INC.
APPV
 212 N. 12th St., Philadelphia, PA 19107
 (215) 561-3660

Owner: Joseph D. Tarsia
 Manager: Margie Dixon

EQUIPMENT
 Synchronizer: Audio Kinetics Q-Lock 3.10.
 VTRs: Sony BVH-2000 1-inch, JVC CR825OU 3/4-inch,
 Sony VO-5850 3/4-inch.

Video Monitors: Sony CVM-1900, Panasonic CT-1330M.
 Audio recorders: Otari MTR-90-II 24-track, Ampex ATR-100 4- and 2-track.

Audio mixers: MCI JH-636 30 input, 30 output, with JH-50 mix automation.

Other major equipment: Dolby and dbx noise reduction, Multi-Track Magnetics 16 and 35mm film dubber, VHS hi-fi and Beta hi-fi recorders.

Rates: On request.

Direction: We are a full service audio post-production facility for commercials, business and industrial video, and music video. All of the extras standard in any first-rate audio facility are available, along with extensive music and sound effects libraries.

SIGMA SOUND STUDIOS, INC.
APPV
 1697 Broadway, New York, NY 10019
 (212) 582-5055

Owner: Joseph D. Tarsia
 Manager: Hank Meyer

EQUIPMENT
 Synchronizer: Audio Kinetics Q-Lock 3.1, BTX Shadow 4700, Timeline Lynx.
 VTRs: JVC 8200 3/4-inch U-Matic, JVC 8250 3/4-inch U-Matic.

Video Monitors: (2) Sony CVM-2000, (2) Barco DCD 2240.

Audio recorders: (3) Studer A-800 MarkIII 24-track recorders, (3) Otari MTR-90 II 24-track recorders, Ampex

ATR-100 2- and 4-track recorders, Studer A 820 2-track recorders.

Audio mixers: Solid State Logic 6000E 56 input console w/Total Recall, Solid State Logic 6000E 40 input console w/Total Recall, Neve 8078 52 input console.

Other major equipment: Magna-Tech type 43 mag film dubber, Magna-Tech type 92B playback synchronizer, Pilot tone and 60 Hz resolver, dolby and dbx noise reduction.

Rates: Available on request.

SILVER LININGS, INC.
APPV
 25 Huntington Ave., Boston, MA 02116
 (617) 262-9289

Owner: Arklay F. King
 Manager: Barbara Pfister



SKYELABS, INC.
 Dover, DE

SKYELABS, INC.
 "The Mobile Recording Unit"
 On Location Audio for Video

58 W. Tidbury Dr., Dover, DE 19901
 (302) 697-6226

Owner: Bob Skye
 Manager: Bob Skye

EQUIPMENT
 Audio recorders: (2) Otari MTR-90 24-track, (2) Otari MKIII 2-track.

Audio mixers: Sound Workshop Series 30.
 Other major equipment: Sony video monitor, (42) audio inputs, (82) Jensen mic-splits, multiple DAs for audio-video feeds.

Rates: Please call or write for rates and information.

Direction: The Skyelabs Mobile Recording Unit offers the finest in mobile acoustic environments and equipment for live concert recording, remote broadcast, audio for film and video, in-house recording and post-production/audio sweetening. Skyelabs is a certified LEDE™ control room on wheels that features an acoustic accuracy that surpasses many in-house studios. It has become the most popular "live-to-two" track mobile in the area because of its ability to deliver clean accurate sound to the client with virtually no guess work involved. Skyelabs is available for everything from one nighters to lengthy tours. If you are looking for more than just saturated tracks, or if you prefer mixing down at your place, Skyelabs is the mobile to call. Some of our film and video clients/projects include: Turner Broadcast, John Denver, Jacques Cousteau, GBH Productions, Island Films, WNET Television, Vox Cam Assoc., Reeves Teletape.

VINCENT T. SLAVIN PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 P.O. Box 6122, Buffalo, NY 14240
 (716) 883-8737

Owner: Vincent T. Slavin

SONALYSTS, INC.
VPF, OLVP, VPP/E, APPV
 215 Parkway N., Waterford, CT 06385
 (203) 442-4355
 Owner: Sonalysts, Inc.
 Manager: Rob Rainwater

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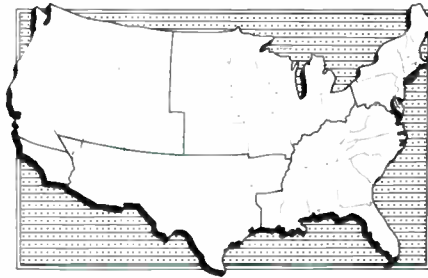
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- Reduces Room Resonance "Q" Response By 4
- EQ's Low End RT-60 Decay Constants
- Packs 15 Sabines Absorption Into Each 3' Tube
- Midrange, Adjustable Diffusion
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NORTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Edit-ing); APPV (Audio Post-Production for Video).

SORIN PRODUCTIONS
 VPF, OLVP, VPP/E
 12 Three Brooks Rd., Freehold, NJ 07728
 (201) 462-1785
 Owner: David Sorin

SOUNDWORKS STUDIOS
 VPF, OLVP, VPP/E, APPV
 254 W. 54th St., New York, NY 10019
 (212) 247-3690
 Owner: Charles Benaty

SOUND DIMENSIONS EDITORIAL
 APPV
 321 W. 44th St., New York, NY 10036
 (212) 757-5147
 Owner: Bernard Hajdenberg
 Manager: Randal A. Goya

SOUND SELLER PRODUCTIONS
 APPV
 Rt. 49, Pittsfield, MA 01201
 (413) 499-3899
 Owner: Steve Schwarz
EQUIPMENT
 Synchronizer: Lynx/Time Line.
 VTRs: JVC 8250 3/4-inch, VHS and Beta 1/2-inch formats.
 Video Monitors: Sony, Hitachi.
 Audio recorders: MCI-24, Ampex 2-tracks.
 Audio mixers: Audiotronics.
 Other major equipment: Complete satellite down link, Linn computer, Lexicon Time Compressor, voice and music talent/production.
 Rates: Available on request.
 Direction: Half hour from Albany, NY and three hours from New York City or Boston. Sound Seller Productions has been serving the industry since 1974. A full service 24-track audio for stereo video production house.

SPECTRA COMMUNICATIONS
 VPF, OLVP, VPP/E, APPV
 Box 621, Port Washington, NY 11050
 (516) 883-3395
 Owner: MLG Corp.
 Manager: Jay Jayson

SPECTRUM PRODUCTIONS
 OLVP
 1458 Gilbert Rd., Arnold, MD 21012
 (301) 757-5005
 Owner: Mark Goldberg

SPECTRUM PRODUCTIONS INC.
 VPF, OLVP, VPP/E, APPV
 532 Madison, New York, NY 10022
 (212) 319-8610
 Owner: David Solomita
 Manager: Kevin C. McManus

SPICER PRODUCTIONS, INC.
 VPF, OLVP, VPP/E, APPV
 1708 Whitehead Rd., Baltimore, MD 21207
 (301) 298-1200
 Owner: William Spicer and Lynn Spicer

SPIRIT PRODUCTIONS
 OLVP
 28-02 36th Ave., Astoria, NY 11106
 (718) 786-9706
 Owner: Mark Gasper
 Manager: Mark Gasper

SQUIRES PRODUCTIONS, INC.
 VPF, OLVP, VPP/E, APPV
 196 Maple Ave., White Plains, NY 10601
 (914) 997-1603
 Owner: Gregg Squires
 Manager: Elizabeth Zaccara

STARFLEET ANIMATION
 VPF
 RD #5 Box 91, Avalon Rd., Altoona, PA 16601
 (814) 943-8494
 Owner: John Bohn

STARWAVE VIDEO & FILM PRODUCTIONS
 OLVP
 323 St. Mary St., Hillsdale, NJ 07642
 (201) 664-6036
 Owner: Bill Prior
 Manager: Bill Prior

STATE OF THE ART, INC.
 VPF, OLVP
 1736 Columbia Rd. N.W., Washington DC 20009
 (202) 797-0818
 Owner: Thomas C. Goodwin, Gerardine Wurzburg

E.J. STEWART, INC.
 VPF, OLVP, VPP/E, APPV
 525 Mildred Ave., Primos, PA 19018
 (215) 626-6500, (212) 288-0525
 Owner: Hal Lipman
 Manager: Bob Momyer

STUDIO 16 COMMUNICATIONS INC.
 VPF, OLVP, VPP/E, APPV
 16 Ridgewood Terr., Springfield, MA 01105
 (413) 736-0311
 Owner: Brian and Darlene Cawley

JOHN M. SULLIVAN ASSOCIATES
 VPF, OLVP, VPP/E, APPV
 880 Commonwealth Ave., Boston, MA 02215
 (617) 277-1710
 Owner: John Sullivan
 Manager: Jan Webster
EQUIPMENT
 Synchronizer: Digital frame sync, Sony TBC.
 VTRs: Sony cross format A/B Roll 3/4-inch to 1-inch.
 Switchers/editors: Grass Valley 1680-10x.
 Cameras: (7) Ikegami HL-79 EALs.
 Audio recorders: Akai/Yamaha.
 Audio mixers: Yamaha.
 Other major equipment: Studio w/hard cyc. Mole lighting, (5) cameras, remote production, truck, 1-inch VTRs, 3/4-inch VTRs.
 Rates: Call for brochure.
 Direction: Broadcast television productions, studio and location. Music videos, corporate, industrial video tapes, live telecast, remotes teleconferences. (2) post-production editing suites. Mobile production vehicles. Major clients: ABC, NBC, CBS, HBO, MTV, Fortune 500 corporations. Two Emmy awards.

SYNC SOUND INC.
 APPV
 450 W. 56th St., New York, NY 10019
 (212) 246-5580
 Owner: Bill Marino, Ken Hahn
 Manager: Elisse Kline
EQUIPMENT

Synchronizer: Proprietary edit system allowing lock-up, edit rehearsal, and editing to subframe accuracy of all standard audio, digital and video tape machines.
 VTRs: Sony BVH-2000, (3) JVC B250s. Full interface capability and available upon request: BVU-800, Betacam.
 Video Monitors: Panasonic PT-101 video projection system with 100-inch diagonal soundscreen, Sony PVM-1220, Sony 25-inch and 19-inch monitors.
 Switchers/editors: Monitor switches in all production areas to facilitate multi-video source operations.
 Audio recorders: (3) Otari MTR-90 II with 24-, 16-, and 8-track headstacks; Otari MTR-20 4-track; (4) Otari MTR-12 2-tracks with center channel time code, mono and stereo Nagra capability; cart machines; Multi-Track Magnetics 106 16, 35mm mag. recorder. Full interface ability

and available upon request: Sony 3324 digital 24-track, 1610, F-1, and X80 digital 2-track.

Audio mixers: Solid State Logic 6000 series automated console; Soundcraft 2400, 200B, 200.

Other major equipment: Sony 1610 and F1 digital audio processors, Synclavier, Kurzweil, DX7, E-mu SP-12, Dolby surround mixing.

Rates: Please call for information.

Direction: 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, overdubs to picture, sound effects design, electronic composition, audience sweetening, and Dolby surround sound mixing for film. Sync Sound also provides ancillary functions such as: technical consultation, Nagra and mag dubs, SFX library, and video tape laybacks.

TAPE POWER

VPP/E

304 E. 45th St., New York, NY 10017

(212) 370-9191

Owner: Gannett Co.

Manager: David Martin

TEATOWN VIDEO, INC.

VPP/E

165 W. 46th St. #612, New York, NY 10036

(212) 302-0722

Owner: Marlen Hecht

Manager: Marlen Hecht

TELETECHNIQUES, INC.

VPF, OLVP

1 West 19th St., New York, NY 10011

(212) 206-1475, 580-9551

Owner: Michael Temmer

Manager: Gina Bacon

EQUIPMENT

VTRs: Sony 1-inch type C, Betacam, Broadcast ¾-inch.

Video Monitors: Ikegami, Tektronix, Barco.

Switchers/editors: Grass Valley Group.

Cameras: Ikegami.

Audio mixers: Yamaha.

Other major equipment: Mole Richardson lighting, Arr-light, Lowell Inaero, Ulimatte, etc.

Rates: Quotes per job.

Direction: Package production film and tape through duplication (including off-line editorial), on-line 1-inch.

TELETECHNIQUES POST GROUP, INC.

VPP/E

1 West 19th St., New York, NY 10011

(212) 206-1475, 580-9551

Owner: Michael Temmer

Manager: D. Kruse

EQUIPMENT

Synchronizer: Sony TBCs, DVS frame synchronizer.

VTRs: Sony 1-inch U-matic Sony Broadcast ¾-inch.

Video Monitors: Ikegami, Tektronix, Barco.

Switchers/editors: Grass Valley, Computer Image, Convergence 204.

Cameras: Ikegami, Sony.

Audio recorders: TEAC, Nagra.

Audio mixers: Yamaha.

Other major equipment: ¾-inch and ½-inch duplication services, time coding, etc.

Rates: Competitive New York City rates.

Direction: TPG is full service editorial house.

TELEVISION ARTS PRODUCTIONS, INC.

VPF, OLVP, VPP/E, APPV

5550 Sterrett Pl. Ste. 302, Columbia, MD 21044

(301) 997-5552, 596-0885

Owner: Deborah Jeffreys

Manager: R. Scott Kramer

TEL-E-VUE PRODUCTIONS

OLVP

P.O. Box 217, Ferndale, NY 12734

(914) 292-5965

Owner: Paul Gerry

Manager: Patricia James

TIGER T.V.-REALITY VID

VPF, OLVP, VPP/E

213 Middle River Rd., Danbury, CT 06811

(203) 743-7102

Owner: Robert Morse

Manager: Robert Morse

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6054 Sunset Blvd., Hollywood, CA 90028 (213) 465-6264

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RIK TINORY PRODUCTIONS
OLVP, APPV
 180 Pond St., Box 311, Cohasset, MA 02025
 (617) 383-9494
 Owner: Rik Tinory
 Manager: Richard F. Tinory, Jr

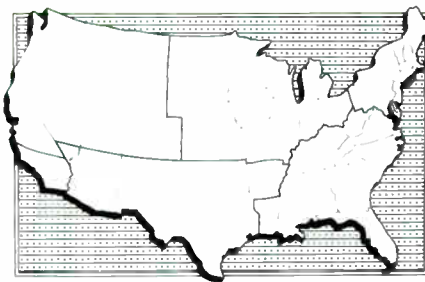
T.N.A. PRODUCTIONS, INC.
OLVP
 148 Bank St. 5A, New York, NY 10014
 (212) 243-1039
 Owner: Tony Breuer

TONY'S UNION ENTERPRISES LIGHTING & GRIP
 3561 Weidner Ave., Oceanside, NY 11040
 (516) 678-4409, 437-1203
 Owner: Tony Pacento, Bruce Balton
 Manager: Tony Pacento, Bruce Balton

TOTAL VIDEO MUSIC (TVM)
VPF, OLVP
 P.O. Box 1233, Edison, NJ 08818
 (201) 287-3626
 Owner: Corporation

TRACKMASTER AUDIO INC.
APPV
 One Franklin Park N., Buffalo, NY 14202
 (716) 886-6300
 Owner: Alan C. Baumgardner
 Manager: Michael E. Sak

HENRY TRAIMAN ASSOCS. INC.
VPP/E
 160 Madison Ave., New York, NY 10016
 (212) 889-3400
 Owner: H. Traiman
 Manager: H. Traiman
EQUIPMENT
 VTRs: Sony Type 5.
 Switchers/editors: Grass Valley switcher, Video 6000
 disk operating system
 Audio recorders: Nagra, Scully.
 Audio mixers: Rammsa 10 channel.



NORTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

Other major equipment: SMPTE time code, Microloc or control track editing, A/B rolls, advanced list management w/CMX disk and hard copy conversion, Harris TBCs, JBL 4411 monitors, Bencher title stand.
 Rates: ¼ inch editing \$95/hr., 2 machine cuts-only editing also available: \$60/hr. (operator included) Cost effective turnkey rates by quotation.
 Direction: Gold Award winner—International Film and TV Festival of New York for public service series initially broadcast on the Jerry Lewis telethon. We are also expert in the film/video interface, all levels and conversions.

TULCHIN STUDIOS
VPF, OLVP, VPP/E, APPV
 240 E. 45th St., New York, NY 10017
 (212) 986-8270

Owner: Harold M. Tulchin
 Manager: Hens Stenzel

TVC VIDEO
VPP/E
 225 E. 43rd, New York, NY 10017
 (212) 599-1616
 Owner: Lou Siracusano, Arnold Ferrelito, Martin Irwin, Dan Sandberg
 Manager: Tim Timpanaro

29TH STREET VIDEO, INC.
OLVP, VPP/E
 339 W. 29th St., New York, NY 10001
 (212) 594-7530
 Owner: Corp.
 Manager: David Wallace

UNITEL VIDEO INC.
VPF, OLVP, VPP/E
 515 W. 57th St., New York, NY 10019
 (212) 265-3600
 Owner: Public Company-American Stock Exchange
 Manager: Herb Bass

VCA TELETRONICS
 231 E. 55th St., New York, NY 10022
 (212) 355-1600

VERMONT STUDIO INC.
VPF, OLVP, VPP/E, APPV
 RFD 2 Route 5, Putney, VT 05346
 (802) 257-0859
 Owner: Allan H. Seymour
 Manager: Allan H. Seymour

VIDEO COMMUNICATION SERVICES
VPF
 208 Linden Ave., Riverton, NJ 08077
 (609) 786-1775
 Owner: Frank Siegel

VIDEO DUB, INC.
VPP/E
 423 W. 55th St., New York, NY 10019
 (212) 757-3300
 Owner: Video Services Corp.
 Manager: Donald Buck


VIDEO FRIENDS
VPF, OLVP, VPP/E
 16 E. 17th St., New York, NY 10003
 (212) 929-7728
 Owner: Mik Cribben
 Manager: Vinnie Manes

VIDEO INTERNATIONAL PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 Cassie Cove Rd., Ctr. Ossipee, NH 03814
 (603) 539-6657
 Owner: Robert M. Corkery
 Manager: Toni L. Corkery

VIDEO MEDIA PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 149-33 88th St., Howard Beach Queens, NY 11414
 (718) 845-3709
 Owner: F. Virga
 Manager: J. Virga

VIDEO ONE/CINEMAGRAPHICS, INC.
VPF, OLVP, VPP/E, APPV
 100 Mass. Ave., Boston, MA 02115
 (617) 266-8200
 Owner: James Herzig, Yale Marc
 Manager: Colin Moor
EQUIPMENT
 Synchronizer: Audio Kinetics 410 Q.Lock
 VTRs: (4) RCA 1100, (2) Sony 2000, Sony 2500, (5) Sony BVU 800.
 Video Monitors: (5) Ikegami TM 20-8RH; Ikegami TM 20-9RH; Ikegami TM 14 8RH
 Switchers/editors: CDL 680; (2) Grass Valley 100/3 CMX 340x.
 Cameras: Ikegami HL-79E.
 Audio recorders: Otari MX-90 24 track; MCI JH-110 lay back; Studer A-810 w/center time code; MCI JH-110 8-track; (5) Otari 5050 ¼-inch.
 Audio mixers: Amex 2500 w/Audio Kinetics master mix automation, Trident Series 70

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Other major equipment: ADO, NEC DVE, Quantel Paint Box, Dubner system, synthesizers: Kurzweil 250; Emulator I; LinnDrum 9000; Yamaha grand piano; Prophet 600; Roland JX-3P; Yamaha DX7; Oberheim DMX.
Rates: On-line: MultiFormat \$195/hr.; 1-inch 3 machine: \$300/hr.; 4 machine: \$360/hr. Off-line: 2 machine: \$100/hr. Audio: 2-to-8-track \$100/hr.; 24-track \$100/hr.; mix-to-pix \$200/hr.; automate mix \$125/hr.
Direction: Original music composition.

VIDEO PEOPLE INC.

OLVP, VPP/E
845 High Mt Rd., Franklin Lakes, NJ 07417
(201) 891-3372
Owner: Mirek Snopek
EQUIPMENT
VTRs: BVU 800s, BVH 500, BVU 110.
Video Monitors: Ikegami, Sony 8x.
Switchers/editors: Crosspoint-Latch 6112.
Cameras: Ikegami 79 DAL 2x, Betacam, Arriflex.
Audio recorders: Nagra IV
Other major equipment: HMI lights, van, wireless mics.
Rates: ¾-inch \$1,000, Beta \$1200, 1-inch \$1,400.
Direction: Location shooting, editing, film, video equipment rentals.

VIDEO PLANNING

VPF, OLVP, VPP/E, APPV
325 W. 56th St., New York, NY 10019
(212) 582-5066
Manager: Alex Milton

VIDEO PLEX

VPF
530 25th St., New York, NY 10001
(212) 807-8211
Owner: Diane Mele
Manager: Diane Mele

VIDEO RESOURCES N.Y. INC.

VPF, OLVP, VPP/E
220 W. 71st St., New York, NY 10023
(212) 724-7055
Owner: Ira H. Gallen
Manager: Vic Tannenber

THE VIDEO TEAM, INC.

VPF, OLVP, VPP/E, APPV
220 E. 23rd St., New York, NY 10010
(212) 696-1170
Owner: Don Blauvelt

VIDEOCENTER OF N.J., INC./C.L.O.S. VIDEO

VPF, OLVP, VPP/E
228 Park Ave., East Rutherford, NJ 07073
(201) 935-0900
Owner: Frank O'Connell, Bob Camitta
Manager: Bob Schaffner

VIDEOGENIX OF NY INC.

VPP/E, APPV
503-511 Broadway, New York, NY 10012
(212) 925-0445
Owner: Caleb Oglesby, Shino Oglesby, Alison Ellwood
Manager: Caleb Oglesby, Alison Ellwood

VIDEOGRAPHY PRODUCTIONS, INC.

VPF, OLVP, VPP/E
353 E. 76th St., 2 West, New York, NY 10021
(212) 570-6888
Owner: Dick Fisher, Gary Corrigan
Manager: Dick Fisher, Gary Corrigan

VIDEOSMITH, INC.

VPF, OLVP, VPP/E
2006 Chancellor St., Philadelphia, PA 19103
(215) 864-0658
Owner: Steve Smith
Manager: Steve O'Driscoll

VIDEOWORKS

VPF, OLVP, VPP/E, APPV
24 W. 40th St., New York, NY 10018
(212) 869-2500
Owner: Frank Herold, Ken Lorber, Eliot Tuckerman
Manager: Steve Villante

VIEWPOINT COMMUNICATIONS

VPF, OLVP, VPP/E
10507 Weymouth St. #3, Bethesda, MD 20814
(301) 493-5920
Owner: Randy P. Feldman
Manager: Jill Herzog
EQUIPMENT
VTRs: Sony BVU 110s, Sony BVU 800s, Sony Betacam.
Video Monitors: 5-, 8-, 12-, and 25-inch color monitors (Videolek, Panasonic, NEC).
Switchers/editors: BVU 800 ¾-inch time code editing, 6-input Panasonic switcher (4600B).
Cameras: Thomson MC 701 cameras.
Audio recorders: Nakamichi, JVC, Nagra.
Audio mixers: Ramsa 18 x 4 x 2.
Other major equipment: Lowell lighting equipment, sound reinforcement system.
Rates: Please call.
Direction: Commercial production, music video (live and

concept), training and marketing films, documentary multi-camera remote production.

VIRTUE RECORDING & VIDEO STUDIOS

VPF, OLVP
1618 N. Broad, Philadelphia, PA 19121
(215) 763-2825
Owner: Parr-X Corp.
Manager: Frank Virtue

VISUAL IMPACT (FORMERLY L&S PRODUCTIONS)

OLVP
P.O. Box 42505, Philadelphia, PA 19101
(215) 649-8607
Owner: Bradley A. Lowry
Manager: W. Paul Snead

VISUAL MUSIC PRODUCTIONS SERVICES

OLVP, VPP/E, APPV
235 E. 13th St. #3-D, New York, NY 10003
(212) 505-9281
Owner: Visual Music
Manager: Theresa Hunter

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Boston, Ma. 02115

(617) 437-1815

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SOUTHEAST

ABBA DABBA VIDEO
VFF, OLVP
 1909 Free Port St., Orlando, FL 32808
 (305) 295-2956, 645-3916
 Owner: Joe Pyles
 Manager: Leslie Hoskins

ADCO PRODUCTIONS
VFF, OLVP, VPP/E
 7101 Biscayne Blvd., Miami, FL 33138
 (305) 751-3118
 Owner: Sheer Genius, Inc.
 Manager: Earl Wainwright

ALLEN-MARTIN VIDEO PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
 9701 Taylorsville Rd., Louisville, KY 40299
 (502) 267-9658
 Owner: Corp.
 Manager: Michael J. Gibson



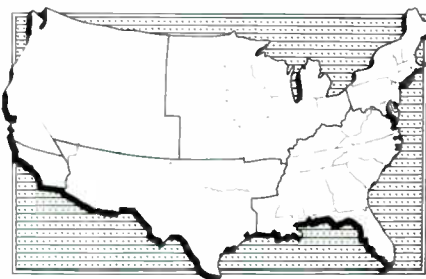
AMERICAN MULTIMEDIA INC.
 Burlington, NC

AMERICAN MULTIMEDIA INC.
OLVP, VPP/E, APPV
 Rt. 8 Box 215A, Burlington, NC 27215
 (919) 227-0171
 Manager: Alan L. Kirby
EQUIPMENT
 Synchronizer: Adams-Smith.
 VTRs: Ampex VPR-2Bs.
 Video Monitors: Ikegami, Tektronix
 Switchers/editors: Grass Valley 300, CMX 340X editor.
 Cameras: Ikegami studio/held.
 Audio recorders: Otan 5050B.
 Audio mixers: Hill Audio.
 Other major equipment: Chyron graphics generator, GE 5050 video projectors.
 Rates: \$250/hr. post-production, \$75/hr. 3/4-inch off-line.
 Direction: 1 inch post production with DVE, special effects. 3/4-inch off line editing, held production including multi-camera remotes, GE light-value projectors, computer controlled lighting. Over 350 colored PAR cans

API PHOTOGRAPHERS, INC.
VFF, OLVP, VPP/E
 3111 Stonebrook Circle, Memphis, TN 38116
 (901) 396-8650
 Owner: William W. Carrier, III

PAT APPLESON STUDIOS INC.
VFF, OLVP, VPP/E, APPV
 1000 N.W. 159 Dr., Miami, FL 33169
 (305) 625-4435
 Owner: Patrick G. Appleson
 Manager: Rich Rudner

ARDENT TELEPRODUCTION, INC.
VFF, OLVP, VPP/E, APPV
 2000 Madison Ave., Memphis, TN 38104
 (901) 726-6553
 Owner: John Fry, Robert Williams
 Manager: Joe Dyer



SOUTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VFF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).



ARDENT TELEPRODUCTION, INC.
 Memphis, TN

EQUIPMENT
 Synchronizer: MCI, BTX, United Media.
 VTRs: Hitachi, TVC.
 Video Monitors: Ikegami.
 Switchers/editors: Grass Valley, United Media.
 Cameras: Ikegami EC 35, Hitachi.
 Audio recorders: MCI 24, MCI 2, Mitsubishi 32 digital.
 Audio mixers: MCI, Neve, Solid State Logic.
 Other major equipment: Chyron 4100, Steadicam, Ultimate IV NEC System 10, 16 and 35mm film.
 Rates: On request.
 Direction: ZZ-Top, Bar-Kays, Degarmo & Key, Everly Brothers, French National TV, Dr. Scholls, Showtime Make-up, Schlitz Rocks America, Bryan Foods, Service Merchandise, Federal Express.

ATLANTIC VIDEO
VFF, OLVP, VPP/E
 150 S. Gordon St., Alexandria, VA 22304
 (703) 823-2800
 Owner: Jonathan Park
 Manager: Gerald Ferri

AUDIO VIDEO PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 1821 S.W. 11th St., Fort Lauderdale, FL 33312
 (305) 763-7935
 Owner: Berry E. Cardott
 Manager: Janie Morales

AUDIO VISUAL SYNERGISTICS, INC.
VFF, OLVP, VPP/E, APPV
 3055 Wayward Dr., Marietta, GA 30066
 (404) 565-3711
 Owner: William T. Anderson
 Manager: Rose Pasquale

AV-TEK PRODUCTIONS
VFF, OLVP
 P.O. Box 35356, Richmond, VA 23235
 (804) 745-4462
 Owner: Richard R. Hencye
 Manager: Sharon L. Hencye

BLAIR PRODUCTIONS
VFF
 5751-A Gen. Washington Dr., Alexandria, VA 22312
 (703) 642-2000
 Owner: R. Scott Jackson
 Manager: Harold S. Mintz

BROOKS READ & ASSOCIATES, INC.
OLVP, VPP/E
 P.O. Box 2345, Baton Rouge, LA 70821
 (504) 343-1715
 Manager: Brooks Read

BURNS LOVIC BRYAN MEDIA GROUP
VFF, OLVP, VPP/E, APPV
 P.O. Box 2284, 402-404 Miller St.
 LaGrange, GA 30241
 (404) 884-00568
 Owner: B.L. Bryan
 Manager: Cathy Bryan

CATAWBA VALLEY CABLE T.V.
VFF, OLVP, VPP/E, APPV
 1121 Lenoir-Rhyne Blvd., Hickory, NC 28601
 (704) 322-3875
 Owner: Harns Communications
 Manager: Terry Tarleton

CDR CONSULTING PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 3086 Fennegan Ct., Woodbridge, VA 22192
 (703) 690-3869
 Owner: Christopher David Rogers
 Manager: Nancy B. Rogers

CELEBRATION PRODUCTIONS, INC.
OLVP
 16 Music Circle So., Nashville, TN 37203
 (615) 244-5766
 Owner: Randy Hale, Ned Ramage

CENTURY III TELEPRODUCTIONS
VPP/E, APPV
 5000 Eggleston Ave., Orlando, FL 32804
 (305) 297-1000
 Owner: Ross Cibella
 Manager: Oliver Peters
EQUIPMENT
 VTRs: Sony BVH 2000s, BVU 800s, BVW 10.
 Switchers/editors: Grass Valley 300s, CMX 3400s, Grass Valley 1000.
 Other major equipment: 24-track audio production with audio sweetening/mix-to-picture ADO, Viditext II.

CHANNEL ONE VIDEO TAPE, INC.
VFF, OLVP, VPP/E, APPV
 3341 N.W. 82nd Ave., Miami, FL 33122
 (305) 592-1764
 Owner: George Livingston
 Manager: Jay Van Dyke, Arthur Carson

CIMA PRODUCTIONS, INC.
OLVP, VPP/E
 1409 Grissom Ln., Blacksburg, VA 24060
 (703) 552-1208
 Owner: Robert Walker
 Manager: Robert Walker

CINE SYSTEMS
OLVP
 Media Farm RFD 3 Box 140, Charles Town, WV 25414
 (304) 725-0664, 725-1828
 Owner: Charles Vanderpool, Tim Wolfe, John Davis O'Brien

CITYSCAPE PRODUCTIONS
VFF
 3014 Colvin St. Ste. 200, Alexandria, VA 22314
 (703) 823-5505
 Owner: Capital Investors Partnership
 Manager: Edward O. LeRoy

TESTED. PROVEN.

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

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

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

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

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

Tom Whisner (owner) MANTICORE

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

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

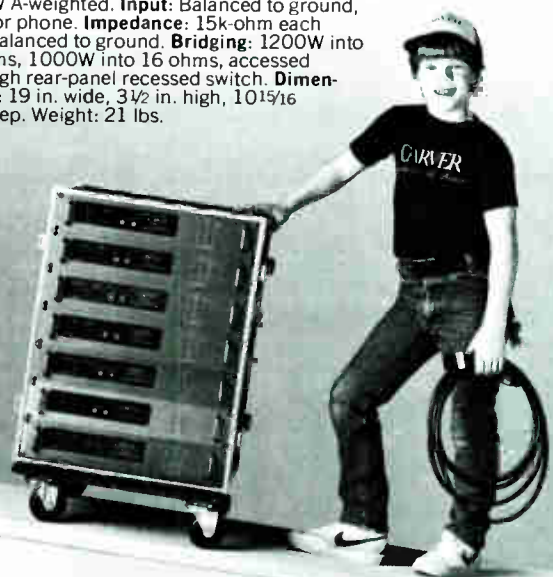
"The amplifier delivered a clean 480 watts per channel into 8-ohm loads with both channels driven for its rated harmonic distortion level of 0.5%. Even at the frequency extreme of 20 Hz. power output for rated THD was 470 watts as against 450 claimed by Carver. Furthermore, at rated power output, distortion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

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

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

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

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



CARVER

POWERFUL

MUSICAL

ACCURATE

For more information write to CARVER CORPORATION, 19210 33rd Avenue West, P.O. Box 1237, Lynnwood, WA 98046

Circle #122 on Reader Service Card

G. CIVINS PRODUCTION
VPF, OLVP, VPP/E
9900 W. Sample Rd. Ste. 334, Coral Springs, FL 33065
(305) 752-8300
Owner: Gary Civins
Manager: Gary Civins

COLLEGE OF COMMUNICATION & FINE ARTS
VPF, OLVP, VPP/E
Memphis State University, Memphis, TN 38152
(901) 454-2350
Owner: State of Tennessee
Manager: Richard R. Ranta

COMMONWEALTH FILMS, INC.
VPP/E
1500 Brook Rd., Richmond, VA 23220
(804) 649-8611
Owner: Roger Robison, David Williams

COMMUNICATIONS CONCEPTS, INC.
VPF, OLVP, VPP/E
4597 Parkbreeze Ct., Orlando, FL 32810
(305) 297-9097
Owner: Richard H. Stottler, Jr.
Manager: Steve R. Kartholl

COMMUNICATIONS CONCEPTS, INC.
VPF, OLVP, VPP/E
7980 N. Atlantic Ave., Cape Canaveral, FL 32920
(305) 783-5232
Owner: Richard H. Stottler, Jr.
Manager: Jim Lewis

COMPRO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
2080 Peachtree Ind. Ct. #114, Atlanta, GA 30341
(404) 455-1943
Owner: Nels Anderson, Kim Anderson, Steve Brinson
Manager: Kim Anderson

CONTINENTAL FILM PRODUCTIONS CORP.
VPF, OLVP, VPP/E
4220 Annicola Hwy., Chattanooga, TN 37406
(615) 622-1193
Owner: James E. Webster

CONTI STUDIO
APPV
P.O. Box 970, Edgewater, FL 32032
(904) 427-2480
Owner: Conti Family Ent.
Manager: Dick Conti

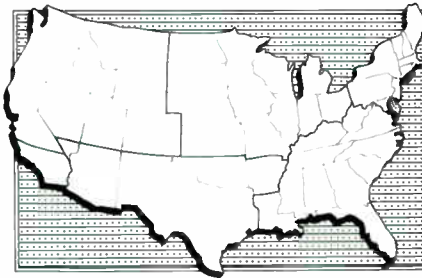
CORPORATE MEDIA COMMUNICATIONS
VPF, VPP/E, APPV
1530 Cooledge Rd., Tucker, GA 30085
(404) 491-6300
Owner: Harry Hallman
Manager: Video-Bill Orsich

CRAWFORD POST PRODUCTION, INC.
VPP/E, APPV
535 Plasamour Dr. N.E., Atlanta, GA 30324
(404) 876-7149, 800-831-8027
Owner: I.C. Crawford
Manager: Janis Koplin

CUSTOM VIDEO
VPF, OLVP, VPP/E
1401 W. Paces Renny Rd. E-115, Atlanta, GA 30327
(404) 231-3585
Owner: Jim Rocco
Manager: Jim Rocco

DUTCHMAN'S FINGER VIDEO
VPF, OLVP, VPP/E
Box 3065, Greenville, NC 27836
(919) 758-2121
Owner: Jake Postma
Manager: Jake Postma

EASY ST. PRODUCTIONS
VPF, OLVP, VPP/E, APPV
P.O. Box 220727, Charlotte, NC 28222
(704) 365-3468
Owner: John Autry
Manager: John Autry



SOUTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

EDUCATIONAL TELEVISION BRANCH
VPF, OLVP, VPP/E, APPV
ATZB-DPT-TASC-ETV Bldg. 4 Ft. Benning, GA 31905
(404) 545-1986
Owner: U.S. Army/Govt.

THE E.F.X. COMPANY
VPF, OLVP, VPP/E
2300 S. Ninth St., Arlington, VA 22204
(703) 486-2303
Owner: Incorporated
Manager: WP. Fowler

ENCORE VIDEO PRODUCTIONS, INC.
VPF, OLVP, VPP/E
933 Hwy. 501, Myrtle Beach, SC 29577
P.O. Box 3706, Myrtle Beach, SC 29578
(803) 448-9900
Manager: David Haskell

ENSEMBLE PRODUCTIONS
OLVP, VPP/E
P.O. Box 2332, Auburn, AL 36831
(205) 826-3045
Owner: Barry J. McConatha, R. David O'Shields
Manager: Barry J. McConatha, R. David O'Shields

E-SYSTEMS MELPAR DIVISION
VPF
7700 Arlington Blvd., Falls Church, VA 22031
(703) 560-5000
Manager: Susan Love

EXTRA SENSORY PRODUCTIONS
OLVP
Box 11377, Richmond, VA 23230
(804) 746-9139
Owner: Martin Gary
Manager: Martin Gary

FAITH PRODUCTIONS
VPF, OLVP, VPP/E, APPV
1441 Guthrie Dr., Cleveland, TN 37311
(615) 472-3361
Owner: Church of God
Manager: Mike Baker

FILM AMERICA, INC.
VPF
3132 Randolph Rd. N.E., Atlanta, GA 30345
(404) 261-3718
Owner: Avrum Fine
Manager: Glenn Maffett

FLORIDA MUSIC RESOURCES
APPV
P.O. Box 1483, Winter Park, FL 32790
(305) 896-0115, 323-7855
Owner: Michael Redman, Alain Leroux

FLORIDA PRODUCTION CENTER INC.
VPF, OLVP, VPP/E, APPV
150 Riverside Ave., Jacksonville, FL 32202
(904) 354-7000
Owner: Ted S. Johnson
Manager: Mike Minnock

PAUL FRENCH & PARTNERS, INC.
VPF, OLVP, VPP/E, APPV
Rt. 5 Box 285, Gabbettville Rd., LaGrange, GA 30240
(404) 882-5581
Owner: Paul French
Manager: Paul French

GENERAL CINEMA SERVICE
VPF, OLVP
P.O. Box 399, Bayamon, PR 00621
(809) 785-2549
Owner: Francisco Reyes Lourido
Manager: Madeline Caparros

GEORGIA GAFFERS/BLAKE FILMS INC.
OLVP
1175 West Ave. S.W., Atlanta, GA 30315
(404) 688-4014, (800) GAFFERS
Owner: Benjamin Blake
Manager: Eric Molfond

GEORGIA-PACIFIC TELEVISION
VPF, OLVP, VPP/E, APPV
133 Peachtree St. N.E., Atlanta, GA 30303
(404) 521-5690
Owner: Georgia-Pacific Corporation
Manager: Don Blank

GNTV
VPF, OLVP, VPP/E
P.O. Box 2637, Macon, GA 31203
(912) 745-2366
Owner: United Methodist Church
Manager: Donald R. Wood

GREAT SOUTHERN STUDIOS
VPF
15221 N.E. 21st Ave., N. Miami Beach, FL 33162
(305) 947-0430
Owner: Jeffery H. Gillen
Manager: Bettina August

GUVNUR PRODUCTIONS
VPF, OLVP, VPP/E
4607 Daleville St., Roanoke, VA 24012
(703) 563-5585
Owner: Michael J. Howard
Manager: Michael J. Howard

HAPPY FACES PRODUCTIONS
VPF, OLVP, VPP/E, APPV
419 Lanier Lane, Winter Haven, FL 33880
(813) 324-3487
Owner: Charlie Massey

HARRIS-CHEWNING PRODUCTIONS
OLVP
Rt. 7 Box 29, Chapel Hill, NC 27514
(919) 933-0545, 942-7997
Owner: C. Alton Chewning, Suzanne L. Harris

IMAGES INC.
VPF, OLVP, VPP/E, APPV
1662 Stockton St., Jacksonville, FL 32204
(904) 388-3300
Owner: John Reitzammer
Manager: Charles Barth

JERNIGAN'S MOTION PICTURE & VIDEO SERVICE
VPF, OLVP, VPP/E
3019 N.E. 20th Way, Gainesville, FL 32609
(904) 372-9691
Owner: Earl R. Jernigan
Manager: Earl R. Jernigan

J.T. PRODUCTIONS
VPF, OLVP
3215 N.W. 46th Ave., Gainesville, FL 32605
(904) 373-5093
Owner: John W. Thorne Jr.

R.C. KREIDER STUDIO
VFF, VPP/E
13105 Pennerview Lane, Fairfax, VA 22033
(703) 378-6697
Owner: R.C. Kreider
Manager: R.C. Kreider

KUDZU PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
4415 Evangel Circle, Huntsville, AL 35816
(205) 830-4332
Owner: Charley Burruss
Manager: John Taylor

LANPHER PRODUCTIONS
VFF, APPV
865 Monticello Ave., Norfolk, VA 23510
(804) 627-3051
Owner: Keith Lanpher
Manager: Keith Lanpher

LECHE SOUND
APPV
Box 121702, Nashville, TN 37212
(615) 321-5479
Owner: Carl Tatz and Larry Lee
Manager: Carl Tatz and Larry Lee

LEDFOORD PRODUCTIONS INC.
VFF, OLVP, VPP/E, APPV
P.O. Box 7363, Furnitureland Station
High Point, NC 27264
(919) 454-4130
Owner: Hank Ledford

LI'L WALLY MUSIC PRODUCTIONS
VFF, OLVP, VPP/E, APPV
35 N.E. 62nd St., Miami, FL 33138
(305) 758-0000

LOCONTO PRODUCTIONS/
FXL SOUND STUDIOS, INC.
VFF, OLVP, VPP/E, APPV
7766 N.W. 44th St., Sunrise, FL 33321

(305) 741-7766
Owner: Frank X. Loconto
Manager: Phyllis Finney Loconto

LONG LENS LTD.
OLVP, VPP/E
7724 S.W. 171st Terr., Miami, FL 33157
(305) 233-3770
Owner: Douglas Twinam

LOUISVILLE PRODUCTIONS
VFF, OLVP, VPP/E, APPV
520 W. Chestnut St., Louisville, KY 40202
(502) 582-7745
Owner: WHAS
Manager: E.F. Shadburne

LP PRODUCTIONS, INC.
OLVP, APPV
3352 B So. Wakefield St., Arlington, VA 22206
(703) 998-7841
Owner: Malcolm E.L. Peplow
Manager: Martha B. Peplow

MATTINGLY PRODUCTIONS, LTD.
VFF
10100 Main St., Fairfax, VA 22031
(703) 385-6625
Owner: Grayson Mattingly, Suzanne Fisher Mattingly
Manager: Grayson Mattingly, Suzanne Fisher Mattingly

McKINNEY VIDEO PRODUCTIONS INC.
VFF, OLVP, VPP/E, APPV
P.O. Box 976, Ellijay, GA 30540
also, Browns Bridge Rd., Chatsworth, GA 30705
(404) 276-2412, 695-4292
Owner: Doyle D. McKinney

MEDIA MODES, INC.
VFF
Ste. 217, Westside Mailman, Gainesville, FL 32601
(904) 373-4064
Owner: M. Maple
Manager: M. Fonst

MEMPHIS COMMUNICATIONS CORPORATION
VFF, OLVP, VPP/E, APPV
1381 Madison Ave., P.O. Box 41735
Memphis, TN 38174
(901) 725-9271
Owner: Dean W. Berry Jr.
Manager: Tom Bryan Jr.

METCALFE FILM & VIDEO PRODUCTIONS
VFF, OLVP, VPP/E, APPV
3709 Locksley Dr., Birmingham, AL 35223
(205) 967-1661
Owner: Charlie Metcalfe
Manager: Charlie Metcalfe

METROTAPE PRODUCER SERVICES, INC.
VFF, OLVP, APPV
3423 South Blvd., Charlotte, NC 28209
(704) 525-2251
Owner: Monroe C. Brinson
Manager: Randy H. Mullis

MOUNTAIN EAR PRODUCTIONS
OLVP
P.O. Box 77, Mountain City, TN 37683
(615) 727-5070
Owner: Ralph Nielsen
Manager: Ralph Nielsen

MURDOCK PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
Rt. 1 Box 95, Dry Prong, LA 71423
(318) 640-4992
Owner: Dennis Murdock
Manager: Mary Murdock

MUSIFEX INC.
APPV
2420 Wilson Blvd., Arlington, VA 22201
(703) 525-6476
Manager: Rich West

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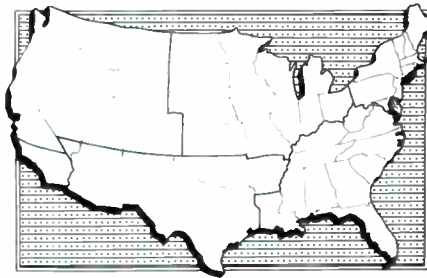
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Indianapolis, IN 46219
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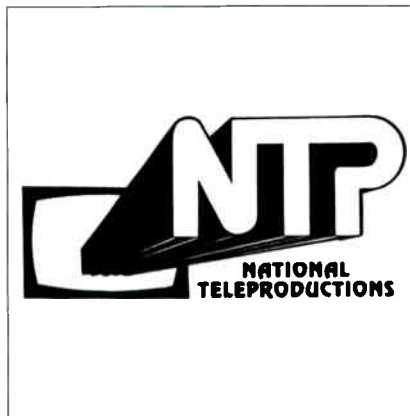
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SOUTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

NASCAM, INC.
VPF, OLVP, VPP/E, APPV
P.O. Box 415, Hilliard, FL 32046
(904) 845-4866
Owner: Oases Productions
Manager: David L. Nicholas



NATIONAL TELEPRODUCTIONS, INC.
West Palm Beach, FL

NATIONAL TELEPRODUCTIONS, INC.
VPF, OLVP
1750 N. Congress Ave. Ste. #205, West Palm Beach, FL 33401
(305) 689-9271
Owner: R.M. Peterson
Manager: M.F. Eddy

EQUIPMENT
Synchronizer: MCI, Quantel Framestore.
VTRs: Portable: all formats; Studio: M-format and 3/4-inch.
Switchers/editors: Grass Valley 100.
Cameras: (3) Recams, Ikegami.
Audio recorders: Sony, Nakamichi.
Audio mixers: Yamaha, Tascam.
Other major equipment: All equipment and off-line editing on 24-foot mobile unit.
Rates: Based on Fax requested.
Direction: Recent clients: HBO, Atlantic Television, Sandy Frank Prod., Ripley's, PBS. NTP specializes in location production, 1-4 cameras, iso or switched, portable or mobile unit based, all formats. Video assist fax for 16mm and 35mm film trade.

NEW AGE SIGHT & SOUND
VPF, OLVP, VPP/E, APPV
Ste. 164, 120 Inter-State North Pkwy East
Atlanta, GA 30339
(404) 956-7956
Owner: Media Assoc. Limited
Manager: William Allgood

NICHOLAS COMMUNICATIONS
VPF, OLVP, APPV
Ste. 804, 5340 Holmes Run Pkwy.
Alexandria VA 22304
(703) 823-1680
Owner: Stephen J. Nicholas
Manager: F. Denise Delgandio

OCHOA RECORDING STUDIOS, INC
APPV
GPO Box 3002, San Juan, PR 00936
(809) 754-6363
Owner: Tony Ochoa, Jack Sherdel
Manager: Tony Ochoa

EQUIPMENT
Synchronizer: (2) Audio Kinetics Q.Lock.
VTRs: (3) JVC 8250, Ampex VPR 80.
Video Monitors: Sony 25-inch Profeel
Audio recorders: Ampex ATR100s, MM1200 24-track; MCI 4-track.
Audio mixers: API 28 x 32, API 30 x 24, Sound Workshop 8 x 8, 28 x 24.
Other major equipment: Total equipment package for location recording for film and video (stereo Nagra), SFX Compact Disc. 35mm and 16mm film-to-tape transfers.
Direction: Audio post-production for film, video.



OLIVERIOMUSIC, INC.
Atlanta, GA

OLIVERIOMUSIC, INC.
APPV
750 Ralph McGill Blvd. N.E., Atlanta, GA 30312
(404) 525-4440
Owner: James Oliverio
Manager: Richard B. Burgess

EQUIPMENT
Synchronizer: Cipher Digital Softouch/Shadow.
VTRs: Sony 5800.
Switchers/editors: Off-line 3/4-inch editing available.
Audio recorders: Otari MX-70 16-track, MTR-10 w/center-track time code.
Audio mixers: Amek Scorpion 24 x 16 x 2.
Other major equipment: State-of-the-art SMPTE/MIDI system with a full range of synthesizers including Emulator II/Macintosh, DX7s, Matrix 12, LinnDrum, etc.
Direction: OliverioMusic specializes in innovative sound design and music scoring for broadcast, film and corporate productions. We pre- or post-score to your rough-cut or finished 3/4-inch video and provide a 1/4-inch audio master with code for layback to your 1-inch master—in sync, on time and at budget. Our clients include national agencies, production companies and corporate accounts. Write or call for rates and credits. Let us "Paint Your Pictures with Music."

OMNI PRODUCTIONS
OLVP
1117 Virginia St. E., Charleston, WV 25301
(304) 342-2624
Owner: Robert F. Gates
Manager: Robert F. Gates

PAT PATRICK PRODUCTIONS
APPV
1708 Grand Ave., P.O. Box 120516
Nashville, TN 37212
(615) 327-0520
Owner: Pat Patrick
Manager: Pat Patrick

POSITIVE IMAGE PRODUCTIONS, INC.
OLVP, VPP/E
 4900 Leesburg Pike, Ste.206, Alexandria, VA 20902
 (703) 820-3111
 Owner: John N. Robbins, Jr.

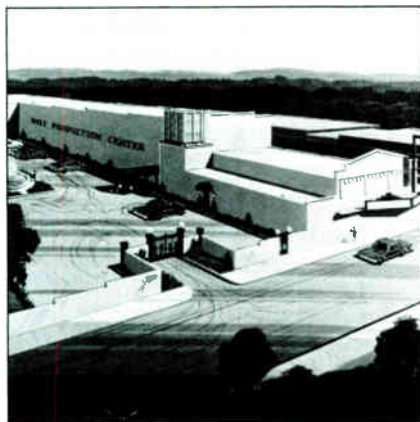
PRODUCTION WORKS
VFF, OLVP, VPP/E, APPV
 P.O. Box 2625, Birmingham, AL 35202
 (205) 870-6767
 Owner: Southern Company Services, Inc.
 Manager: George Pirkle

PROFESSIONAL BROADCAST PROD. INC.
OLVP, APPV
 3224 W. Kennedy Blvd., Tampa, FL 33609
 (813) 877-7125
 Owner: Melvin A. Berman
 Manager: Ginny Berman

PROGRESSIVE MUSIC STUDIOS
APPV
 2116 Southview Ave., Tampa, FL 33606
 (813) 251-8093
 Owner: Ken Veenstra
 Manager: Ken Veenstra

QUADRADIAL CINEMA CORP.
APPV
 14203 N.E. 18th Ave., North Miami, FL 33181
 (305) 940-7971
 Owner: Robert Ingria and Mary Shahan
 Manager: Robert Ingria

REMOTE AUDIO PRODUCTION SERVICES
OLVP
 4410 Park Ave., Nashville, TN 37209
 (615) 297-0513
 Owner: Al Craig



ROXY PRODUCTION CENTER
 Nashville, TN

ROXY PRODUCTION CENTER
VFF, OLVP, VPP/E, APPV
 827 Meridian St., Nashville, TN 37207
 (615) 227-0920
 Owner: RRT, Incorporated
 Manager: Allen Keller
EQUIPMENT
 Synchronizer: Leader.
 VTRs: Sony 5850s, JVC 4700s.
 Video Monitors: Sony, Panasonic, NEC.
 Switchers/editors: Crosspoint Latch 6139, Paltex ABR-1 digital.
 Cameras: Sony M3, M3A.
 Audio recorders: MCI 24-track, Ampex 1, 2-, 3-, 4-, 8-track machines.
 Audio mixers: MCI, Neumann consoles.
 Other major equipment: EMT reverb, audio outboard;
 Sony computer graphics, Chyron, E-Flex, Fairlight digital effects, 125 assorted microphones.
 Rates: Audio: \$70-125/hr. Video: \$150-\$350/hr. for production.
 Direction: Nashville's only full facility audio-video production house specializing in broadcast 3/4-inch video with 24-track audio support. Clients: MTV, Dupont Chemical, G. Heileman Brewing Co. Training, marketing, syndication, commercials and music videos. The Roxy conducts a monthly Music Career Workshop for interns. Four week course.

SADLER PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
 103 Bossier Crossroads, Bossier City, LA 71111
 (318) 742-3451
 Owner: Bill F. Sadler
 Manager: Steve Sadler

SANDCASTLE RECORDING STUDIO
OLVP, APPV
 Wade Hampton Mall Ste 109, Greenville, SC 29609
 (803) 235-1111
 Owner: Christopher Cassels, Rick Sandidge, Rob Cassels
 Manager: Patrick Blackwell

SCREEN ENTERTAINMENT OF AMERICA
OLVP
 124 Eleventh St., Miami Beach, FL 33139
 (305) 534-3484
 Owner: Gary Sales

SHOOTING STAR MOBILE TELEVISION
OLVP
 Box 3048, Tallahassee, FL 32315
 (904) 893-2623
 Owner: John H. Phipps, Inc.
 Manager: Jan E. Rogers

SIGHT SONG INTERNATIONAL, INC.
VFF, OLVP, VPP/E, APPV
 1158 Fifth St., Clermont, FL 32711
 (904) 394-4900
 Owner: Chere Roane
 Manager: Glen Lowery

SMALL WONDER STUDIO
OLVP, VPP/E
 1813 Lombardy Ave., Nashville, TN 37215
 (615) 298-1545
 Owner: Mark Pleasant
 Manager: Mark Pleasant

SONICS ASSOCIATES, INC.
APPV
 237 Oxmoor Circle, Birmingham, AL 35209
 (205) 942-9631
 Owner: Lynn A. McCroskey

MARK SOSIN PRODUCTIONS
OLVP
 681 S.W. 15th St., Boca Raton, FL 33432
 (305) 368-5556
 Owner: Mark Sosin
 Manager: Susan Keats

SOUTHEAST AUDIO SERVICES
APPV
 1791 Blount Rd. #206, Pompano Beach, FL 33060
 (305) 974-1500
 Owner: Joe Foglia
 Manager: Ginny Moro

SOUTHERN PRODUCTIONS, INC.
VFF, OLVP, VPP/E
 900 Division St., Nashville, TN 37203
 (615) 248-1978
 Owner: Lynn Bennett
 Manager: Alice Mader

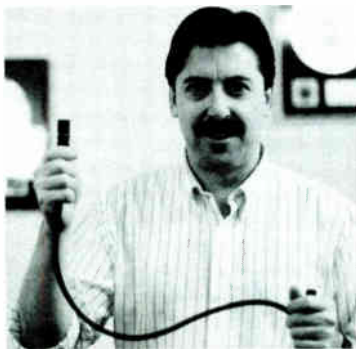
SOUTHLAND VIDEO PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
 655H Pressley Rd., Charlotte, NC 28210
 (704) 523-3121
 Owner: Southland Video Productions, Inc.
 Manager: Becki Tyrrell

STUDIO III
VFF, OLVP, VPP/E
 240 Mustang Trail Ste. 6, Virginia Beach, VA 23452
 (804) 498-1010
 Owner: Rick Tamburino
 Manager: Sandy White

SYNDISTAR, INC.
VFF, OLVP, VPP/E, APPV
 648 Hickory Ave., New Orleans, LA 70125
 (504) 737-4486
 Owner: Greg Fox
 Manager: Ralph Behrman

TAMPA CABLE TELEVISION
VFF, OLVP, VPP/E
 4400 W. Buffalo Ave., Tampa, FL 33614
 (813) 877-6805
 Owner: Tribune Cable
 Manager: Kenneth Cheek

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We invite you to hear the difference that our "TIME-COMPENSATED" cables can make in every part of your recording and playback system.

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You've probably heard about these cables that actually let your microphones and other equipment sound significantly better. Now take advantage of this special offer and find out just how much better your own recording chain can sound.

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100 foot bulk spool	2 for \$600.00

limit 6 cables per customer

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101 TOWNSEND ST., SAN FRANCISCO, CALIFORNIA 94107
 415/777-1355 TELEX 470584 MCSYU1 FAX 415/896-1745

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TELE-VIDEO PRODUCTIONS
VFP, OLVP, VPP/E
 157 Nottingham Trail, Newport News, VA 23602
 (804) 874-0337
 Owner: George Triolet
 Manager: Sandra Triolet

TREASURE COAST PROD.
VFP, OLVP, VPP/E, APPV
 690 S.E. Monterey Rd., Stuart, FL 33497
 (305) 286-5759
 Owner: Billy Elkins
 Manager: Billy Elkins

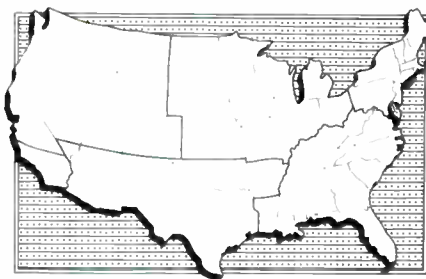
TRI-COMM PRODUCTIONS, INC.
OLVP
 110 Executive Center, Hilton Head, SC 29938
 (803) 842-5656
 Owner: William J. Robinson, Stuart R. Silver
 Manager: Mark E. Mooney

TRI STAR PRODUCTIONS
VFP, OLVP, VPP/E, APPV
 2416 Frankfort Ave., Louisville, KY 40206
 (502) 895-5146
 Owner: Andersen Associates
 Manager: Fredrick Kaestner Jr.

USAU NETWORK, INC.
OLVP
 8352 State Rd. 84, Ft. Lauderdale, FL 33324
 (305) 473-1272
 Owner: Raymond W. Franklin
 Manager: Raymond W. Franklin

VIA, INC.
VFP
 106 N. Avondale Rd., Avondale Estates, GA 30002
 (404) 294-0900
 Owner: G.J. Guthrie Nicholson III
 Manager: Doug Mayor

I VIDEO PRODUCTIONS
VFP, OLVP, VPP/E, APPV
 22 Ballard St., P.O. Box 461, Yorktown, VA 23690
 (804) 898-2932
 Owner: J. Timothy Ivy
 Manager: J. Timothy Ivy



SOUTHEAST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VFP (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

VIDEO IMAGE PRODUCTION
VFP, OLVP, VPP/E, APPV
 Box 1945, 808 Live Oak Dr.
 Chesapeake, VA 23320
 (804) 420-4592
 Owner: William Cox
 Manager: William Cox

VIDEO VENTURES PRODUCTIONS, INC.
VFP, OLVP, VPP/E
 16505 N.W. 13th Ave., Miami, FL 33169
 (305) 621-5266
 Owner: Jim Duffy, Kns Duffy, Alec Courtelis, Pan Courtelis
 Manager: Jim Duffy

VIDEO VISION PRODUCTIONS, INC.
VFP, OLVP, VPP/E, APPV
 6851 Yumuri St. Ste. 12, Coral Gables, FL 33146
 (305) 666-1799
 Owner: Charles Castilla
 Manager: Mike McNaughton

VIDEO WORKSHOP, INC.
VPP/E
 2400 W. Cypress Creek Rd. Ste. 205
 Fort Lauderdale, FL 33309
 (305) 491-1244
 Owner: David B. Bawarsky
 Manager: Steven Libowitz

VIDEOFONICS, INC.
VFP, OLVP, VPP/E, APPV
 1101 Downtown Blvd., Raleigh, NC 27603
 (919) 821-5614

Owner: Larry Gardner
 Manager: Bill Blankinship
EQUIPMENT
 Synchronizer: Various
 VTRs: (5) 1-inch, (2) 2-inch, 1-inch portable, numerous ¾-inch, VHS and Beta for duplication.
 Video Monitors: Various
 Switchers/editors: Convergence 204, Intergroup 904, Convergence ECS-90.
 Cameras: NEC SP3A CCD, Sony M3, Arriflex II, NEC MNC-71.
 Audio recorders: 24-, 16-track, (2) 8-track, ½-inch 2-track, numerous ¼-inch full-track, ½- and ¼-track.
 Audio mixers: 28 x 4, 16 x 8, 12 x 4.
 Other major equipment: Bosch FGS-4000 computer animation system, Ultimatte 4, ADO-2000, E-Flex II, (3) video color correctors, and more.
 Rates: Excellent.
 Direction: Complete services and facilities for production and post-production of video, film, computer animation/graphics, audio/video duplication, music, and audio. Strong emphasis in special effects and compositing live action and computer generated images.

VIDFILM SOUTHEAST, INC.
OLVP
 114 E. Franklin St., Richmond, VA 23219
 (804) 788-6713
 Owner: Jon Nelson

VIRGINIA ARTS
APPV
 Box 800, Louisa, VA 23093
 (703) 967-2245
 Owner: R. Paul Brier
 Manager: R. Paul Brier

VISIBILITY
OLVP
 4512 Southampton Rd., Richmond, VA 23235
 (804) 323-3810
 Owner: Stephen Berry
 Manager: Mary Leath

VISION PRODUCTIONS
VFP, OLVP, VPP/E
 1500 N. State Rd. 7, Margate, FL 33063
 (305) 972-0660
 Manager: Rick Greenlee

WJTC-TV
VFP, OLVP, VPP/E, APPV
 700 S. Palafox St., Pensacola, FL 32501
 (904) 438-4444
 Owner: Carnex TV Inc.
 Manager: Tom Eaton

WNOL-TV
VFP, OLVP, VPP/E
 1661 Canal St., New Orleans, LA 70112
 (504) 569-0980
 Owner: Channel 38 Associates
 Manager: Paul C. Seas

YES PRODUCTIONS
VFP, OLVP, VPP/E
 916 Navarre Ave., New Orleans, LA 70124
 (504) 486-5511
 Owner: WYES-TV
 Manager: Michael LaBonia

ZIMMER PRODUCTIONS LTD.
OLVP
 P.O. Box 430, Palm Beach, FL 33480
 (305) 845-0211
 Owner: Todd Zimmer

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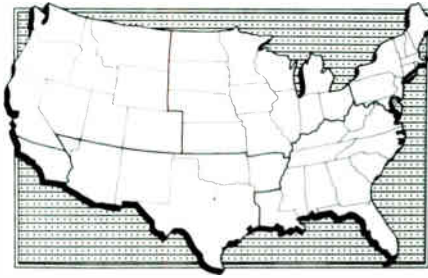
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A² PRODUCTIONS
VFP, OLVP, APPV
P.O. Box 6633, Omaha, NE 68106
(402) 556-2460
Owner: Andy Anderson

ALLOY PRODUCTIONS
OLVP
595 Andrew Ln., Lake Zurich, IL 60047
(312) 540-8558
Owner: Mark Kernes

A.M.S. LOCATION RECORDING
OLVP, VFP/E, APPV
P.O. Box 4354, St. Paul, MN 55104
(612) 645-9026
Owner: Jim Higbee
Manager: Jim Higbee

AUDIOCRAFT RECORDING CO.
OLVP, VFP/E, APPV
915 W. 8th St., Cincinnati, OH 45203
(513) 241-4304
Owner: E.T. Herzog, Jr.
Manager: T. Alvarado

AUDIO-VISUAL ASSOCIATES
OLVP, APPV
4760 E. 65th St., Indianapolis, IN 46220
(317) 253-8562
Owner: Bud Osborne
Manager: Linda Osborne

A VIDEO TAPE DUPLICATING LAB
VFP/E
21170 Bridge, Southfield, MI 48034
(313) 354-5440
Owner: Roxane Nusholtz

BACKWOODS FILMS
OLVP, APPV
P.O. Box 1831, Kettering, OH 45429
(513) 254-5299
Owner: D. Scott Morse, Carmel Morse
Manager: Carmel Morse

BBC 3 TELA PRODUCTIONS
OLVP
2704 Wicker Ave., Highland, IN 46322
(219) 923-8740
Owner: W.L.B. Productions, Inc.
Manager: K.A. Banister

BERGDORF & ASSOCIATES
VFP
66 S. Miller Rd., Akron, OH 44313
(216) 836-4886
Owner: Terry and Terrie Bergdorf

PAUL BERNARDS & ASSOCIATES
APPV
2692 N. Victoria St., St. Paul, MN 55113
(612) 484-4748
Owner: Paul D. Bernards

BEZORE PRODUCTIONS
OLVP, APPV
P.O. Box 2175, Madison, WI 53701
(608) 241-9169
Owner: Tom Naunas

BLODGETT MEMORIAL MEDICAL CENTER
VFP, OLVP, VFP/E
1840 Wealthy St. S.E., Grand Rapids, MI 49506
(616) 774-7786
Owner: Blodgett Memorial Medical Center
Manager: Charles T. Gilbert

BRAUER PRODUCTIONS
VFP, OLVP, VFP/E
402 Cass, Traverse City, MI 49684
(616) 941-0850
Owner: Richard Brauer
Manager: Richard Brauer

NORTH CENTRAL

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VFP (Video Production Facility); OLVP (On Location Video Production); VFP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

BRAUNCO VIDEO PRODUCTION INC.
VFP, OLVP, VFP/E
P.O. Box 236, 1125 Huntington Ave.
Warren, IN 46792
(219) 375-3148
Owner: Elaine B. Braun
Manager: L. Sue O'Brien

BRIGHT LIGHT PRODUCTIONS, INC.
VFP, OLVP, VFP/E, APPV
420 Plum St., Cincinnati, OH 45202
(513) 721-2574
Owner: Rocky Spalazzi

**AUTUMN BROOKE PRODUCTIONS/
CRAZY DOG STUDIO**
VFP, OLVP, VFP/E, APPV
Route 1 Box 305, Council Grove, KS 66846
(316) 767-5926
Owner: J.D. Baker
Manager: J.D. Baker

BULLER FILMS INC.
VFP
1053 N. Main St., Henderson, NE 68371
(402) 723-4737
Owner: Burton Buller

BURCH COMMUNICATIONS
OLVP, VFP/E, APPV
825 Forest Arms Lane, Mound, MN 55364
(612) 472-7426
Owner: Jack Burch
Manager: Joyce Olson

CENTEL VIDEO PRODUCTIONS, INC.
VFP, OLVP, VFP/E
1501 Woodfield Rd. Ste. 110W, Schaumburg, IL 60195
(312) 490-3270
Owner: Division of: Centel, Inc.
Manager: James J. Hurley III

CENTEL VIDEO PRODUCTIONS, INC.
VFP/E
2001 Spring Rd. Ste. 760, Oak Brook, IL 60521
(312) 850-4860
Owner: Centel Corporation
Manager: Peter J. Martino

CHAPMAN RECORDING STUDIOS
APPV
228 W. 5th, Kansas City, MO 64105
(816) 842-6854
Owner: Chuck Chapman
Manager: Chuck Chapman

CINCINNATI BELL CREATIVE SERVICES
VFP, OLVP, VFP/E
201 E. 4th St. Rm. 560, Cincinnati, OH 45202
(513) 397-8330
Owner: Cincinnati Bell, Inc.
Manager: Kyle A. Hill

CINECOM
P.O. Box 26126, Lansing, MI 48909
(517) 393-2555
Owner: Ron Harper
Manager: Ron Harper

CITY VIDEO PRODUCTIONS, INC
VFP, OLVP, VFP/E
225 Fencl Ln., Hillside, IL 60162
(312) 449-0434
Owner: Frank J. Kostka
Manager: Alan W. Lusk

CLASSIC VIDEO INC.
VFP, OLVP, VFP/E, APPV
2690 State Rd. Ste. 100, Cuyahoga Falls, OH 44223
(216) 928-7773
Manager: Jerry Patton, Bob Anderson

COMMUNICATIONS CORP. OF AMERICA
VFP
11 W. Illinois St., Chicago, IL 60610
(312) 467-9575
Owner: Fred Strauss
Manager: Wally Bock

COMPUTER VIDEO PRODUCTIONS
VFP, OLVP, VFP/E, APPV
1317 Clover Dr. S., Minneapolis, MN 55420
(612) 888-2388
Owner: Dean Suttliiff
Manager: David Swain

CREATIVE PRODUCTIONS, INC.
OLVP
221 N. LaSalle St., Chicago, IL 60601
(312) 332-4076
Owner: Leo Cummins
Manager: Mike Siskizwicz

DEL REY COMMUNICATIONS
VFP, OLVP, VFP/E
Box 42694, Chicago, IL 60642
(312) 655-0020
Owner: John R. Hamilton
Manager: John R. Hamilton

DELTAK INC.
VFP, OLVP, VFP/E, APPV
1751 W. Diehl Rd., Naperville, IL 60566
(312) 369-3000
Manager: Don Olynky

KEN EARL PRODUCTIONS
APPV
590 Buckingham Way, Bolingbrook, IL 60439
(312) 472-6550
Owner: Ken Earl
Manager: Ken Earl

EDCOM PRODUCTIONS, INC.
VFP, OLVP, VFP/E, APPV
26991 Tungsten Rd., Cleveland, OH 44132
(216) 261-3222, 261-3223
Owner: Joe Drabik
Manager: Joe (Bud) Maslach

EDITEL-CHICAGO
VFP, VFP/E, APPV
301 E. Erie, Chicago, IL 60611
(312) 440-2360
Owner: Scanline Communications
Manager: Lenard Pearlman

**EDUCATIONAL TELEVISION SERVICES
UNIVERSITY OF CINCINNATI MEDICAL CENTER**
VFP, OLVP, VFP/E, APPV
231 Bethesda Ave., Mail Location 573
Cincinnati, OH 45267
(513) 872-5652
Owner: University of Cincinnati
Manager: Danny N. Reeder

ENCYCLOPAEDIA BRITANNICA USA
VFP, VFP/E
310 S. Michigan Ave., Chicago, IL 60604
(312) 347-7421
Owner: Encyclopaedia Britannica
Manager: Rick Santangelo

FACET COMMUNICATIONS, INC.
VPF, OLVP, VPP/E
1223 Central Parkway, Cincinnati, OH 45214
(513) 381-4033
Manager: John T. Dominic

FAIR AMERICAN PRODUCTIONS
OLVP
2547 W. Fargo Ave., Chicago, IL 60645
(312) 465-4909
Manager: Ron Courtney

**THE FALCON-MOTION PICTURE/
VIDEO TAPE EDITING**
VPP/E
P.O. Box 1072, Evanston, IL 60204
(312) 935-5923
Owner: Theodore R. Norcutt

THE FILM HOUSE, INC.
VPF, OLVP, VPP/E
6058 Montgomery Rd., Cincinnati, OH 45213
(513) 631-0035
Owner: Ken Williamson
Manager: Lynn Thompson

THE FINISHING HOUSE
VPP/E
1635 W. Big Beaver, Troy, MI 48084
(313) 643-4666
Owner: Karen Gleason
Manager: Karen Gleason

FIRST GENERATION VIDEO PRODUCTIONS LTD.
VPF
P.O. Box 2104, Hutchinson, KS 67504
(316) 662-9262
Owner: Martha Slater
Manager: Martha Slater

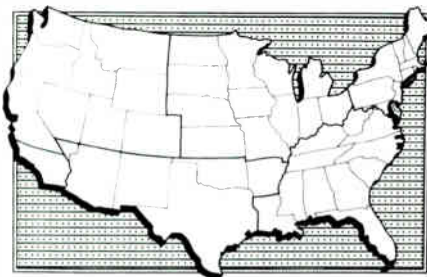
FORCES, INC.
OLVP
Box 3217, Aurora, IL 60505
(312) 357-3532
Owner: L.J. Magee
Manager: T. Johnson

GNOME PARK STUDIO
APPV
6460 Breamore Rd., Indianapolis, IN 46220
(317) 259-8075
Owner: Mike Moser
Manager: Mike Moser

GRACE & WILD STUDIOS, INC.
VPF, OLVP, VPP/E
23689 Industrial Park Dr.
Farmington Hills, MI 48024
(313) 471-6010
Owner: Harvey Grace, Steven Wild
Manager: Keith Neff
EQUIPMENT
Synchronizer: Shadow BTX, United Media.
VTRs: Sony BVH-2000s, BVH-1110As, BVH-1000s, BVW-40, BVU-800s, BVH-820s.
Video Monitors: Barcos, Tektronix, Ikegami.
Switchers/editors: Vital/Sony BVE-5000s.
Cameras: Ikegami EC-35s and HL79E.
Audio recorders: Magna-Tech (mag player/recorder), 4-channel; Otari, 2-channel 1/4-inch; MCI 2-, 4-, 8-track with computer interface.
Audio mixers: Quantum 8-channel in, 4-out; NEOTEK.
Other major equipment: ADO; Mirage; Squeezoom; Vidifont; (2) Rank Cintel telecines; Mark IIIIC w/XYZoom; Symbols computer graphics systems for painting, animation and 3-D rendering.
Rates: For quotes contact Mary Petryshyn: (313) 471-6010.
Direction: Grace & Wild Studios is a full-service video facility specializing in stage and remote production, editing and special effects, and film-to-tape transfers.

DELL GROSS MOTION/STILL PHOTOGRAPHY
OLVP
Rt. 1 Box 16, Pine City, MN 55063
(612) 629-7364
Owner: Dell Gross
Manager: Dell Gross

GRS, INC.
VPF, OLVP, VPP/E, APPV
13300 Broad St., Pataskala, OH 43062
(614) 927-9566
Manager: Steve Andrews



NORTH CENTRAL

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MARK GUNGOR PRODUCTIONS
VPF, OLVP, VPP/E, APPV
P.O. Box 387, 400 S. Central Ave.
Marshfield, WI 54449
(715) 384-4626
Owner: Mark Gungor
Manager: Mark Gungor
EQUIPMENT
Synchronizer: SMPL
VTRs: Sony VQ-5850 and 5800 3/4-inch VCRs.
Video Monitors: Videotek, Panasonic.
Switchers/editors: Panasonic, Sony.
Cameras: (2) Hitachi FP-21.
Audio recorders: Tascam 8816-B 16-track recorder, Tascam 234 4-track, Tascam 52 mastering, Technics 1500, Tascam 122 cassette deck.
Audio mixers: Ramco WR8816.
Other major equipment: Computer controlled MIDI, good mic assortment, DX7, LinnDrum, Apple II w/Passport Polywriter and MIDI 8 plus programs.
Rates: Production rates vary, post-production \$65/hr.
Direction: Recently produced "I Believe in Me" music video for '85 Grammy nominee Chris Swansen. Custom music scoring for film and video.

HEDQUIST PRODUCTIONS
APPV
1007 E. Madison, Fairfield, IA 52556
(515) 472-7416
Owner: Jeffrey Hedquist

PAUL HERMAN PRODUCTIONS
OLVP
7117 Blackburn Dr., Downers Grove, IL 60516
(312) 964-7020
Owner: Paul Herman
Manager: Paul Herman

IMAGE MASTERS OF DULUTH
VPF, OLVP, VPP/E, APPV
600 E. Superior St. Ste. 501, Duluth, MN 55802
(218) 727-5097
Owner: SRS, Inc.
Manager: Terrance R. Spooner

INDEPENDENT PROGRAMMING ASSOC., INC.
VPP/E
1208 W. Webster, Chicago, IL 60614
(312) 871-6033
Owner: Scott Jacobs, Tom Shea, Starr Sutherland
Manager: D.L. Bean

IN MOTION PRODUCTIONS
VPF, OLVP, VPP/E
5201 W. Donges Bay Rd., Mequon, WI 53092
(414) 242-0602
Owner: Bruce Resnick
Manager: Bruce Resnick

PAUL JACKSON CREATIVE
APPV
3115 Chaucer, St. Louis, MO 63114
(314) 427-8614
Owner: Paul E. Jackson, Sr.

JUDSON STUDIOS
VPF
3457 Granger Rd., Akron, OH 44313
(216) 666-1200
Owner: Robert H. Judson

BILL JUNTUNEN VIDEO PRODUCTIONS, INC.
VPF, OLVP, VPP/E
1728 St. Mary's St., St. Paul, MN 55113
(612) 645-8991
Owner: Bill Juntunen
Manager: Bill Juntunen

KAGAN BROADCAST, INC.
VPF, OLVP, VPP/E, APPV
1845 N. Farwell Ave., Milwaukee, WI 53202
(414) 291-9666
Owner: James J. Kagan
Manager: Daryle Susen Albert

KARTES VIDEO COMMUNICATIONS
VPF, OLVP, VPP/E, APPV
10 E. 106th St., Indianapolis, IN 46280
(317) 844-7403
Owner: Division of Scripps-Howard
Manager: Jim Kartes

KBA PRODUCTIONS
VPF, OLVP, VPP/E, APPV
110 Schiller Ste. 205, Elmhurst, IL 60126
(312) 279-8323
Owner: Paul Kelly
Manager: Paul Hanover

KIBBY-RAYNOR PRODUCTIONS
OLVP
7714 Forest Rd., Cincinnati, OH 45230
(513) 231-1599
Owner: Art Kibby, Dick Raynor

KLUGE COMMUNICATIONS, INC.
VPP/E, APPV
5350 W. Clinton Ave., Milwaukee, WI 53223
(414) 354-9490
Owner: Douglas W. Kluge
Manager: Julie Hill Metzner

KOCH/MARSCHALL PRODUCTIONS, INC.
OLVP
1718 N. Mohawk St., Chicago, IL 60614
(312) 664-6482
Owner: Phillip Koch, Sally Marschall
Manager: Phillip Koch

MARK LEE PRODUCTIONS
APPV
730 Hennepin Ste. 800, Minneapolis, MN 55403
(612) 333-2241
Owner: Michael S. Peterson

LESEA BROADCASTING
VPF, VPP/E
P.O. Box 12, South Bend, IN 46624
(219) 291-8200
Owner: LeSea Inc.
Manager: Peter Somrall

LIGHT PRODUCTIONS
VPF, OLVP
1915 Webster, Birmingham, MI 48008
(313) 642-3502
Owner: Terry Luke
Manager: Pat Vier

LONG RUN PRODUCTIONS
OLVP
1885 Larpenteur Ave., St. Paul, MN 55113
(612) 647-9089
Owner: Thomas Ingledew, Steve Risenhoover
EQUIPMENT
VTRs: Ampex/Nagra VPR-S 1-inch; Sony BVU-110 w/time code.
Video Monitors: Ikegami TM10-9HR w/D.C. option, Tektronix 1740 wfm/rec.
Cameras: Ikegami HL-79EAL w/remote.
Audio mixers: Shure FP-31.
Other major equipment: (2) Sony VHF wireless mics, Sennheiser 816 shotgun.
Rates: Call.
Direction: Program-length production for broadcast, mid- to high-end industrial production with single- to multi-camera capability.

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This coming November, during the AES Convention in Los Angeles, *Mix Magazine* will present the Second Annual TEC Awards Celebration. These awards, the results of nominations and voting by you, the readers of *Mix*, recognize outstanding technical and creative achievement in all aspects of recording and sound.

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- **TRIGGER** external events with true frame accuracy
- **GENERATE** SMPTE-compatible time code and user bits

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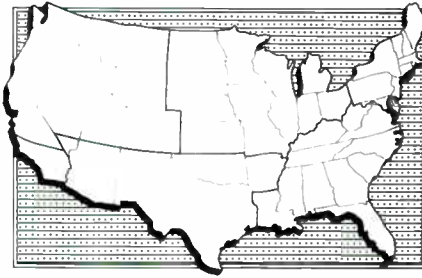
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for more information contact JIM MACK at:

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Plymouth, MI 48170
313-459-4618

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NORTH CENTRAL

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

MARITZ COMMUNICATIONS COMPANY

VPF, OLVP, VPP/E, APPV
1315 N. Highway Dr., Fenton (St. Louis), MO 63026
(314) 225-2768
Owner: Maritz Inc.
Manager: Gordon Reuss

MASTERPEACE PRODUCTIONS

VPF, OLVP, VPP/E, APPV
920 Ashland Dr., Cameron, MO 64429
(816) 632-7616
Owner: Steve Hendrix
Manager: Steve Hendrix

MEDIA GROUP TELEVISION

VPF, OLVP, VPP/E, APPV
7th Ave. & 23rd St., Moline, IL 61265
(309) 764-6411
Owner: Moline Gospel Temple
Manager: Chuck Olmstead

MEDIA SERVICES PRODUCTIONS

VPF, OLVP, VPP/E
1821 University Ave., St. Paul, MN 55104
(612) 645-0191
Owner: Marshall B. Jackson, Robert Jackson

MESHENDA PRODUCTIONS

VPF, OLVP, VPP/E, APPV
7615 Maryland, Chicago, IL 60619
(312) 651-7713
Owner: Lisa Williams
Manager: Lisa Williams

MIDWEST PRODUCTION GROUP, INC.

VPF, OLVP, VPP/E, APPV
312 S. 4th St. Ste. 3, Springfield, IL 62701
(217) 544-5244
Owner: Corporation
Manager: Scott Perry

MINDSIGHT

VPF, OLVP, VPP/E, APPV
2526 27th Ave. So., Minneapolis, MN 55406
Owner: Roger Kliezt
Manager: Roger Kliezt

MOKAN TELEPRODUCTIONS & PRODUCTIONS

VPF, OLVP, VPP/E, APPV
3101 Broadway, Kansas City, MO 64111
(816) 561-8844
Owner: David Riggs
Manager: Dan Israel

MORNINGSTAR VIDEO PRODUCTIONS

VPF, OLVP, VPP/E, APPV
3380 Tremont Rd., Columbus, OH 43221
(614) 459-1500
Owner: Discovery Systems
Manager: Joel G. Nagy

MOTION PICTURE MAKERS, INC.

VPF, OLVP
6660 28th St. S.E., Grand Rapids, MI 49506
(616) 949-5744
Owner: Ed Anderson, Thompson Clay

NELSON PRODUCTIONS INC.

VPF, OLVP, VPP/E, APPV
3929 N. Humboldt Blvd., Milwaukee, WI 53212
(414) 962-4445
Owner: David W. Nelson
Manager: Mary Ann Nelson

FRED A. NILES COMMUNICATIONS CENTERS, INC.

VPF
1028 W. Washington Blvd., Chicago, IL 60607
(312) 738-4181
Owner: Fred A. Niles
Manager: W.E. Harder

NLC PRODUCTIONS

OLVP
424 W. Minnesota Ave., P.O. Box 1075
Willmar, MN 56201
(612) 235-6404
Manager: Larry Huisings

NORTHWEST TELEPRODUCTIONS/CHICAGO

VPF, OLVP, VPP/E
444 N. Michigan Ave. #3653, Chicago, IL 60611
(312) 822-0444
Manager: Ted Sodergren

NORWEST COMMUNICATIONS INC.

VPF, OLVP, VPP/E, APPV
123 S. Hough St., Barrington, IL 60010
(312) 381-3271
Owner: Mark and Natalie Karney
Manager: Mark Karney

NSC PRODUCTIONS

VPF, OLVP, VPP/E, APPV
2317 Washington St., Two Rivers WI 54241
7061 Halstead Dr., Minneapolis, MN 55464
(414) 793-2335
Owner: Charles Birr
Manager: Charles Birr

O.A.K. PRODUCTIONS, INC.

VPF, OLVP
426 W. Barry, Chicago, IL 60657
(312) 242-3846
Owner: Janice Arthur
Manager: Janice Arthur

ON-LINE VIDEO

VPF, OLVP, VPP/E
720 E. Capitol Dr., Milwaukee, WI 53201
(414) 332-9611
Owner: WTM-TV
Manager: Dean Maytag

OPTIMUS, INC.

OLVP, VPP/E
161 E. Grand Ave., Chicago, IL 60611
(312) 321-0880
Owner: Jimmy Smyth
Manager: Ron Klyber

PARET VIDEO SERVICES

OLVP
32327 Crestwood Ln., Fraser, MI 48026
(313) 293-5460
Owner: William A. Paret Sr.
Manager: Brian Paret

PC SERVICES, INC.

VPF, OLVP, APPV
6410 Knapp N.E., Ada, MI 49301
(616) 676-1499
Owner: Michael Jackson

PEARL SOUND STUDIOS LTD.

APPV
47360 Ford Rd., Canton, MI 48187
(313) 455-7606
Owner: Ben Grosse

NOISE GATES GTX(d) or GTX(K)



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OMNI CRAFT INC.

Rt. 4 Box 40
Lockport, IL 60441
(815) 838-1285



Circle #129 on Reader Service Card

PINEBROOK RECORDING STUDIOS, INC.
APPV
Box 146, State Rd. 9 South, Alexandria, IN 46001
(317) 724-7721
Owner: Bill Gaither, Randy Hammel, Everett Daniels
Manager: Randy Hammel

PLUM RECORDING & PRODUCTIONS
APPV
5988 Silverylane, Dearborn Hgts., MI 48127
(313) 277-0082
Owner: Tom Trip and Gene Gavni
Manager: Tom Trip and Carol Mendford



POST EFFECTS
Chicago, IL

POST EFFECTS
VFP, OLVP, VPP/E, APPV
528 N. Michigan, Chicago, IL 60611
(312) 644-0903
Owner: Mike Fayette
Manager: Joyce Brady

EQUIPMENT
VTRs: Sony BVH-500 1-inch, BVU-100 3/4-inch, BVV-1A Betacam, BVH-2000 1-inch, BVU-820 3/4-inch, more.
Switchers/editors: Grass Valley Model 100; Ross 508 and Grass Valley switchers in suites, GVC/ISC41 editing systems.
Cameras: (2) Ikegami HL-95 unicams and Ikegami HL-79 cameras with full CCUs.
Audio mixers: Full sound, intercom, lighting and support gear and mobile van.
Other major equipment: Dubner CBG-2 graphics, Alias/1 3-D animation, Quantel Paint Box, dual Sony BVH-2500 1-inch single frame VTRs, Lyon/Lamb VAS Delta animation controller, (2) IMC 3565 motion control computers, aerial image slide x-lers, (2) on-line suites, automated mixing, Chyron and Dubner character generators, off-line VHS editing, Ampex ADO w/Digimatte, NEC E-Ilex/Optiflex perspective/rotation DVE, Abekas A62 digital VTR, ADDA ESP-2 still store, Ultimatte IV and 40x 26 x14 stage with 180° hard cyc.
Rates: Please call.

POST PRO VIDEO
VPP/E
225 N. Michigan Ave., Chicago, IL 60001
(312) 853-6050
Owner: Jack Weinberg
Manager: Larry Karoff

POSTIQUE INC.
VPP/E
23475 Northwestern Ave., Southfield, MI 48075
(313) 352-2610
Manager: Bernie Green

PREMIER FILM, RECORDING & VIDEO CORP.
VFP, OLVP, VPP/E, APPV
3033 Locust St., St. Louis, MO 63137
(314) 531-3555
Owner: Wilson Dalzell
Manager: Grace Dalzell

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KANSAS CITY, MISSOURI 64111

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Manufacturing Plant: D-3002 Wedemark, West Germany

Circle #131 on Reader Service Card



PRODUCERS COLOR SERVICE, INC.
Southfield MI

PRODUCERS COLOR SERVICE, INC.
VIDEO COMMUNICATIONS DIVISION
VPF, OLVP, VPP/E, APPV
24242 Northwestern Hwy., Southfield, MI 48075
(313) 352-5353

Manager: Bruce Calmer
EQUIPMENT
Synchronizer: EECO, Time-Lynx.
Switchers/editors: (4) CDL 480; GVG 300/3.
Cameras: (2) Sony BVP-3; Ikegami EC35, ITC 730; Bosch FDL60 telecine.

Audio recorders: Ampex MM-1200, ATR-100; MCI 110B; Otari MTR-90 II, MTR-20, MTR-12; Dolby and dbx noise reduction.

Audio mixers: Solid State Logic SL-4000B, 24-channels and SL-6000E, 32-channels (computer assisted consoles).
Other major equipment: (5) on-line edit salons (CMX 3400/3400 A-M²); (3) ADOs; 2-channel Vidifont V; Quantel Paint Box; Ultimatte; (2) audio post suites with SSL consoles; 1-inch VTR mix-to-pix; full complement of EFX; (3) stages, 150 x 100, 50 x 60, 40 x 40.

Rates: On request.
Direction: Commercials—national and network—for major Midwest agencies, automotive and retail. High-end industrial production and post-production for tape and videodisk release (affiliated with Technidisc Inc.) High quality film-to-tape transfers. Ten years video EFX experience. Six years experience in audio post for video.

PRODUCERS VIDEO
OLVP
282 E. Sycamore St., Columbus, OH 43206
(614) 461-9818
Owner: Dan Sakas

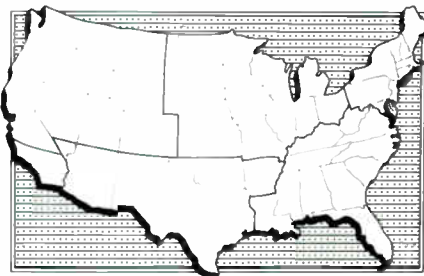
PRODUCERS VIDEO SERVICE
VPF, OLVP
805 W. Wolfram Ste. #5, Chicago, IL 60657
(312) 525-3109
Owner: Jerry Skora

PRODUCTION FOUR STUDIOS
VPF, OLVP, VPP/E, APPV
90 S 11th St., Minneapolis, MN 55403
(612) 330-2444
Owner: WCCO Communications
Manager: Kent Hodder

PROFESSIONAL VIDEO TRANSFER
VPF, OLVP, VPP/E, APPV
562 E. Greenlawn, Lansing, MI 48910
(517) 372-1402
Owner: Jim Frontier and Bob Baxter

PROVIDEO
OLVP
Box 100, Madison, WI 53701
(608) 271-1226
Owner: Jerry Emmerich
Manager: Jerry Emmerich

PUBLIC INTEREST AFFILIATES
VPF, OLVP, VPP/E, APPV
213 W. Institute Pl. #302, Chicago, IL 60610
(312) 943-8888
Owner: Brad Saul and Sandra Kramer
Manager: Wayne Jaffe



NORTH CENTRAL

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

RAINBOW PRODUCTIONS—OMAHA
RECORDING STUDIOS/SOUND & LIGHTING
APPV
2322 S. 64th Ave., Omaha, NE 68106
(402) 554-0123
Owner: Nils Anders Erickson
Manager: Tom Buckley, Paul Jonas

RDM CREATIVE SERVICES
VPP/E
3211 Standish Ave., Cleveland, OH 44134
(216) 845-1015
Owner: Richard Myers
Manager: David Myers

ROSCOR CORP.
OLVP, VPP/E
1061 Feehanville Dr., Mt. Prospect, IL 60056
(312) 539-7700
Owner: Privately owned
Manager: Bennett Grossman
EQUIPMENT

VTRs: Ampex VPR80 1-inch, Sony BVH500 1-inch, Betacam, BVU820s & BVU800, VO5850 and VO5800.
Video Monitors: Ikegami 20-, 14- and 10-inch high res, Barco 20-inch high res, Sony 12- and 8-inch, JVC 5-foot port.

Switchers/editors: Grass Valley model 100, Panasonic WS5500, Convergence 195 editor.
Cameras: Ikegami EC35, HL79E, HL95, ITC730 AP and 730A, Sony BVP30, JVC KY210 & BY110.

Audio recorders: Technics 1520 2-track reel to reel.
Audio mixers: Ramsa WR130 8-channel, Shure M267 4-channel.

Other major equipment: Chyron 4100 character generator, Abekas A-52 DVE and A-42 still store, Barber "baby" boom, Chapman peewee dolly, Q-TV computer prompter, in-flight video projectors and Sony video projectors, Schwem Gyrozoom.

Direction: We specialize in multi-camera productions with either HL79Es for high-end shoots or ITC 730s for industrial type productions. All cameras are interfaced into modular production consoles that can be shipped and set-up anywhere. We also put together large screen projection systems with multiple playback for video "Dance Stand" type shows. At Roscor we don't just rent video equipment; we engineer video rentals.

RSVP
VPF, OLVP, VPP/E, APPV
6055 Fond du Lac Ave., Milwaukee, WI 53218
(414) 461-3600
Owner: Larry Lee Hansen
Manager: Linda Radtke

RUSTAD/WICKEM/VIDEO INC.
VPF, OLVP, VPP/E, APPV
4902 Hammersley Rd., Madison, WI 53711
(608) 274-4000
EQUIPMENT
Synchronizer: Q.Lock.
VTRs: Ampex, Sony.
Switchers/editors: Ampex 4100 switcher; ACE touch screen editor.
Cameras: Betacam, Hitachi SK91, 231.



Rustad/Wickem/Video, Inc.

RUSTAD/WICKEM/VIDEO INC.
Madison, WI

Audio recorders: Otari, Soundcraft 16-track (2-inch).
Audio mixers: Ramsa.
Other major equipment: Artstar computer graphics system; Ampex Digital Optics ("ADO").
Rates: Upon request.

Direction: We are seeing a tremendous demand for video graphics and special effects. As the beta test site for "Artstar" computer graphics system by Colorgraphics, we've had the opportunity to work with their software people to develop some truly unique features and special graphic effects. We're also encountering demand for hard copy output from the system, in the form of slides and 4 x 5-inch transparencies used in printing.

SCL COMMUNICATIONS, INC.
VPF, OLVP, VPP/E, APPV
702 Lincolnway West, South Bend, IN 46616
(219) 232-3545
Owner: Edward E. Weiss
Manager: Edith Haskin

SASI SOUND PRODUCTIONS
APPV
9344 Mapletree Dr., Plymouth, MI 48170
(313) 459-8532
Owner: Shirley Stockwell
Manager: Shirley Stockwell

SCREAMS & ROSES AUDIO/VIDEO SERVICES
OLVP, APPV
6960 Angora Way, Huber Heights, OH 45424
(513) 236-1727
Owner: David Sheward
Manager: Evelyn Sheward



SILVER IMAGE LTD.
Rock Island, IL

SILVER IMAGE LTD.
VPF, OLVP
P.O. 1796, Rock Island, IL 61201
(309) 788-0098
Owner: Corporate
Manager: Greg Scott

SOUND IDEAS PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 701 Douglas St., Sioux City, IA 51101
 (712) 255-9911
 Manager: Kraig E. Wall

SOUND MASTER PRODUCTIONS
OLVP, VPP/E, APPV
 747 Brixham Rd., Columbus, OH 43204
 (614) 272-0212
 Owner: Greg A. Martin
 Manager: Greg A. Martin

SOUND MEMORIES VIDEO PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 Box 37, Riverside, IL 60546
 (312) 788-1650
 Owner: Al Kohout
 Manager: Al Kohout

SOUND MOVES MUSIC/FILM PRODUCTIONS
OLVP
 131 Oak, Royal Oak, MI 48067
 (313) 548-2138
 Owner: Burr S. Huntington
 Manager: Marylynn Kacir

SOUND TREK, INC.
APPV
 9101 Barton, Overland Park, KS
 (913) 541-0302
 Owner: Ron Ubel, Grant Schainost, Craig Rettner
 Manager: Craig Rettner

SPECTRUM VIDEO POST PRODUCTION
VFF, VPP/E
 688-B Alpha Dr., Highland Hts., OH 44143
 (216) 449-0552
 Owner: WKBN Broadcasting, Inc.
 Manager: James A. Reynolds

SPENCE FILM PRODUCTION
OLVP
 3141 Holdrege, Lincoln, NE 68503
 (402) 476-2683
 Owner: John Spence

STAGE 3 SOUND PROD. INC.
VFF, VPP/E
 1901 W. 43rd St., Kansas City, KS 66103
 (913) 384-9111
 Owner: Don Warnock
 Manager: Sherri Pollard

STOKES SOUND SERVICES
OLVP, APPV
 100 Stokes Ln., P.O. Box 398, Hudson, OH 44326
 (216) 650-1669
 Owner: A.J. Stokes
 Manager: A.J. Stokes
EQUIPMENT
 Synchronizer: BTX Softouch, Shadow, Cypher.
 VCRs: 3/4-inch Sony 5800; JVC 4700U, 1/2-inch VHS, Beta.
 Cameras: Ikegami ITC-730.
 Audio recorders: MCI JH114 24-track, JH-110 8-, 4-, 2-track; Otari 5050B-2, 8-track; Nagra 4.2 L.
 Audio mixers: Soundcraft, Sound Workshop, Yamaha.
 Other major equipment: Limiters: dbx, UREI, Valley People; EQs: UREI, White, Orban, Dynallex; remote van.
 Rates: \$25-\$75/hr., or quote on a per project basis.
 Direction: Stokes Sound Services specializes in on-location sound for all types of projects from industrial training tapes to concert and musical specials. Audio post-production specialties include audio editing and program assembly, dialogue replacement and foreign language overdubs. Also available for rental are audio and video EFP systems.

U.W.-STOUT TELEPRODUCTION CENTER
VFF
 800 S. Broadway, Menomonie, WI 54751
 (715) 232-2623
 Owner: University of Wisconsin System
 Manager: Rosemary Jacobson



STUDIO M
 St. Paul, MN

STUDIO M
APPV
 45 E. 8th St., St. Paul, MN 55101
 (612) 293-5453

Owner: Minnesota Public Radio
 Manager: Tom Mudge
EQUIPMENT
 Synchronizer: Cypher Digital Softouch, Shadow.
 VTRs: JVC-U-Matic 8250.
 Video Monitors: JVC.
 Switchers/editors: Panasonic.
 Cameras: JVC-GXS9U.
 Audio recorders: 3M 32-track, Otari MTR-90II, Otari MTR-12 w/SMPTE center stripe, MCI-110B 1/2-inch 4-track.
 Audio mixers: Neve 51 Series multi-track console.
 Other major equipment: Lexicon 224X Larc (2), EMT 140, Ecoplate I & II, A D & R Complex limiter, A D & R Scamp mixer rack, UREI LA 4A limiters (4), Eventide 969 Harmonizers (2), Lexicon PCM42 (2), Marshall time modulators (2), misc. gates and expanders, Trident Parametric EQ.

Rates: Analog: \$125/hr., digital \$140/hr., video/audio interlock upon request.

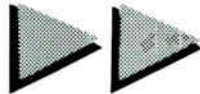
Direction: Studio M is one of the Midwest's largest recording studios with excellent acoustics for larger projects, a superb staff and facilities to handle even the most important scoring sessions.

STUDIO 55
VFF, OLVP, VPP/E
 6176 Olson Memorial Hwy., Golden Valley, MN 55422
 (612) 541-0290
 Owner: IDS Financial Services
 Manager: Rod Korf

SUMA RECORDING STUDIO
APPV
 5706 Vrooman Rd., Cleveland, OH 44077
 (216) 951-3955
 Owner: Kenneth R. Hamann
 Manager: Michael J. Bishop

The Mix Bookshelf Catalog contains the best audio, video, and music industry texts available from over 40 publishers. For your free copy, see page 175.

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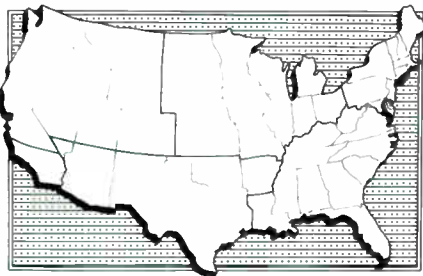
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SWEET SOUNDS, INC.
Cleveland, OH

SWEET SOUNDS, INC.

APPV
4098 Washington Blvd., Cleveland, OH 44118
(216) 292-0787

Owner: Allen J. Friedman

Manager: Allen J. Friedman

EQUIPMENT

Synchronizer: Synchronous Technologies, SMPL lock.
VTRs: Sony VO-S600 3/4-inch U-Matic; Panasonic 1/2-inch VHS VTR

Video Monitors: Sony CKV-1900F Trinitron color monitor.
Switchers/editors: Synchronous Technologies SMPL system.

Audio recorders: Otari MX5050 MKIII-8 w/remote control and autolocator; Otari MX5050 MKIII-4, Otari MX5050 MIII-2.

Audio mixers: Soundcraft 500 console 24 x 8 x 16.

Other major equipment: Emulator II digital sampling keyboard, Mirage digital sampling keyboard, OB-8, DSX, DMX, DX7, Yamaha U-1J upright piano, TR-707-TR-727 drum machines, Lexicon PCM60, PCM42, H910 harmonizer, Symetrix 522, MIDI bass, Aphex Aural Exciter, Tascam 122 cassette recorders, Apple IIE computer, JBL 4312, 4401 monitors, Auratones.

Rates: Available on request.

Direction: For custom music at its best, choose Sweet Sounds, Inc! We deliver sound ideas. Scoring-to-picture, storyboards, or script—our specialty. We also score great music videos.

TAKE 1 MEDIA SERVICES, INC.

VPF, OLVP, VPP/E, APPV
4900 Euclid Ave., Cleveland, OH 44103
(216) 431-1444

Owner: Jeffrey V. Kassouf and Philip A. Salem

Manager: Jeff Kassouf

TAPE II STUDIOS

VPF, OLVP, VPP/E, APPV
1999 S. Valley View Dr., St. Joseph, MI 49085

(616) 428-2021
Owner: Joel L. Motel
Manager: Joel L. Motel

TECHNI-VISION PRODUCTIONS

VPF, OLVP, VPP/E, APPV
975 Lockwood, Ortonville, MI 48462
(313) 628-0029

Owner: Chris Wilt, Brett Reichle

Manager: Brett Reichle

TELEMATRIX VIDEOTAPE PRODUCTIONS, INC.

VPF, OLVP, VPP/E, APPV
5635 W. 80th St., Indianapolis, IN 46278
(317) 872-8801

Manager: Lynne D. Miller

TMC MUSIC PRODUCTIONS, INC.

APPV
664 N. Michigan Ave., Chicago, IL 60611
(312) 438-9099

Owner: Todd McGuire

Manager: Andrea Sotter

TMK-ELIAS PRODUCTIONS, INC.

APPV
233 E. Erie Ste. 300, Chicago, IL 60611
(312) 664-6057

Owner: Ted Kay and Sheldon Elias

Manager: Terry Golden

TOTAL VIDEO 3/KMTV

VPF, OLVP, VPP/E
10714 Mockingbird Dr., Omaha, NE 68127
(402) 592-3333

Owner: May Broadcasting Co.

Manager: Roger Ottenbach

TRINITY PRODUCTION

VPF, OLVP, VPP/E, APPV
41 Partridge Dr., Kincheloe, MI 49788
(906) 495-5133

Owner: Bill Davie

Manager: Bill Davie

TRIO VIDEO

VPF, OLVP
1500 N. Halsted, Chicago, IL 60622
(312) 280-1755

Owner: Jack Walsh, Dick Shapiro, Gary Meagher

Manager: Jack Walsh, Dick Shapiro, Gary Meagher



UNIVERSAL RECORDING
Chicago, IL

UNIVERSAL RECORDING

APPV
46 E. Walton, Chicago, IL 60611
(312) 642-6465

Owner: Murray Allen

Manager: Foote Kirkpatrick

EQUIPMENT

Synchronizer: (6) Softouch systems.

Video Monitors: JVC B250 C-format.

Audio recorders: ATR-102s, 104s, MCI 24-track, Mitsubishi X-80 digital.

Audio mixers: SSL 6000 Series, Neve.

Other major equipment: Video and mag interlock and

Magna-Tech high-speed dubbers, video projectors and recorders.

Rates: \$150-\$300/hr.

Direction: Capability or interlocking sprocket and non-sprocket. Most extensive and sophisticated audio for post-production in Midwest, seven studios for post-production to video.

**UNIVERSITY OF MISSOURI
KANSAS CITY SCHOOL OF DENTISTRY**

VFP, OLVP, VPP/E
650 E. 25th St., Kansas City, MO 64108
(816) 234-0448

Owner: University of Missouri—Kansas City
Manager: Cindy Anderson

U.S. STUDIOS CORP.

VFP, OLVP
300 Clifton Ave. S., Minneapolis, MN 55403
(612) 870-8190

Owner: E. Ward Eames III

VIDEO I-D, INC.

VFP, OLVP, VPP/E, APPV
105 Muller Rd., Washington, IL 61571
(309) 444-4323

Owner: Sam B. Wagner
Manager: Greg Ellis

VIDEO REMOTE SERVICES

VFP, OLVP
302 Marlborough, Bloomfield Hills, MI 48013
(313) 649-0920

Owner: Karen Gleason, Ira Glass
Manager: Karen Gleason

VIDEOMASTERS, INC.

VFP, OLVP, VPP/E, APPV
620 N. Broadway, Milwaukee, WI 54202
(414) 273-8686

Owner: Mark A. Stall
Manager: Howard L. Clyman

VISUAL COMMUNICATION CENTER

VFP, OLVP, VPP/E, APPV
730 N. 109th Ct., Omaha, NE 68154
(402) 496-3535

Owner: Bozell, Jacobs, Kenyon and Eckhardt
Manager: Mike Gilstrap

VISUAL SPECIALTIES

OLVP, VPP/E
27661 Westcott Crescent Circle
Farmington Hills, MI 48018

(313) 476-4764
Owner: Roger E. Avie
Manager: Tracy Davis



*WDIV-TV
Detroit, MI*

WDIV-TV
OLVP
550 W. Lafayette, Detroit, MI 48231
(313) 222-0444, 222-0638
Owner: Post-Newsweek, Inc.
Manager: Joe Martelle

EQUIPMENT

Synchronizer: ADDA VW-2.

VTRs: (3) Sony 1-inch BVH 2000 (with slo-mo controllers); (2) Sony 3/4-inch BVU-800 with TBC.

Video Monitors: (25) on video wall, (5) remote.

Switchers/editors: Grass Valley 1680 switcher.

Cameras: (4) Ikegami 357 color (2-3) Ikegami HL-79s.

Audio recorders: Otari reel-to-reel; (2) ITC cart machines; additional audio compatible outboard.

Audio mixers: ADM-24 input multi-channel stereo.

Other major equipment: (10) business line Bell telephone-10 units; DVE available capable of three feeds. Power: 240 volts, single phase.

Rates: Brochure and rates upon request.

Direction: Sports production, rock concerts, teleconferencing, commercial production. Can be crewed locally or roll with minimum crew. Two remote trucks available. Only remote trucks of their kind in Michigan.



*WDIV TV 4
Detroit, MI*

WDIV TV 4

VFP, OLVP, VPP/E, APPV
550 W. Lafayette, Detroit, MI 48231
(313) 222-0615, 222-0444

Owner: Post Newsweek, Inc.

Manager: Amy McCombs

EQUIPMENT

Synchronizer: VWI Frame Sync.

VTRs: (16) Sony BVU-1110A & Ampex.

Video Monitors: Conrac 19-inch.

Switchers/editors: (3) Grass Valley 16007K switchers w/(3) effects banks, Sony BVE 5000 & Epic Harris editors.

Cameras: TD47 RCA Studio Cams, Sony BVP (3) & Ikegami HL-79 handhelds.

Audio recorders: MCI 8- and 2-track and Otari 5050.

Audio mixers: (2) ADM audio boards, Ramco and Panasonic portable audio board.

Other major equipment: ADDA still store, Quantel 5000+, Quantel Encore, Quantel Paint Box, Chyron IV, (2) 55 x 80-foot studios with 2 wall hard cyc & identical, independent control rooms, (2) smaller production studios, (2) 1-inch edit suites.

Rates: Supplied upon request.

Direction: Professional studio and remote commercial production. Excellent teleconferencing facilities. Graphic designers, lighting directors, grips, producers, directors and writers complement outstanding technical crews. We can meet every production need—from conception through post—at very reasonable rates.

WEBSTER PRODUCTIONS

VFP, OLVP
220 W. Locust St., Chicago, IL 60610
(312) 951-7500

Owner: L.H. Bloodworth
Manager: L.H. Bloodworth

WEWS

VFP, OLVP, VPP/E
3001 Euclid Ave., Cleveland, OH 44115
(216) 431-5555

Owner: Scripps Howard Broadcasting Co.
Manager: Edward D. Cervenk

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Interlochen, MI 49643
Phone: (616) 276-9221, ext. 360

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Circle #136 on Reader Service Card

WHA-TV PRODUCTION SERVICES UNIT
VPF, OLVP, VPP/E, APPV
821 University Ave., Madison, WI 53706
(608) 263-2121
Owner: Richard G. Lawson
Manager: Jeff Clarke

WJER VIDEO SERVICES
VPF, OLVP, VPP/E, APPV
646 Boulevard, Dover, OH 44622
(216) 343-7755
Owner: WJER Radio, Inc.
Manager: Gary A. Petricola



WLFI-TV
W. Lafayette, IN

WLFI-TV
VPF, OLVP
2605 Yeager Rd., W. Lafayette, IN 47906
(317) 463-1800
Owner: Blade Communications
Manager: Bob Ford, Ken Gardner

WNEM-TV 5
VPF, OLVP, VPP/E
107 N. Franklin St., Saginaw, MI 48607
(517) 755-8191
Owner: Meredith Broadcasting Group
Manager: Todd Holmes

WORLDWIDE SOUND & VIDEO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
202 W. Plum, Robinson, IL 62454
(618) 544-7898
Owner: Ron Wheeler
Manager: Ron Wheeler

ZENITH/db STUDIOS
APPV
676 N. LaSalle, Chicago, IL 60610
(312) 944-3600
Owner: Coken & Coken
Manager: Tom Boeve
EQUIPMENT
Synchronizer: Cipher Digital Shadows w/host computer controls
VTRs: Ampex VPR 80, 1-inch; Sony BVU-800, 3/4-inch; JVC 6600, 3/4-inch; Panasonic AG 6300, 1/2-inch.
Video Monitors: Sony, JVC.
Audio recorders: Ampex MM-1200 24- to 8-track, ATR-104, ATR-102.
Audio mixers: Trident Series 80 24-/24/24.
Other major equipment: Cipher VITC and longitudinal SMPTE gen/read and complete selection of audio processors.
Rates: \$100-\$200/hr.
Direction: Z/db endeavors to blend the technology of video editing with the legacy of film production techniques we've practiced since 1945. We solve the problems technology creates.

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3/4" Recorders, Players

Sony	
VP-5000 Player	1,360.
VO-5600 Recorder	1,767.
VO-5800 Source Recorder	3,634.
VO-5850 Edit Recorder	5,740.
Edit System 1/5800, 1/5850,	
1/RM440, 2/RCC5F, 1/VDC-5	10,348.
VO-6800 Portable	2,906.
RM-440 Controller	1,350.

Panasonic	
NV-9100A Player	1,107.
NV-9200A Recorder	1,820.
NV-9300A Rec. w/tuner	1,610.
NV-9240 Source Recorder	3,094.
NV-9600 Edit Recorder	4,732.
AU-700 Pro Edit Recorder	5,825.
System A 9240/9600/A500	8,761.

JVC	
CP-5200U Source Player	952.
CP-5550U Source Player	2,024.
CR-6060U Recorder	1,308.
CR-6650U Source Recorder	2,641.
CR-8250U Editor	4,048.
CR-4900U Portable	2,550.

1/2" Players, Recorders

VHS	
Portavideo VCP2100 Player	213.
Panasonic AG-1000 Player	364.
Panasonic AG-2100 Player	508.
Pana. AG-6100 Player	973.
Pana. AG-1200 Recorder	374.
Pana. AG-1500 Recorder	519.
Pana. AG-2200 Recorder	605.
Pana. AG-1800 Recorder	620.
Pana. AG-1900 HiFi	941.
Pana. AG-6200 Recorder	1,220.
Pana. NV-8950 Recorder	1,389.
Pana. AG-6810 HiFi	1,255.
Pana. AG-5300 Source/Rec	1,320.
Pana. NV-8500 Edit Rec	2,275.
SystemD 6300/8500/A500	4,643.
SystemE 2/8500, 1/A500	5,555.
Pana. AG-2400 Portable	650.
Pana. NV-8420 Portable	702.
JVC BP-5100U Player	452.
JVC BP-5300U Source Player	1,066.
JVC BR-1500U Recorder	468.
JVC BR-3000U Recorder	546.
JVC BR-6400U Source Rec	1,373.
JVC BR-7000U HiFi	1,238.
JVC BR-8600U Editor	2,287.
JVC RM-86U Edit Control	983.
VEP-1 5300/8600/86	4,099.
VEP-2 6400/8600/86	4,368.
VEP-3 2/8600, 1/86	5,253.
JVC BR-1600U Portable	622.
JVC BR-6200U Portable	905.

BETA	
Sony SLP-305 Player	874.
Sony SLO-325 Recorder	1,300.
Sony SLO-383 Editor	1,971.
Edit System 2/SLO383, 1/RM440	

2/RCC5F, 1/VDC5	5,044.
Sony SLO-340 Portable	1,061.
Sony SLO-420 Recorder	1,097.
SONY SUPER BETA	
GCS-1 CamCorder-May 86	1,212.
GCS-50 Editor-May 86	1,706.
RM-E50 Controller-May 86	858.
SLO-1800 Duplicator	1,150.

Panasonic VHS Camcorder	
AG-100S Complete Rep. Pkg	1,199.
AG-150S Above w/Autofocus	1,349.

Color Cameras

Panasonic	
WV-F2 6:1 CCD AutoFocus	735.
WV-2170/8AF 8:1 AutoFocus	735.
WV-3250/12x 12:1 Newvicon	973.
WV-3255 8:1 AF Color VF	1,014.
WV-3250 8:1 AF Newvicon	825.
WV-3500 12:1 Genlock	1,237.
WV-6000 S:1 Saticon w/accs	2,252.
WV-V3/L 3-tube 10:1	3,193.

JVC	
GXS-700U 10:1 Saticon	1,385.
BY-110U 10:1 3-Saticon	2,995.
KY-210 3-Saticon w/o lens	4,532.

Sony	
DXC-M2 3-tube w/o lens	4,620.
DXC-M3A 3-tube w/o lens	5,660.

Color Displays

Sony	
PVM-5300 Triple 5" Monitor	1,675.
PVM-8020 8" Monitor/Audio	468.
PVM-8220 9" monitor	419.
PVM-8221 9" super fine	585.
CVM-1271 12" Mon/Rec	541.
PVM-1271Q RGB Monitor	656.
PVM-1220 12" Super Fine	1,565.
PVM-1380 13" Monitor/Audio	339.
PVM-1910 19" Monitor/Audio	598.
PVM-1910Q 19" RGB Mon.	765.
CVM-2560 25" Mon/Rec	988.
CVM-3000 30" Mon/Rec	5,680.
VPH-722Q Projector	4,260.
VPH-1020Q Projector	4,260.
VPH-2020Q Projector	4,732.
VPH-1030Q MultiScan	6,720.
VPH-2030Q MultiScan	7,490.
FP-60 Port.proj.w/Betamax	2,012.
FP-62 Port.proj.	1,180.

Panasonic	
CT-500V 5" Mon/Rec	338.
CT-1010M 10" Mon/Audio	285.
CT-110MA 10" Mon/Audio	338.
CT-130V 13" w/VHS Recorder	1,045.
CT-1330M 13" Mon/Audio	356.
CT-1330V 13" Mon/Rec	424.
CT-1400MG 14" RGB Monitor	510.
CT-1920M 19" Mon/Audio	460.
CT-1930V 19" Mon/Rec	580.
CT-2600M 25" 500 Line	801.
BT-S700N 7" Mon.AC/DC	426.
BT-S701N 7" Monitor	375.

BT-S702N 7" dual rack	785.
BT-S1300N 13" Monitor	448.
BT-S1900N 19" Monitor	542.
PT-101 Projector	4,056.

JVC	
TM-22U 5" Mon.AC/DC	311.
TM-63U 5" Monitor	299.
TM-90U 9" Monitor/RGB	385.
TMR-9U 9" Pro Monitor	510.
C1483UM 13" Mon/Rec	457.

Accessories

SciTech 142 Dual TBC	3,515.
For-A FA400 TBC	4,735.
For-A FA410 TBC	5,522.
For-A FA420 TBC	5,920.
JVC KM1200U S.E.G.	1,456.
JVC KM-2000U S.E.G.	3,536.
Knox K50 Character Gen.	997.
Pana. WJ-4600C S.E.G.	1,529.
Pana. WJ-5500B S.E.G.	2,876.
Pana. WJ-5600 S.E.G.	4,186.
Super Microscript Titler	340.
Shure M67 Mike Mixer	291.
Sony 2000A S.E.G.	3,816.
Videotek Waveform Monitor	1,650.
Videotek Vectorscope	1,890.
Set of Test Charts	89.

Tape: Sony & Eastman

Min. 10 per item	Sony	Eastman
KCS10K Umatic Mini	10.23	9.95
KCS10BRK Brdst. Mini	11.30	11.45
KCS20K Umatic Mini	11.57	10.60
KCS20BRK Brdst. Mini	13.16	12.20
KCA10K	10.99	9.95
KCA10BRK	11.93	11.45
KCA30K Umatic	13.72	11.65
KCA30BRK Broadcast	15.42	13.40
KCA60K Umatic	18.25	16.60
KCA60BRK Brdcst	20.20	19.10
T-30 Professional		5.10
T-60 Professional	4.85	5.30
T-120 Professional	5.10	6.35
T-120X Broadcast	6.40	7.30

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SOUTHWEST

ACU-TV
VPF, OLVP, VPP/E
ACU Box 8045, Abilene, TX 79699
(915) 674-2427
Owner: Abilene Christian University
Manager: Dutch Hoggatt

LARRY ALLEN PRODUCTION SERVICES
VPF, OLVP, VPP/E, APPV
3001 Ave. K East, 128F, Grand Prairie, TX 75050
(214) 660-3107
Owner: Larry Allen
Manager: Larry Allen

ALLIED/WBS FILM & VIDEO
VPF, VPP/E, APPV
6305 N. O'Connor Rd. Ste. 111, Bldg. 4
Irving, TX 75039
(214) 869-0100
Owner: Bill Smith
Manager: John Beasley

ALPHA VIDEO PRODUCTIONS
OLVP, VPP/E
2720 Stemmons Fwy., Ste. 200, Dallas, TX 75207
(214) 634-7260
Owner: Gary and Susan Bauer
Manager: Bill Wilson

AMS PRODUCTIONS
VPF, VPP/E
433 Regal Row, Dallas, TX 75247
(214) 637-2188
Owner: Andrew Streifeld

ARIES PRODUCTIONS INC.
VPF, OLVP, VPP/E
1110 Ave. H East Ste. 200, Arlington, TX 76011
(817) 640-9955
Owner: Wynn Winberg
Manager: Wynn Winberg

ARTECH SYSTEMS
VPF, OLVP, VPP/E, APPV
2100 Hwy. 360, Ste. 1106B, Grand Prairie, TX 75050
(214) 641-1882
Owner: First Myth Corporation
Manager: Michael Judlin

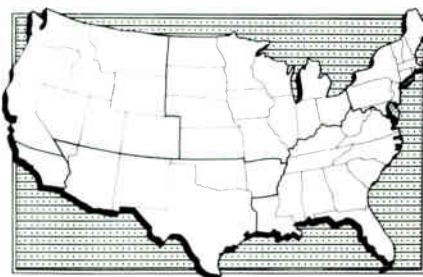
AUDIO VIDEO RECORDERS OF AZ
VPF, VPP/E, APPV
3830 N. 7th St., Phoenix, AZ 85014
(602) 277-4723
Owner: Floyd Ramsey
Manager: Tim Ramsey

AZBELL'S RADIO CENTER
VPF, OLVP, VPP/E, APPV
1813 Speight, Waco, TX 76706
(817) 754-4689
Owner: Billy Azbell Sr.
Manager: Billy Azbell Jr.

BT PRODUCTIONS
APPV
5807 S. Garnett Ste. F, Tulsa, OK 74146
(918) 252-4779
Owner: Bret Teegarden
Manager: Beth Teegarden

CAMERA PRODUCTIONS
VPF, OLVP, VPP/E
215 Adams S.E., Albuquerque, NM 87108
(505) 265-7911
Manager: Dan Camera

CREATIVISION
OLVP
P.O. Box 50246, Austin, TX 78763
(512) 474-7296
Owner: Laurie Lehner, Eric Graham



SOUTHWEST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

DALLAS POST-PRODUCTION CENTER
VPP/E
6305 N. O'Connor, Ste. 118, Irving, TX 75039
(214) 556-1043
Manager: Nick Riccelli



DALLAS SOUND LAB
Irving, TX

DALLAS SOUND LAB
APPV
6305 N. O'Connor Blvd., Ste. 119, Irving, TX 75039
(214) 869-1122
Owner: Russell Whitaker
Manager: Johnny Marshall
EQUIPMENT
Synchronizer: BTX Softouch, Audio Kinetics Q-Lock 3.10.
VTRs: MCI JH 110-B 1-inch layback.
VCRs: Sony 5850s, JVC 8250, JVC 8200.
Video Monitors: Sony 25-inch, Mitsubishi 25-inch, Barco 25-inch, Mitsubishi 19-inch, RCA 19-inch, NEC 45-inch projection.
Audio recorders: Sony: PCM-3324 digital 24-track, PCM-10 digital 2-track, PCM-F1 digital 2-track; Technics SV-100 digital 2-track; Otari: MTR-90 24-track, MTR-10 4-, 2-track, MTR-10 2-track, MX5050 4-track, MX5050 2-track; MCI JH-114 24-, 16-track, JH-110B 4-, 2-track; Nagra 4.2L.
Audio mixers: SSL 6056 automated with total recall, MCI 536 automated, MCI 636.
Other major equipment: MTM 35mm and 16mm high speed projectors and dubbers, SFX library on Compact Disc, extensive MIDI keyboard set-up including: Kurzweil 250, (2) Yamaha DX7, Yamaha TX816 (8=DX7 modules), Yamaha QX7, Yamaha TX7, Yamaha RX21, LinnDrum, Linn 9000, Oberheim Xpander, Prophet V, Prophet 1005 sequencer, Korg Poly 800, Apple computer with DX-pro software, Synclavier II available upon request.
Rates: \$75-235/hr., bulk rates available upon request.
Direction: Dallas Sound Lab is the largest facility of its kind in the Southwestern U.S. Studio A: a 48-track recording studio with video/film interlock capable of 40-piece capacity orchestra scoring to picture, video sweetening, and album-jingle production, with audio and video tie lines to the three sound stages at Las Colinas for live

shows, concerts, etc. (15,000/6,000/3,000 sq. ft. available). Studio B: a 24-track control with iso-booth for overdubbing, narration and SFX assembling. Studio C: a 24-track post-production control room interlocked to video and film with large iso-booth designed for sweetening, mixing, dubbing, ADR and SFX assembling. Dallas Sound Lab is designed to meet the complete needs of clientele dealing with any aspect of audio for video or film production.

DESERT VIDEO PRODUCTIONS
VPF, OLVP, VPP/E
1616 E. Osborn Rd., Phoenix, AZ 85016
(602) 263-3400
Owner: Arizona Television Company
Manager: Bill Lewis

DUKE CITY STUDIO
VPF, OLVP
4121 Cutler N.E., Albuquerque, NM 87110
(505) 884-5151
Manager: H. Jay Lefkovitz

FIRST VIDEO PRODUCTION
VPF, OLVP, VPP/E, APPV
4235 Centergate, San Antonio, TX 78217
(512) 655-1111
Owner: Odey Crabtree
Manager: Glenn Duchaine

F.T.V. PRODUCTION
OLVP
315 W. Mulberry, Sherman, TX
(214) 868-1399
Owner: Ralph Renshaw II
Manager: Randy Breed-Love

GARRIGUS VIDEO PRODUCTIONS
VPF, OLVP, VPP/E
2025 Gardanne, Carrollton, TX 75007
(214) 879-3290
Owner: David Garrigus
Manager: David Garrigus

HAYDEN HUGHES
APPV
8642 San Benito Way, Dallas, TX 75218
(214) 324-0225
Owner: Chapman, Curci

HAYES PRODUCTIONS, INC.
VPF, OLVP, VPP/E
710 S. Bowie, San Antonio, TX 78205
(512) 224-9565
Owner: Bill and Jerry Hayes
Manager: Jerry M. Hayes, Jr.

THE INTERFACE COMPANY
VPF, OLVP, VPP/E
1121 Post Oak Park Dr., Houston, TX 77027
(713) 871-1832
Owner: Michael McDugald
Manager: Michael McDugald

KDTU-TV, CREATIVE SERVICES
VPF, OLVP, VPP/E
1855 N. 6th Ave., Tucson, AZ 85705
(602) 624-0180
Owner: Bob Nordmeyer
Manager: Rudy Casillas

K-VIDEO PRODUCTIONS
VPF, VPP/E
14027 N. 32nd St., Phoenix, AZ 85032
(602) 992-4443
Owner: Dennis Kayer
Manager: Dennis Kayer

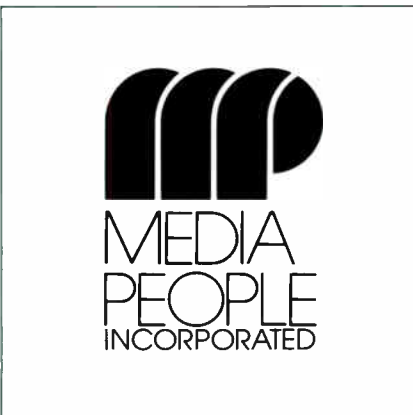
LINCOLN INSTITUTE
VPF, VPP/E, APPV
7622 Louetta, Spring, TX 77379
(713) 376-9679
Owner: Lincoln Foundation
Manager: Joe Lincoln

MARTIN RECORDING COMPANY
VPF, OLVP, VPP/E, APPV
 120 W. Castellano, El Paso, TX 79912
 (915) 532-2860
 Owner: Scott Martin
 Manager: Scott Martin

MBA PRODUCTIONS
VPF, OLVP, VPP/E
 3203 Old Seymour Rd., Wichita Falls, TX 76309
 (817) 322-7210
 Owner: Muir Brothers
 Manager: Mack P. Muir

THE MUZIC COMPLEX
VPF, OLVP, VPP/E, APPV
 520 Southwest Dr., Jonesboro, AR 72401
 (501) 972-0321
 Owner: Jimmy Boling

OB STUDIOS
OLVP
 5932 N. Grove, Oklahoma City, OK 73122
 (405) 721-3727
 Owner: Larry G. O'Rear
 Manager: Larry G. O'Rear



MEDIA PEOPLE INC.
 Scottsdale, AZ

MEDIA PEOPLE INC.
VPF, OLVP
 6736 E. Avalon, Scottsdale, AZ 85251
 (602) 941-8701
 Owner: Janyce Brisch Kawaba

MEDIA WORKS FILM & TELEVISION PRODUCTION
VPF, OLVP, VPP/E, APPV
 843 W. Elna Rae St., Tempe, AZ 85281
 (602) 968-4392
 Owner: Barry J. Fuller
 Manager: Brad S. Mudgett

METROPOST
VPP/E, APPV
 906 E. Fifth St., Austin, TX 78702
 (512) 476-3876
 Manager: Vincent Hollister

METRO VIDEO STUDIO
VPF, OLVP, VPP/E, APPV
 8401 N. 57th Dr., Glendale, AZ 85302
 (602) 842-1433
 Owner: Barbara A. Jones
 Manager: William F. Jones

EQUIPMENT
 Synchronizer: Crosspoint Latch.
 VTRs: Panasonic AU700.
 Video Monitors: (8) Sony.
 Switchers/editors: Crosspoint Latch switcher, Panasonic AU-A70 editor.
 Cameras: (2) ITC 730-A, ITC 73, (3) SC-500 July '86.
 Audio recorders: Sony.
 Audio mixers: Sony.
 Other major equipment: Sony SMC 70-G system with all programs.
 Rates: Call.
 Direction: All studio and location video production.

MULTIVISION, INC.
OLVP
 6440 N. Central Expwy, Ste 105, Dallas, TX 75206
 (214) 373-6104
 Owner: Windle Turley
 Manager: Kyle King

MUSIC LIFE PRODUCTION
APPV
 1817 High Vista Ct., Ft. Worth, TX 76112
 (817) 654-0134
 Owner: Conan Reynolds
 Manager: Conan Reynolds



OMEGA AUDIO & PRODUCTIONS, INC.
 Dallas, TX

OMEGA AUDIO & PRODUCTIONS, INC.
 8036 Aviation Pl., Dallas, TX 75235
 (214) 350-9066
 Owner: Paul A. Christensen
EQUIPMENT
 Synchronizer: BTX 4600/4700, 5 machine.
 VTRs: RCA TH-200/2000 (11).
 VCRs: JVC CR6600U.
 Switchers/editors: (2) Grass Valley.
 Cameras: RCA/CEI.
 Audio recorders: (3) Otari MTR-90 24-track, 46-track; 3 Otari MTR-10, 2-, 4-track; Otari 5050B; Mitsubishi X-80 digital.
 Audio mixers: Amek M2500 36 x 24 w/automation; API 32 x 24.
 Other major equipment: Full Scamp Rack, Harmonizer, (5) DeltaLab Super Time Lines, DDL-1 digital delays, Lexicon 224XL, MXR .01a digital reverbs, Master-Room MR11, Audicon plates, UREI Little Dippers, stereo synth., EXR Exciter, dbx program processors.
 Rates: Interlock with picture \$135/hr.
 Direction: Co-located with Video Post & Transfer, Inc. at Dallas Love Field. Recent music specials: mixed/sweetened for Johnny Cash, Bob Hope, Joe Bob Briggs, Gingerbrook Faire, Cotton Patch Gospel, Prince, Quarterflash, Carl Perkins, Jerry Jeff Walker, PBS-Van Cliburn International Piano Competition and Handel's Messiah, Joe Ely, Eddie Rabbit, Oak Ridge Boys, Commodores, Helen Reddy. Omega also maintains a 46-track remote facility with full SMPTE interlock.

OZZ RESEARCH COMPUTERS, INC.
OLVP, VPP/E
 1619A West 6th St., Austin, TX 78703
 (512) 472-9611
 Owner: Bruce Hahn
 Manager: Marc Dominos

PHIPPS PROMOTIONS
VPF
 5727-H S. Garnett, Tulsa, OK 74146
 (918) 254-1045
 Owner: Terry Phipps
 Manager: Karen Hoyleman

PHOENIX AUDIO-VISUAL INC.
 3015 N. 47th St., Phoenix, AZ 85018
 (602) 957-4005
 Owner: Mike Reese, Jim Smith
EQUIPMENT
 VTRs: Sony 5000, 5600, 5800, 5850.
 Video Monitors: Sony Profeels.
 Audio recorders: Nagras, Otari, TEAC.
 Audio mixers: Soundcraft, Yamaha.
 Other major equipment: GE PJ-5055 and other large screen projectors, complete grip truck, screens, wireless systems, sound systems and audio-visual packages, including Renkus-Heinz Smart Systems.
 Direction: Equipment rentals and production packages.

Special August Issue!

STUDIO DESIGNERS AND SUPPLIERS DIRECTORY

The annual *Mix* Directory of Studio Designers & Suppliers will be published in August, 1986. If you have not received a questionnaire for your FREE *Mix* listing, call Lauri Newman at (415) 843-7901, or write to *Mix* Listings Department.

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 MAY 5th**

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RWR PRODUCTIONS
OLVP
 2011 W. 8th, Odessa, TX 79763
 (915) 332-4216
 Owner: Robert Wayne Riggs
 Manager: Robert Wayne Riggs

SIM PHOTOGRAPHY AUDIO VISUAL PRODUCERS
VFF, OLVP, VPP/E, APPV
 3801 Frutas Ave., El Paso, TX 79905
 (915) 533-2284
 Owner: Charles P. Simpson
 Manager: Charles P. Simpson

SOUTH COAST VIDEO, INC.
VFF, OLVP, VPP/E
 6503A Mapleridge, Houston, TX 77081
 (713) 661-3550
 Owner: Everett Gorel, Bob Willems, Bill Hamzy
 Manager: Steve Goyette

EQUIPMENT
 Synchronizer: Microtime TBCs w/T² digital fx processor.
 VTRs: 3/4-inch Sony type S (editing) A/B rolls, Sony 4800, BVU-110 and 1-inch portable (ENG).
 Switchers/editors: Sony Director 2000 (editing), Panasonic WJ-4600A (remotes).
 Cameras: Ikegami HL-79EAL, Sharp XC-700.
 Audio mixers: Ramso WR-8210A.
 Other major equipment: Chyron VP-1 w/upgrades.
 Rates: Competitive.
 Direction: From multi-camera concerts to single camera film and videotape production, the company's capabilities are as diverse as their clients. That impressive client list includes MTV, HBO, Showtime, Disney Channel, Phil Donahue, CBS Sports, ABC Special Events, NBC News, and PBS. In addition to a wide range of local and national programming, commercial production comprises a large part of South Coast's business.

SOUTHERN RECORDING
 56 E. 53rd Pl., Tulsa, OK 74105
 (918) 747-7380
 Owner: John Southern
 Manager: John Southern

SOUTHWEST FILM INSTITUTE
VFF, OLVP, VPP/E, APPV
 2217C Michigan, Arlington, TX 76013
 (817) 277-4341
 Manager: Joe Calk

SOUTHWEST

STUDIO CENTER
VFF, OLVP, APPV
 6540 Randolph Blvd., San Antonio, TX 78239
 (512) 653-4004
 Owner: Timothy K. Gressler
 Manager: Timothy K. Gressler

SR INC.
OLVP, APPV
 P.O. Box 18626, Austin, TX 78760
 (512) 441-5322
 Owner: Mike Kron
 Manager: Russ Aarons

THE STUDIOS AT LAS COLINAS
VFF
 One Dallas Communications Complex
 Irving, TX 75039
 (214) 869-0700
 Manager: Joe Pope

TAKIN' TEXAS PRODUCTIONS
OLVP
 2317 Statler Dr., Carrollton, TX 75007
 (214) 466-0369
 Owner: Randolph Kaiser

TELEMEDIA ASSOCIATES INC.
VFF, VPP/E
 7709 San Felipe Ste. 100, Houston, TX 77063
 (713) 783-0800
 Owner: David Hillendahl

TEXAS PACIFIC FILM VIDEO, INC.
VFF, OLVP, VPP/E
 501 N. 135, Austin, TX 78702
 (512) 478-8585
 Owner: Richard Kooris
 Manager: Richard Kooris

THIRD COAST VIDEO, INC.
VFF, OLVP, VPP/E
 501 N. IH-35, Austin, TX 78702
 (512) 473-2020

Owner: Ben Y. Mason
 Manager: Jeff Van Pelt

GENE TOGNACCI & ASSOCIATES
OLVP, APPV
 2108 Haslett, Houston, TX 77032
 (713) 987-8259
 Owner: Gene Tognacci
 Manager: Catherine M. Daly

TRANSCOLOR
VFF
 3904 Crestpark, Dallas, TX 75234
 (214) 247-4941

TV22 PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 120 W. First Ave., Mesa, AZ 85202
 (602) 964-1992
 Owner: G.A.P. INC.
 Manager: Harry Horn

UNIVERSAL MUSIC & POST INC.
APPV
 5840 S. Memorial Ste. 210, Tulsa, OK 74145
 (918) 622-6446
 Owner: Rod Slone
 Manager: Sallie Slone

EQUIPMENT
 Synchronizer: Adams-Smith.
 VTRs: JVC 5550, Sony VOS800.
 Video Monitors: Panasonic, Mitsubishi, Sony.
 Audio recorders: Otari: MTR-90 24-, 16-track, MTR-10-2, MKIII-4, MX5050.
 Audio mixers: Amek/TAC.
 Other major equipment: MCI JH-110 LB3 layback recorder.
 Rates: 16-, 24-track interlock \$115/hr.
 Direction: Music score to picture, ADR, Foley, automated mix. Credits: "Bloodcult," United Entertainment Pictures; "The Ripper," United Entertainment Pictures; commercial clients: Otasco, Telex, AT&T, Zebco. TG&Y.

VIDEO-MEDIA PRODUCTIONS
VFF, OLVP, VPP/E
 2727 W. Southern Ave., Tempe, AZ 85282
 (602) 966-6545, 438-2959
 Owner: James Rinkenberger
 Manager: Keith Farnham

VIDEO POST AND TRANSFER
VPP/E
 8036 Aviation Pl., Box 53, Love Field Terminal
 Dallas, TX 75235
 (214) 350-2676
 Owner: Neil B. Feldman
 Manager: Lexie Bryan

JOHN WAGNER RECORDING STUDIOS, INC.
APPV
 12000 Candelaria N.E. Ste. 1, Albuquerque, NM 87112
 (505) 296-2766
 Owner: John Wagner, Laura Lee Zachery
 Manager: John Wagner

WILDMAN PRODUCTIONS
OLVP
 11231 Dalron, Dallas, TX 75218
 (214) 343-1980
 Owner: David Hirsch
 Manager: David Hirsch

WILLINGHAM PRODUCTIONS
VFF, OLVP, VPP/E
 3415 Deal St., Houston, TX 77025
 (713) 665-4033
 Owner: Dale Willingham

WM PRODUCTIONS
OLVP
 709 B. East 45th St., Austin, TX 78751
 (512) 452-4582
 Owner: Wayne R. Miller
 Manager: Jackie Powell

BILL YOUNG PROD. INC.
VPP/E, APPV
 8600 Westpark #110, Houston, TX 77063
 (713) 783-3422
 Owner: Bill Young
 Manager: Bill Young

ZOLI TELEPRODUCTIONS
OLVP, VPP/E, APPV
 6916 Lyrewood Ln. Ste. 179, Oklahoma City, OK 73132
 (405) 728-2070
 Owner: Zoli Zajda
 Manager: Zoli Zajda

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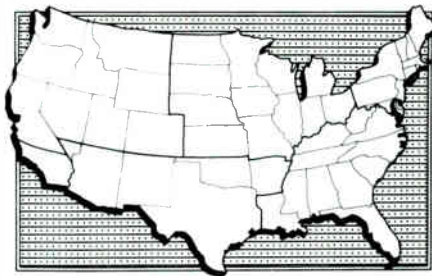
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ACTION VIDEO INC.

VPP/E
6616 Lexington, Hollywood, CA 90038
(213) 461-3611

Owner: Sam Holtz, Joe Benadon, Paco Araiz
Manager: Sam Holtz, Joe Benadon

EQUIPMENT

Synchronizer: Grass Valley/ISC Model 51.
VTRs: RCA TR 800s, Ampex VPR-6, Sony BVU-820.
Video Monitors: Conrac 6142 comb filter and Conrac 6200.

Switchers/editors: Grass Valley 300, 100 and 1200.

Cameras: Ikegami B/W BT 82, Sharp 800.

Audio recorders: Ampex 1/4-inch.

Audio mixers: Graham Patten, Audio design grand manufactures.

Other major equipment: Rank Cintel MKIIIC with X42 zoom/scene-to-scene color corrector Abekas A42 and Abekas A-62 digital recorder, ADO, DVE, noise reduction, Ultimate IV and Ultimate V.

Direction: Film-to-tape transfer, CMX/ISC computerized editing. Ultimate Paint Box, special effects.

ADVANCED VIDEO PRODUCTION

VPF, OLVP, VPP/E
1630 S. Sunkist Ste. G, Anaheim, CA 92806
(714) 385-1655

Owner: Dan McKechnie
Manager: Jeff A. Barr

ADVISUAL IMAGES

OLVP
694 S. Grand Ave., Pasadena, CA 91105
(818) 441-0292

Owner: Thomas Holowach
Manager: Thomas Holowach

ALPHA STUDIOS VIDEO & AUDIO INC.

VPF, OLVP, VPP/E, APPV
4720 W. Magnolia Blvd., Burbank, CA 91505
(818) 506-7443

Owner: KTVK-TV Phoenix, AZ, Gary Brandt and Denny Shaw
Manager: Gary Brandt

ALTAVIDEO

VPP/E, APPV
3501 Cahuenga Blvd. W., Los Angeles, CA 90068
(213) 876-8008

Owner: Norman C. Ross
Manager: David Martin

AMERICAN VIDEO FACTORY

VPF, OLVP, VPP/E, APPV
4150 Glencoe Ave., Marina Del Rey, CA 90292
(213) 823-8622

Owner: Andrew Meisner
Manager: Bob Knudson

APTECH PRODUCTIONS/ ENVIRONMENTAL COMMUNICATIONS

OLVP, VPP/E
1935 1/2 Barry Ave., Los Angeles, CA 90025
(213) 473-1084

Owner: Eric Werbalowsky
Manager: Lauri Flack

ASC VIDEO CORPORATION

VPP/E
3816 Burbank Blvd., Burbank, CA 91505
(818) 843-7004

Owner: Mark G. Chatinsky and Alan H. Immerman
Manager: Diana Mundy

EQUIPMENT

VTRs: Sony BVU-800s, VO-5850 address track, JVC CR-8250U.

Video Monitors: Sony, JVC, Panasonic.

Switchers/editors: Convergence ECS-103, ECS-90, EECO-IVES, Comprehensive Edit-Lister™ list management system.

Audio mixers: Tascam.

Other major equipment: Cipher time code generators/readers, Mitsubishi video printers.

Rates: Please call for rates.

Direction: ASC Video Corporation specializes in rental, sales and support of 1/4-inch video editing systems. Equipment ranging from individual machines to full systems can be provided either at a client's facility, or in ASC's

SO. CALIFORNIA

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

on-premises editing suites. Technical assistance is available full-time, and a full service electronic department is maintained in-house. A complete sales department complements the rental/service facility with availability of everything from tapes and accessories to complete editing systems.

ASSOCIATED PROD. MUSIC

APPV
6255 Sunset Blvd. Ste. 724, Hollywood, CA 90028
(213) 461-3211

Manager: Georgia Robertson

AUDIO VISUAL STRATEGIES

OLVP
738 N. Cahuenga Blvd. Ste. C, Hollywood, CA 90038
(213) 465-9033
Owner: P. Shuey

A.V.C. VIDEO LABS

OLVP, VPP/E
18121 Napa St., Northridge, CA 91325
(818) 886-8680

Owner: Sunrise Video
Manager: Cris Monte

BECKJORD FILMS

OLVP
18711 Pac. Coast Hwy., Malibu, CA 90265
(213) 456-6769

Owner: Erik Beckjord
Manager: Jon Beckjord

ROLLAND BEECH FILM PRODUCTIONS

VPF, OLVP
1795 Ridgeview Circle West-12, Palm Springs, CA 92264
(619) 323-8413

Owner: Rolland V. Beech
Manager: Irma A. Beech

BERTUS PRODUCTION

APPV
22723 Berdon St., Woodland Hills, CA 91367
(818) 883-1920

Owner: Robby and Lynne Weaver
Manager: Robby Weaver

EQUIPMENT

Synchronizer: Time Line Lynx.

VTRs: JVC 8250 3/4-inch.

Video Monitors: JVC and Sony.

Audio recorders: Otari MTR-90 series 2 24-track, Otari MTR-10 2-track, Sony F-1 digital, Otari MKIII-4 4-track, Nakamichi cassette decks.

Audio mixers: APSI 32 x 24.

Other major equipment: Synclavier II with poly sampling; 7-foot Yamaha grand; complete digital sound effects library.

Rates: Available on request.

Direction: To bring high-tech audio production techniques to the world of film and video, music and sound.

BLT PRODUCTIONS

APPV
Box 519, La Mesa, CA 92041
(619) 562-6077
Owner: Bill Moffitt
Manager: Tom Kelly

PEDRO BONILLA FILMS & VIDEO

OLVP
17806 Porto Marina Way, Pacific Palisades, CA 90272
(213) 454-8909

Owner: Pedro Bonilla
Manager: Dan Bonilla

BREWERY SOUND RECORDING

APPV
1690 Placentia Ave. #C, Costa Mesa, CA 92627
(714) 650-4117

Owner: Jim R. Cruttenden
Manager: Alex Alonso

BRITANNIA RECORDING STUDIOS

APPV
3249 Cahuenga Blvd. W., Hollywood, CA 90068
(818) 851-1244

Owner: Gordon Mills Enterprises
Manager: Greg Venable

BUZZY'S RECORDING

APPV
6900 Melrose Ave., Los Angeles, CA 90038
(213) 931-1867

Owner: Walle Resnick
Manager: Larry Lantz

CALIFORNIA AUDIO POST

APPV
5203 Sunset Blvd., Hollywood, CA 90027
(213) 666-1244

Owner: A.M.I. Inc.
Manager: John Brady

CALIF. COMPACT DISC GROUP

VPF, OLVP, VPP/E, APPV
955 W. 19th St. Ste. A205, Costa Mesa, CA 92627
(714) 646-3326

Owner: Larry Marks

CANTRAX RECORDERS

APPV
2119 Fidler Ave., Long Beach, CA 90815
(213) 498-6492

Owner: Richard Cannata
Manager: Richard Cannata

CATZEL, THOMAS AND ASSOCIATES

VPF, OLVP, VPP/E
2207 Colby Ave., Los Angeles, CA 90064
(213) 473-7500

Manager: Amanda Fougler

CCR VIDEO CORPORATION

OLVP, VPP/E
6410 Santa Monica Blvd., Los Angeles, CA 90038
(213) 464-7151

Owner: Richard W. Melchior
Manager: Ed Kessler

CHECK ONE ASSOCIATES

OLVP, APPV
11929 Windward Ave., Los Angeles, CA 90066
(213) 313-2776

Owner: Glenn Berkovitz
Manager: Glenn Berkovitz

CHROMASTAR PRODUCTIONS, INC.

VPF, OLVP, VPP/E, APPV
213 W. Alameda Ave. Ste. 101, Burbank, CA 91502
(818) 842-5144

Manager: Greg Snowden

A COMMUNITY OF ARTISTS

OLVP, VPP/E
1724 E. 4 #7, Long Beach, CA 90802
(213) 436-0141, 491-0673

Owner: Farrell Winter Sueslosky
Manager: Fred Jackson

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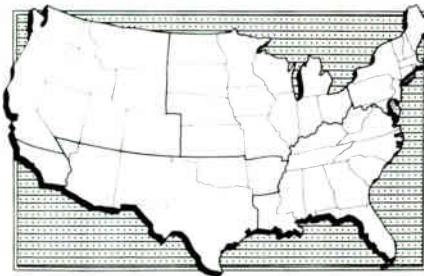
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Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

COMPLETE POST INC.
VPP/E, APPV
6087 Sunset Blvd., Hollywood, CA 90028
(213) 467-1244
Manager: Neal Rydall

MIKE CRAVEN PRODUCTIONS
VPF, OLVP, VPP/E
105 E. Sycamore Pk. Dr., Los Angeles, CA 90031
(213) 225-7091
Owner: M. Craven
Manager: Kris Torrioni

CREATIVE PRODUCTIONS
APPV
4536 Colbath Ave. #3, Sherman Oaks, CA 91423
(818) 905-0205
Owner: Gregory Kuhn, Grant Mullford
Manager: Gregory Kuhn

EQUIPMENT
Synchronizer: Any available upon request.
VTRs: Any available upon request.
Video Monitors: RCA, others upon request.
Audio recorders: Tascam 388-track, Tascam 244 4-track, or Fostex 16-track on request.
Audio mixers: Tascam Model 308-input, 4-bus or Soundcraft 200B 16-input, 4-bus available on request.
Other major equipment: Yamaha DX7, DX9, TX216, Roland Super Jupiter, various guitars, various drum machines (SP-12 by E-mu systems on request), computer and Syntech sequencing software for keyboards, also digital delays, compressors, plate reverb, and Yamaha REV7 digital reverb.
Rates: Tailored to each project.
Direction: Specialize in synthesizer/drum machine soundtracks in style of Tangerine Dream or Alan Parsons Project.

CRESCENDO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
505 Mar Vista, Solana Beach, CA 92075
(619) 481-0192
Owner: Davis A. Kuspa

CRUNCH NUMBER PRODUCTIONS
VPP/E
10419 Myrna St., North Hollywood, CA 91601
(818) 760-0657
Owner: Jim Settlemoir
Manager: Jim Settlemoir

DAVID'S VIDEO EDITING
VPP/E
1416 MacBeth St., Los Angeles, CA 90026
(213) 482-1192
Owner: David Rapka

DIGITAL SPECTRUM SYSTEMS, INC.
VPF, OLVP, VPP/E, APPV
P.O. Box 1546, Hollywood, CA 90078
(818) 762-0500
Owner: Mac McCorney
Manager: Steven Olson

DIVERSIFIED VIDEO INDUSTRIES, INC.
dba SIERRA VIDEO
VPF, OLVP
4216 N. Maxson Rd., El Monte, CA 91732
(818) 579-7023
Owner: Jerry Hennan, Roger Dwinell
Manager: George Schroeder

EQUIPMENT
Synchronizer: Harris.
VTRs: ¾-inch, 1-inch C Sony; Hitachi.
Video Monitors: Asaca; Cohu; Conrac; Panasonic; Tektronix.
Switchers/editors: Central Dynamics; Convergence.
Cameras: Sony CEI.
Audio recorders: Otari.
Audio mixers: Yamaha.
Other major equipment: HME wireless mics; 21-foot custom heavy duty, air conditioned Gruman Olson/Ford high cube truck.
Rates: On request.
Direction: Field production, multi and single camera projects. TV commercials; specials and corporate communications. Examples: Circus of Stars, The Wild West Show of the Stars; Mickey Thompson Entertainment Group; Lonmar; MTM; TV Guide; ABC News; CBS USC Aerospace Engineering; Lions Eye Foundation; Miss California Beauty Pageant.



DSR PRODUCTIONS
Los Angeles, CA

DSR PRODUCTIONS
VPF, VPP/E, APPV
607 N. Ave. 64, Los Angeles, CA 90042
(213) 258-6741
Owner: Van Webster
Manager: Mariellen Webster

EQUIPMENT
Synchronizer: Adams-Smith 2600.
VTRs: Sony.
Video Monitors: Ikegami, Panasonic, Videotek.
Switchers/editors: Crosspoint Latch, Sony.
Cameras: Hitachi 231, Sony.
Audio recorders: 3M, Ampex, Sony digital.
Audio mixers: MCI.

Other major equipment: Complete 24-track audio studio, Sony digital audio for Beta/VHS hi-fi production.
Rates: Please call. We offer computerized budgeting for your project.
Direction: DSR Production, a division of Digital Sound Recording, is a one-stop media service for video, audio, multimedia, and film. Our major clients include production boutiques, ad agencies and corporation. We are especially effective in creating dramatic effects at low-cost. Recent clients include Warner/Elektra/Atlantic Group, the Compact Disc Group, and NARM (National Association of Recording Merchandisers).

EFX SYSTEMS
APPV
919 N. Victory, Burbank, CA 91502
(818) 843-4762
Owner: George Johnsen
Manager: Byl Carruthers

EQUIPMENT
Synchronizer: BTX Shadow, BTX Softouch, Adams-Smith 605.
VCRs: Sony, Panasonic JVC ¾-inch, Hitachi, Sony MCI 1-inch.
Audio recorders: Studer, MCI, Sony.
Audio mixers: Amek 2500, Bimix 3224.
Other major equipment: 8 reverb systems including digital, 11 delay lines, 22 compressor/limiters, gates, de-essers, EQs, 168 microphones, all types, plus more.

Rates: Something to fit every project.
Direction: EFX offers a full-line of audio services for visual media: Foley, ADR, scoring, dubbing, mixing, sweetening, layovers, laybacks and transfers. Our major concerns are audio quality, and meeting your needs in terms of deadline, budget and convenience. Services are available for sprocketed, time coded projects. Our staff is experienced and professional. Add this to our first-rate equipment and comfortable atmosphere, and you have EFX the total audio complex! Now featuring Studer A800, Emulator II and an enormous digital in-house sound effects library.

ELECTRONIC POST PRODUCTION SYSTEMS
VPP/E, APPV
 11321 Iowa Ave., W. Los Angeles, CA 90025
 (213) 477-9877, 479-8390
 Owner: Richard Nisbet
 Manager: Richard Nisbet

THE ENTERPRISE
APPV
 4628 W. Magnolia, Burbank, CA 91505
 (818) 980-2010
 Manager: Thom Brown, Derra Shelly

JERRY FELDMAN PRODUCTIONS
VFF, OLVP, VPP/E
 1638 1/2 Edgecliff Dr., Los Angeles, CA 90026
 (213) 665-8640
 Owner: Jerry Feldman
 Manager: Jerry Feldman

TOM FELDMAN PRODUCTIONS
OLVP
 152 N. Irving Blvd., Los Angeles, CA 90004
 (213) 465-8701
 Owner: Tom Feldman

FIESTA SOUND & VIDEO CO.
VFF, OLVP, APPV
 1655 S. Compton Ave., Los Angeles, CA 90021
 (213) 748-2057
 Owner: Richard G. Robeson
 Manager: Rick Robeson Jr.

FILMCRAFTERS
VFF, OLVP, VPP/E, APPV
 P.O. Box 45572, Los Angeles, CA 90045
 (213) 641-6028
 Owner: Gene Burson
 Manager: Gene Burson

FILM TRANSFORM, INC.
VFF, OLVP, VPP/E
 3755-B Cahuenga Blvd. W., Studio City, CA 91604
 (818) 769-3010
 Owner: Eric Sherman
 Manager: Larry Madsen

FLORES PRODUCTIONS INC.
OLVP
 11115 Magnolia Blvd., No. Hollywood, CA 91601
 (818) 508-5216
 Owner: Flores Productions Inc.
 Manager: David Flores

FOTO-TRONICS
VPP/E
 2800 W. Olive, Burbank, CA 91505
 (818) 846-9350
 Owner: Gerald D. Brodersen
 Manager: Llyod Martin

GALLIVAN VIDEO & PHOTO SERVICES
OLVP
 2803 Westminster Ave. Ste. 207, Santa Ana, CA 92706
 (714) 554-0305
 Owner: John Gallivan

THE GARAGE AUDIO AND VIDEO
VFF, OLVP, VPP/E, APPV
 W. Covina, CA 91790
 (818) 337-7943
 Owner: Patrick Woertink
 Manager: Alan Clark

GARRISON PUTNEY STUDIO
VFF, VPP/E, APPV
 4635 E. Anaheim St., Long Beach, CA 90804
 (213) 494-4552
 Owner: Clovis L. Putney
 Manager: Cree H. Putney

KENT GIBSON SOUNDESIGN
APPV
 1860 Heather Ct., Beverly Hills, CA 90210
 (213) 276-5334
 Owner: Kent Gibson
 Manager: Mitch Pera

GLASS MUSIC VIDEO PRODUCTIONS
OLVP
 2811 Waverly Dr. Ste. 2, Los Angeles, CA 90039
 (213) 666-6546
 Owner: Sam Glass
 Manager: David Pearlberg

GLEN GLENN SOUND
APPV
 900 Seward St., Hollywood, CA 90038
 (213) 469-7221

GOAL PRODUCTIONS
VFF, OLVP
 2027 N. Lake Ave., Altadena, CA 91001
 (818) 797-7668
 Owner: Jack Oswald
 Manager: Robert Bello

GOLDEN GOOSE PRODUCTIONS
APPV
 2074 Pomona Ave., Costa Mesa, CA 92627
 (714) 548-3694
 Owner: Dennis Rose
 Manager: Dennis Rose

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MICROPHONES

The Neumann U89i

Plus . . .
 Audio-Technica
 Shure
 AKG
 Electro-Voice
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CONSOLES

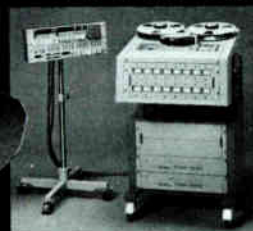
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 Neotek
 Soundtracs

RECORDERS

The Tascam MS-16



Plus . . .
 Ohri
 Soundcraft

MONITORS

The JBL 4425



Plus . . .
 Community
 Electro-Voice
 Klipsch
 CSI
 UREI

POWER AMPS

The Crown PS-400

Plus . . .
 Carver QSC
 Hoffer BGW
 JBL UREI

NEW WORLD

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 1-800-854-2005

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GRATE FILMS
OLVP
 233 Market St., Venice, CA 90291
 (213) 396-8229
 Owner: Andy Rovins
 Manager: Heidi Baumgarten



GROUP IV RECORDING, INC.
 Hollywood, CA

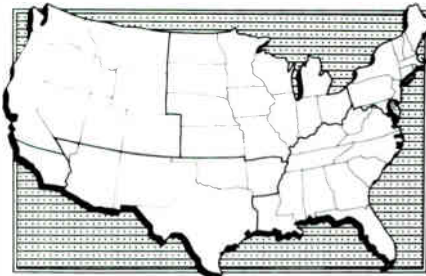
GROUP IV RECORDING, INC.
VPF, APPV
 1541 N. Wilcox Ave., Hollywood, CA 90028
 (213) 466-6444
 Owner: Angel L. Balestier, Dennis Sands
 Manager: Angel L. Balestier
EQUIPMENT
 Synchronizer: BTX-Softouch.
 Video Monitors: Mitsubishi.
 Audio recorders: Studer/MCI.
 Audio mixers: Trident A Series.
 Other major equipment: Studer 1-inch video layback machine, Magna-Tech recorders: 6-track, 4-track, 3-track and single track.
 Direction: Group IV Recording has in the last few years been responsible for the sound on such major motion pictures as *On Golden Pond*, *Rocky II*, *Back to the Future*. Our intent is to follow various motion pictures through the complete production process such as ADR, musical scoring and sound effects; we are very well equipped and we have a very talented staff.

RALPH HALL PRODUCTIONS, INC.
VPF, OLVP
 3660 Ruffin Rd. Ste. A, San Diego, CA 92123
 (619) 292-7612
 Owner: Ralph Hall
 Manager: Ralph Hall

CRAIG HARRIS MUSIC
APPV
 11285 Laurie Dr., Studio City, CA 91604
 (818) 508-8000
 Owner: Craig Harris
 Manager: Miles Joseph

HITSVILLE RECORDING STUDIOS
APPV
 7317 Romaine St., Los Angeles, CA 90046
 (213) 850-1510
 Owner: Motown Records
 Manager: Guy Costa
EQUIPMENT
 Synchronizer: Q.Lock, MQS100, BTX.
 VTRs: BVH2000, BVU800, and VHS, Beta, misc.
 Switchers/editors: Sony, Panasonic.
 Cameras: Ikegami 350.
 Audio recorders: Ampex ATR-124, ATR-100, ATR-104, 3M 59, 3M 56, Sony PCM-1610, PCM-F1.
 Audio mixers: Neve 8078 w/Necam 96 (3).
 Other major equipment: All major outboard equipment.
 Rates: Call.
 Direction: 16/35mm Telecine: multiple film/video formats; digital audio processing; SMPTE/MIDI synthesizer systems; (2) 32 x 32 polyphonic Synclaviers; full recording (3 studios).

HOLLYWOOD BLUES STUDIOS
VPF, OLVP, APPV
 6007 1/2 Waring, Hollywood, CA 90038
 (213) 465-ROCK
 Owner: Earl R. Dingman Prods./Lucrecia Ent.
 Manager: Lucy Russo, Kevin Slater



SO. CALIFORNIA

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

HOLLYWOOD VIDEO PRODUCTIONS
VPF, OLVP, VPP/E
 12155 Calvert St., North Hollywood, CA 91606
 (213) 877-2218
 Owner: Rudy Linan
 Manager: Rudy Linan

HOMER & ASSOCIATES
VPP/E
 1420 N. Beachwood Dr., Hollywood, CA 90028
 (213) 462-4710
 Owner: Peter and Coco Conn
 Manager: Lance Richter

HORIZONTAL EDITING STUDIOS
VPP/E, APPV
 2625 W. Olive Ave., Burbank, CA 91505
 (818) 841-6750
 Manager: Aileen Ordelleide

HOT LIX PRODUCTIONS
VPP/E, APPV
 21405 Colina Dr., Topanga, CA 90290
 Owner: Bill Glasser
 Manager: Bill Glasser

INTERART
VPP/E
 6363 Sunset Blvd. Ste 716, Hollywood, CA 90028
 (213) 466-5461, 466-0104
 Owner: James P. Evans
 Manager: Melissa Landini

INTERLOCK PRODUCTION STUDIOS
APPV
 6000 Sunset Blvd., Hollywood, CA 90028
 (213) 469-3986
 Owner: Mike Perricone, Jim Mandell
 Manager: Mike Perricone, Jim Mandell

JOHNSON-NYQUIST PRODUCTIONS
VPF, OLVP, VPP/E
 23854 Via Fabricante D-1, Mission Viejo, CA 92691
 (714) 770-5777
 Owner: David C. Johnson, Carroll Nyquist
 Manager: David C. Johnson

IPART STUDIOS
VPF, OLVP, VPP/E
 702 Aileron Ave., La Puente, CA 91744
 (818) 330-3521
 Owner: Jeffrey L. Peters
 Manager: Jeffrey L. Peters
EQUIPMENT
 VTRs: 3/4-inch CR-4700 w/remote and time code generators, Sony 5800, Sony 5850.
 Cameras: JVC KY-310 (with ENG package), (3) Sony DXC-M3 in studio/mobile package.
 Audio recorders: TEAC.
 Audio mixers: Ramsa 8 x 2, Yamaha 12-channel PA board (in remote van).



IPART STUDIOS
 La Puente, CA

Other major equipment: 3 camera remote van w/SEG 2000, 13-inch color program monitors, FOR-A TBC, Gray Lab SMPTE time code, Knox graphics, JBL and Cerwin Vega audio monitors.
 Rates: "Location/ENG" package with equipment, operator and assistant \$300/day. Three camera remote van/studio package \$1000/day. 3/4-inch broadcast-quality, on-line editing package (with engineer) \$35-45/hr.
 Direction: IPART Studios provides broadcast quality film-style location and multi-camera studio productions. In-house capabilities include on-line/off-line editing with SMPTE time code. 3/4-inch and 1/2-inch Betacam to 1-inch with digital effects is available at reasonable rates. We know how to facilitate your video from concept development to finished edited master with results that are on time, on target, on budget. Contact us; our sample reel is available upon request.

KAMERA VIDEOGRAPHY
VPF, OLVP, VPP/E
 15010 Ventura Bl. Ste. 336, Sherman Oaks, CA 91403
 (818) 906-3277
 Owner: Varkess Nargizian
 Manager: Art Vargias

KCET TV
VPF, OLVP, VPP/E, APPV
 4401 Sunset Blvd., Los Angeles, CA 90027
 (213) 667-9258
 Owner: Community Television of Southern California
 Manager: Peter Young

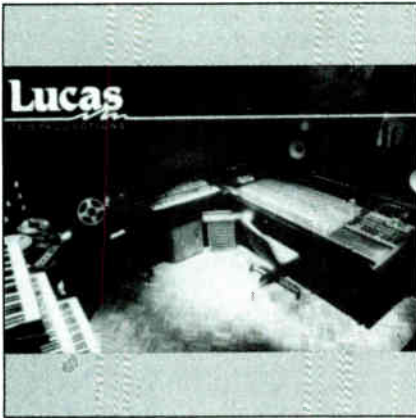
KIRSCH VIDEO PRODUCTIONS, INC.
VPF, VPP/E
 17777 Main St. Ste. D-2, Irvine, CA 92714
 (714) 261-0598
 Owner: Corporation
 Manager: Mark M. Kirsch, David Barnes

JERRY KRAMER & ASSOC.
VPF, OLVP, VPP/E
 1312 N. La Brea, Hollywood, CA 90028
 (213) 462-2680
 Owner: Jerry Kramer

LAGUNA VIDEO PRODUCTIONS, INC.
VPF, OLVP, VPP/E
 P.O. Box 4301, Laguna Beach, CA 92651
 (714) 499-3659
 Owner: Jim Wilson
 Manager: Jim Wilson

LIGHTNING CORPORATION
VPF, OLVP, VPP/E, APPV
 7854 Ronson Rd., San Diego, CA 92111
 (619) 565-6494
 Owner: Mike Larsen
 Manager: Janice Arnold-Jones

LION SHARE RECORDING STUDIO
APPV
 8255 Beverly Blvd., Los Angeles, CA 90048
 (213) 658-5990
 Owner: Kenny Rogers
 Manager: Terry Williams



LUCAS TELEPRODUCTIONS
Burbank, CA

LUCAS TELEPRODUCTIONS
OLVP, VPP/E, APPV
4106 W. Burbank Blvd., Burbank, CA 91505
(818) 845-1700
Owner: Jan Lucas
Manager: Reed Miller

LUXURY LIVING PRODUCTIONS
APPV
2201 E. Winston Rd. Ste. L, Anaheim, CA 92806
(714) 491-4922
Owner: Rcy Hamer
Manager: Phil Johnson

MAJESTIC DUPLICATING SERVICE
VPP/E
1208 W. Isabel St., Burbank, CA 91506
(818) 843-1806
Owner: Leslie Leb
Manager: Felix Martinez

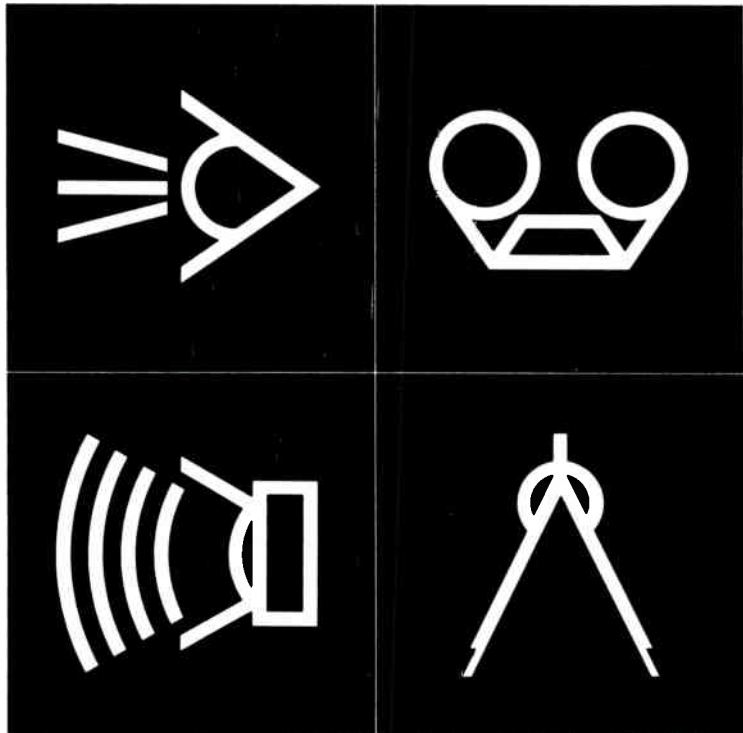
MARSH INTERNATIONAL FILMS
VPF, OLVP, VPP/E, APPV
21029 Itasca St. Ste. A, Chatsworth, CA 91311
(818) 998-2188
Owner: David Marsh
Manager: Mike Missile
EQUIPMENT
Synchronizer: BTX Softouch (4 machine).
VTRs: VPR-80, BVH-2000, 5850, BVW-40, BVW-10.
Video Monitors: Sony, Hitachi, Sharp, Videotek, Barco.
Switchers/editors: EditDroid.
Cameras: Betacam BVP3A.
Audio recorders: MCI JH-24, Otan MTR-12, Otan MK118.
Other major equipment: Synclavier 64-voice polyphonic
10 RAM MB of sampling (one of the largest).
Direction: High-tech film and video post center, with many
computers to create the magic. Computer graphics, editing,
visual EFX and music, all integrated and talking to each
other.

MARTINSOUND RECORDING STUDIOS
APPV
1151 W. Valley Blvd., Alhambra, CA 91803
(818) 281-3555, 283-2625
Owner: Joe Martinson
Manager: Annette

MASTERWORK PRODUCTIONS
VPF, OLVP, VPP/E
2700 Little Mountain Dr., 85-40
San Bernardino, CA 92414
(714) 886-9711 x1651
Owner: Campus Crusade for Christ
Manager: Fred Hollis

JIM MATHERS VIDEO/FILMS, INC.
OLVP
4739 Lankershim Blvd., No. Hollywood, CA 91602
(818) 762-2214
Owner: Jim Mathers
Manager: Jim Mathers

MATTEL TOY COMPANY
VPF, OLVP, VPP/E, APPV
5150 Rosecrans Ave., Hawthorne, CA 90250
(213) 978-7094
Manager: Bill Wiles



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CYBER-KINETEK now has the technology to integrate what has traditionally been separate areas of the entertainment medium into a single operating system. CYBER-KINETEK is made up of four interlocking specialty groups; PRO VIDEO specializing in engineering custom video production systems, PRO AUDIO specializing in locking audio products to video, SOUND REINFORCEMENT specializing in computer aided system designs for everything from small clubs to arena systems, and DESIGN ENGINEERING which provides systems integration and acoustic design consultation services for both audio and video facilities.

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MECS LASZLO FILM & VIDEO**VFF, OLVP**

1140 Beachwood Dr. #D, Hollywood, CA 90038

(213) 465-8290

Owner: Laszlo Mecs

Manager: Monica Mecs

MEDIA LEARNING SYSTEMS, INC.**VFF, OLVP, VPP/E, APPV**

120 W. Colorado Blvd., Pasadena, CA 91105

(818) 449-0006

Owner: James F. Griffith

Manager: Mitch Aiken

EQUIPMENT

Synchronizer: Foxtek 4030.

VTRs: Sony BVU800, VO5850, VO5800.

Video Monitors: Videotek broadcast monitors.

Switchers/editors: Grass Valley 100, Convergence 204

with list management.

Cameras: Sony DXC M3.

Audio recorders: Foxtek/Tascam SMPTE lock, 8-track;

TEAC 4-track; TEAC 2-track.

Audio mixers: Tascam 20 x 4.

Other major equipment: For-A 420 TBC w/DOC and

Freeze Frame, printer and paper punch, Chyron VP 2,

Roland Jupiter 8 synthesizer and drum machine.

Rates: Call for quotes.

Direction: Winner of five awards in the past two years in competitive film/video festivals. In addition to full video-tape design and production services, Media Learning Systems specializes in the design, production, and premastering of interactive videodiscs. Other services include scripting, instructional design, graphic design and systems integration.

MEDITERRANEAN PRODUCTIONS**VFF, OLVP, VPP/E, APPV**

5000 Lankershim Blvd. #4, No. Hollywood, CA 91601

(818) 763-2242

Owner: E.N. Abodaber

Manager: E.N. Abodaber

ROLF MENDEZ FILM/VIDEO**OLVP**

11820 Larrylyn Dr., Whittier, CA 90604

(213) 943-1622

Owner: Rolf Mendez

METRON PRODUCTIONS**VFF, OLVP, VPP/E, APPV**

1154 W. 160th St., Gardena, CA 90247

(310) 327-2824

Owner: Bruce B. Schwab

MPS PRODUCTION SERVICES**OLVP, VPP/E**

512 Rosemont St., LaJolla, CA 92037

(619) 459-8167

Owner: Michael P. Salmen

M.T.O.**(THE MEDIA & TALENT ORGANIZATION, INC.)****VFF, OLVP**

P.O. Box 2310, Beverly Hills, CA 90213

(213) 271-4629

Owner: Eric Heckscher

MULCAHY, STILL & MOTION PICTURES**VFF, OLVP, VPP/E, APPV**

Box CB-16, 24700 McBean Parkway

Valencia, CA 91355

(805) 254-7398

Owner: Paul F. Mulcahy

MULTI-MEDIA-WORKS**VFF**

7227 Beverly Bl., Los Angeles, CA 90036

(213) 939-1185

Owner: Art Ganung

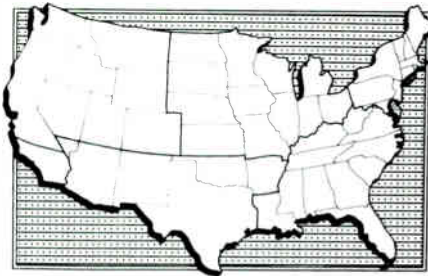
MUSIC LAB, INC.**VPP/E, APPV**

1831 Hyperion Ave., Hollywood, CA 90027

(213) 666-3003

Owner: Chaba Mehes

Manager: Creig Durst



SO. CALIFORNIA

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VFF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

DOUGLAS NELSON ASSOCIATES**OLVP, APPV**

18965 San Jose St., Northridge, CA 91326

(818) 360-0967

Owner: Doug Nelson

NIGHT VISION PRODUCTIONS, INC.**APPV**

8695 Hebrides Dr., San Diego, CA 92126

(619) 566-8989

Owner: Don Phillips

NORSTAR SOUND, INC.**APPV**

105 S. Sparks St., Burbank, CA 91506

(818) 846-2148

Owner: Norval Crutcher and Steve Bushelman

Manager: Norval Crutcher and Steve Bushelman

NUE PRODS., INC.**OLVP, VPP/E**

5595 E. 7th St. Ste. 229, Long Beach, CA 90804

(818) 824-9637

Owner: John Heys, Rod Du Vall, Rick Leddy, Christie Collins

Manager: Roderick Du Vall

ONE INCH VIDEO PRODUCTIONS, INC.**VFF, OLVP, VPP/E, APPV**

4710 W. Magnolia Blvd., Burbank, CA 91505

(818) 760-6900

Owner: Eiji Katayama

Manager: Penny Johnson



PACIFIC VIDEO
Hollywood, CA

PACIFIC VIDEO**VPP/E, APPV**

809 N. Cahuenga Blvd., Hollywood, CA 90038

(213) 462-6266

EQUIPMENT

Synchronizer: CMX-3400 edit controller used in audio post-production.

VTRs: 1-inch, 2-inch, ¾-inch and Betacam available.

Switchers/editors: Grass Valley 300 with Mark II DVE.

Audio recorders: Ampex ¼-inch stereo and mono, ½-

inch 4-track; 2-inch 16-track; 2-inch 24-track recorders.

Audio mixers: Harrison 48 input console.

Other major equipment: Off-line and on-line editing

with CMX-3400 edit system: ADO, DVE, ESS and Vidifont

V electronic graphics available. Film-to-tape transfer with

primary and secondary color correction also available.

Rates: Upon request. Contact Leon Silverman, V.P. market-

ing/sales or David Toma marketing/sales.

Direction: Pacific Video is heavily involved with music

television. Recent projects include "Raspberry Beret" and

"When Doves Cry" for Prince, "Don't Lose My Number"

and "Take Me Home" for Phil Collins, "The Glamorous

Life" and "Sister Fate" for Shirla E., "Like a Virgin" for

Madonna, and "We Don't Need Another Hero" for Tina

Turner. Long form music concert specials include shows

for David Bowie, Frank Zappa, Eric Clapton, '38 Special,

Kenny Rogers, and Lionel Richie. Additional projects in-

clude the TV series "Twilight Zone," "Knots Landing," "The

Paper Chase," "The Fall Guy" and several movies of the

week. Other regular clients include McGraw-Hill Learning

Systems, McDonnell Douglas Corporation, Hughes Aircraft,

The Danel Channel, Media Home Entertainment, Picture

Music International and Split Screen, Inc.

PACIFIC WEST VIDEO PRODUCTIONS**OLVP, APPV**

P.O. Box 2222, Carlsbad, CA 92008

(619) 729-1000

Owner: Stephen Cilurzo

Manager: Steve Hill

POSITIVE MEDIA**VFF, OLVP, VPP/E**

5422-A Fair Ave., No. Hollywood, CA 91601

(818) 761-5192, (213) 461-0092

Owner: Paul Holman

Manager: Paul Holman

EQUIPMENT

VTRs: Sony Betacam, BVU-100, 5850, 5800, 5600, 6800,

Sony BVH-500A, 1-inch Type C portable VTR, Betacam

BVW25.

Switchers/editors: JVC KM-2000, Panasonic 4600B.

Cameras: Sony M-3s, JVC 110, 1900, Sony M3As.

Audio recorders: Revox.

Audio mixers: TEAC, Shure.

Other major equipment: V-star-5, 16-foot large-screen

video projectors, ¾-inch and VHS editing systems.

Rates: Betacam \$350/day, ¾-inch and CAM \$350/day,

¾-inch editing \$25/hr., Betacam editing \$100/hr.

Direction: Positive Media will provide full-service video

production and video equipment rental packages and/or

crews, including cameras, switchers, decks, editing sys-

tems, video projectors, SMPTE readers, etc. Our Betacam

delivers full network quality video at low cost. We facilitate

pre-planning consultation to post-production. Laser light-

ing and special EFX, large screen projection. We also have

a 25 x 50-foot shooting stage. Amateur or pro we can work

with you to maximize final production value.

POST SOUND CORPORATION**APPV**

6500 W. Sunset Blvd., Hollywood, CA 90028

(213) 462-0000

Manager: Janje Vujovich, Brian Berquist

EQUIPMENT

Synchronizer: Adams-Smith/Compupro Custom.

VTRs: Ampex and Sony 1-inch C Format; Film: KEM cus-

tom 16/35mm and Magne-Tech Recorder multi-format.

Video Monitors: GE Talaria projector, Barco Vision II, JVC

2590s.

Audio recorders: Otari 48-, 24-, 4-, 2-track MTR.

Audio mixers: Amek automated 48 x 24 + 6.

Other major equipment: "THX" monitoring system, dbx,

Dolby, Orban, DeltaLab, Lexicon, MICMIX, Burwen, EV,

Shure, Beyer, Sony, etc.

Rates: On request.

Direction: Specializing in total post-production sound for

feature films and video productions. Current projects: "The

Twilight Zone," "Tall Tales," "Bride To Cross," "Best of Your

Show of Shows," "Streetwalkin'," "High Riders," commer-

cials, animated series, and trailers. Specializing in stereo

dramatics. Film scoring, dubbing, ADR, Foley and video

sound mixing services available.

PREMORE VIDEO INC.**VPP/E, APPV**

5130 Klump Ave., No. Hollywood, CA 91601

(818) 506-7714

THE PRODUCTION GROUP/THE POST GROUP
VFF, OLVP, VPP/E, APPV
 1330 N. Vine St., 6335 Homewood Ave.
 Los Angeles, CA 90028
 (213) 469-8111, 462-2300
 Owner: Fred Rheinstein
 Manager: Duke Gallagher

PRO-LENS PRODUCTIONS
VFF, VPP/E
 2904 Castle Rock Rd., Diamond Bar, CA 91765
 (818) 330-1955
 Owner: Walt Schmidt
 Manager: Donn Wade

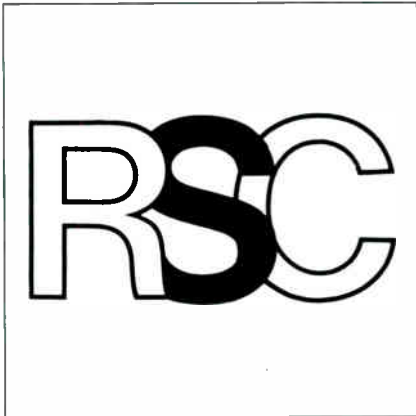
QIAD VIDEO PRODUCTIONS
VFF, VPP/E
 1955 Diamond St. Unit A, San Marcos, CA 92069
 (619) 471-2180

Owner: Eleanor Burns
 Manager: Brian Steutel
EQUIPMENT
 Synchronizer: Editor interface.
 VTRs: ¾- and 1-inch C.
 Switchers/editors: Convergence 200; SEG 10 input/programmable, editor interfaced.
 Audio recorders: 8-track, editor interfaced.
 Audio mixers: 6 x 2 with EQ.
 Other major equipment: 1200 sq. ft. with grid, hard and soft cyc, ½-inch mass duplication.
 Rates: Studio from \$140/day; editing from \$40/hr.
 Direction: QIAD Video Productions is a full-service tele-production facility which specializes in low-cost commercial, training, and instructional video productions. Emphasis is on product demonstrations, equipment applications, and set-ups. From full crews or specific individuals to fill your needs, qualified personnel take the customer from concept to duplication and distribution. QIAD draws from extensive experience as a book publisher and three years as video publisher.

RDS POST
VPP/E
 20 E. Colorado Blvd. Ste. 202, Pasadena, CA 91105
 (818) 584-0304
 Owner: Richard Soto

RESEARCH VIDEO
VFF
 4900 Vineland Ave., No. Hollywood, CA 91601
 (818) 509-0506
 Owner: Paul L. Surratt, John M. Delgatto

ROCK SOLID PRODUCTIONS
VFF, OLVP, VPP/E
 801 So. Main St., Burbank, CA 91506
 (818) 841-8220
 Owner: David Griffin, Geoffrey Leighton
 Manager: John Rauh



RSC/RECORDING SERVICES COMPANY
 Burbank, CA

RSC/RECORDING SERVICES COMPANY
APPV
 2414 W. Olive Ave., Burbank, CA 91506
 (818) 843-6800, (213) 849-6800
 Owner: Recording Services Company, Inc.
 Manager: Ken Dahlinger

EQUIPMENT
 Synchronizer: Adams-Smith, Q.Lock, Shadow. All operational in-house.
 VTRs: Ampex VPR-1C 1-inch, Sony BVU-800 ¾-inch, JVC-850 ¾-inch, Betacam, Betamax, VHS.
 Video Monitors: All sizes as required.
 Audio recorders: Otari MTR-90, 2-, 4-, 8-, 16-, 24-tracks; Ampex MM-1200 2-, 4-, 8-, 16-, 24-tracks. RSC has every format analog audio recorder in-house and synchronized to SMPTE.
 Audio mixers: Audiotronics 501, NEOTEK Series II, Soundcraft 2400.
 Other major equipment: RSC offers a complete complement of outboard limiters, equalizers, digital reverb etc. Complete analog and digital effects library. Music library.
 Rates: \$125-250/hr.

Direction: RSC specializes in audio production and post-production for television. RSC's 24-track mobile audio unit has earned an impressive reputation in Los Angeles. And when you visit each of our post-audio suites, you'll know why RSC audio post-production is quality choice.

THE RYE CONSORTIUM
OLVP
 542 So. Irving Blvd., Los Angeles, CA 90020
 (213) 933-4637
 Owner: Patricia Rye

SAHARA PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 4914 Lankershim Blvd. Ste. #7
 No. Hollywood, CA 91601
 (818) 508-6315
 Owner: Mahmud N. Abudaber
 Manager: Donna M. Besse

SAWYER CAMERA & INSTRUMENT CO.
OLVP
 1208 W. Isabel St., Burbank, CA 91506
 (818) 843-1781
 Owner: Cliff Sawyer

SCRAZNER FILMS/PRODUCTION STILLS
OLVP
 2013 N. Valley, Burbank, CA 91505
 (818) 846-9335
 Owner: Todd Henschell
 Manager: Todd Henschell and Craig Hamann

SEA PHOTO FILM LIBRARY
VFF
 9520 El Granito Ave., La Mesa, CA 92041
 (619) 466-2002
 Owner: Ozzie Wissell
 Manager: Ozzie Wissell

SEAVISION PRODUCTIONS
OLVP, VPP/E
 3356 Hancock St., San Diego, CA 92110
 (619) 297-0730
 Owner: Joseph A. Thompson
 Manager: Joseph D. Thompson

SELL PICTURES, INC.
VFF, OLVP
 9701 Wilshire Blvd., Beverly Hills, CA 90212
 (213) 874-5402
 Owner: Jack M. Sell
 Manager: Kerry Lenovich

SHOAF COMMUNICATIONS
VFF
 2435 N. Reese Pl., Burbank, CA 91504
 (818) 842-5600
 Owner: Michael E. Shoaf
 Manager: Michael E. Shoaf

SINCLAIR BROS. COMMUNICATIONS
APPV
 13441 Tobiasson Rd., Poway, CA 92064
 (619) 748-7022
 Owner: Beresford Sinclair, Armando Sinclair
 Manager: Fay Sinclair

SMITH ENT. INT'L
OLVP
 3316½ Helms Ave., Culver City, CA 90232
 (213) 837-3380
 Owner: Scott Roy Smith
 Manager: Scott Roy Smith

Preferred Sound

22700 Margarita Drive
 Woodland Hills, CA 91364

Trident Console w/54 Remix Mod.'s

Otari MTR-90 • Studer 2 Track • Hitachi

Monitors: UREI, JBL, Yamaha, Auratone

AMS Reverb • Lexicon 224 • AMS DDL

Acoustat, Crown, SCS Power Amps

2 Lexicon Prime Times

Eventide • Roland SDE3000

4 Kepex Noise Gates

Teltronics • dbx • UREI

Mics: Neumann Tubes, AKG, Sony, RCA, EV

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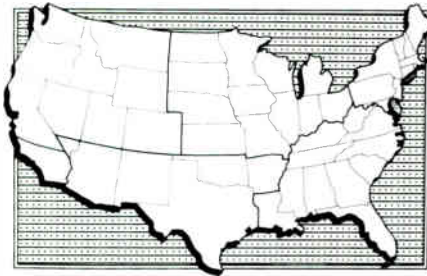
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 Owner: Barry M. Seybert



SRA PRODUCTIONS
 VPF, OLVP, VPP/E, APPV
 P.O. Box 1367, Reseda, CA 91335
 (818) 996-7850
 Owner: Steven R. Anderson

KEN STACK PRODUCTIONS
 OLVP
 P.O. Box 1171, Yorba Linda, CA 92686
 (714) 528-4264
 Owner: Ken Stack
 Manager: Mike Stack

STARWORKS AUDIO & VIDEO/UNITED STUDIOS
 APPV
 1017 N. Cole Ave. #3, Hollywood, CA 90038
 (213) 463-4707, 461-9095
 Owner: C.J. Verhalen
 Manager: Chris Columby

STORER COMMUNICATIONS
 VPF, OLVP, VPP/E, APPV
 3041 E. Miraloma Ave., Anaheim, CA 92806
 (714) 632-9222
 Owner: Storer
 Manager: Jim Wolf

STUDIO & REMOTE VIDEO
 VPF, OLVP
 10650 Magnolia Blvd., No. Hollywood, CA 91601
 (818) 508-6010
 Owner: Randy Gardner
 Manager: Randy Gardner

STUDIO V
 OLVP, APPV
 4774 Longbranch Ave., San Diego, CA 92107
 (619) 222-4592
 Owner: Vardan Burke
 Manager: Vardan Burke

SUN TELEVISION INC.
 OLVP, APPV
 2550 237th St., Torrance, CA 90505
 1040 N. Las Palmas, Hollywood, CA 90038
 (213) 461-5001
 Owner: Dan Kazarian
 Manager: Jim Buehler
EQUIPMENT
 VTRs: (12) 1-inch Type C Format Sony and Ampex.
 Video Monitors: Ikegami, Sony 50.
 Switchers/editors: Grass Valley 1600-7K, Mach One editor.
 Cameras: (25) Ikegami, Philips studio and hand held.
 Audio recorders: Ampex 1/2-track.
 Audio mixers: Sphere 102 input stereo console.
 Other major equipment: Quantel, E-flex, Chyron 4100 MGM Telemation with subtitle, Adda still store, 60kw generator.
 Rates: By quote.
 Direction: Remote facilities from 1-15+ cameras, for specials, concerts, sports, studio work and installation. Crews available.

SUNBREAK PRODUCTIONS
 VPF
 256 S. La Cienega Blvd., Beverly Hills, CA 90211
 (213) 659-2324
 Owner: Corporation

SUNRISE CANYON VIDEO
 VPF, OLVP
 P.O. Box 10968, Burbank, CA 91510
 (818) 845-7473
 Owner: William Hughes

SUNWEST STUDIO
 VPF, OLVP, VPP/E, APPV
 5533 Sunset Blvd., Hollywood, CA 90028
 (213) 463-5631
 Owner: Robert Williams
 Manager: Rena Winters

SUPERSOUND STUDIO
 VPP/E, APPV
 8946 Ellis Ave., Los Angeles, CA 90034
 (213) 836-4028
 Owner: Morris David Golodner
 Manager: Morris David Golodner

SOUND MASTER



RECORDING STUDIOS® and VIDEO PRODUCTION

SOUNDMASTER AUDIO/VIDEO RECORDING
 North Hollywood, CA

SOUNDMASTER AUDIO/VIDEO RECORDING
 VPF, OLVP, VPP/E, APPV
 10747 Magnolia Blvd., No. Hollywood, CA 91601
 (213) 658-8000

Owner: Brian Ingoldsby
 Manager: Barbara Ingoldsby

EQUIPMENT

Synchronizer: Audio Kinetics SMPTE.

VCRs: Sony, JVC.

Switchers/editors: 6112 Crosspoint Latch.

Cameras: FP21, KY2000, KY1900.

Audio recorders: MCI 24-, 4-, 2-track.

Audio mixers: Quad Eight 24-track.

Other major equipment: Five-ton video truck, five-ton audio truck, marine video unit.

SO. CALIFORNIA

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

Direction: SoundMaster houses a complete video production facility with a 24-track fully-equipped automated recording studio with disk mastering facilities to take your project from beginning to end. Fully-equipped five-ton mobile trucks are available to meet any location recording or location video needs. Also available is a marine video unit for all underwater videography. Our aim is to provide you with technical sophistication as well as personal attention in any and all of recording, live sound, and video production.

SOUND ON FILM

VPF

P.O. Box 69A81, W. Hollywood, CA 90069

(213) 859-9141

Manager: Ian L. Wayne

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1010) PRACTICAL TECHNIQUES FOR THE RECORDING ENGINEER, Sherman Keene An excellent, down to earth instructional guide for the engineering/producing arts. Divided into three categories (basic, intermediate and advanced), the text is accessible and extremely useful to students at different levels of competency. Also available as a correspondence course and for school curriculums with Teacher's Manual, workbooks, and exams. 221 pp.(H) \$29.75

1031) MODERN RECORDING TECHNIQUES, Robert Runstein, David Huber The updated 1985 edition of this classic book contains state-of-the-art technical developments and practices in recording. Practising engineers and students will find comprehensive coverage of equipment, acoustics, controls and techniques, as well as information on proper and creative production and sound measurement. 366 pp.(P) \$18.95

1200) CRITICAL LISTENING COURSE, F. Alton Everest This invaluable course specifically addresses the important nuances of the audio world. The 106-page training manual with ten pre-recorded lessons on cassette tapes lead you from basic to advanced listening techniques in increasing progression. Topics include estimating frequency, frequency band limitations, sound level changes, components of sound quality, frequency response irregularities, various types of distortion, reverberation effects on speech and music, signal vs. noise, and voice colorations. \$129.95

1480) DIGITAL AUDIO ENGINEERING: AN ANTHOLOGY, Edited by John Strawn The first book to present a unified view of the hardware engineering behind digital audio synthesis and processing. It discusses the fundamentals of the technology including a thorough treatment of noise in the D/A process and gives details about significant existing digital audio synthesizers/processors. 200 pp.(H) \$29.95

1690) REFERENCE DATA FOR ENGINEERS: RADIO, ELECTRONICS, COMPUTER, AND COMMUNICATIONS, Howard W. Sams Co. This is the newly revised and expanded edition of the most widely used electronic engineers' reference book ever published. Over

1,500 pages and 48 chapters with 50% new material make this the most up-to-date, one-volume reference library anywhere. Also includes lists of references and bibliographies as a guide to primary sources and definitive texts. 1500 pp.(H) \$69.95

2012) PROFESSIONAL VIDEO PRODUCTION, Ingrid Wiegand A comprehensive one-stop manual including chapters on program development and script preparation, cameras and recording decks, SEGs and other studio equipment, studio staff and crew, field equipment and techniques, editing equipment, edit planning and budgets, fine-cut editing, post-production effects, graphics and image correction. Also includes glossary and useful forms. 350 pp.(H) \$39.95

2170) VIDEO EDITING & POSTPRODUCTION: A PROFESSIONAL GUIDE, Gary H. Anderson A new "real world" guide to both technical and non-technical factors of videotape post-production by a four-time Emmy Award winner. Complete and detailed info on time codes, formats, offline and online editing, digital effects, future trends, and more. Includes glossary and selected directory of equipment manufacturers. 165 pp.(H) \$34.95

3030) MUSIC BUSINESS HANDBOOK AND CAREER GUIDE, David Baskerville, Ph.D. This is the required text in over 90 colleges and universities. Exhaustively thorough coverage of all phases of the industry divided into seven parts: Music in the Marketplace; Songwriting, Publishing, Copyright; Business Affairs; The Record Industry; Music in Broadcast and Film; Career Planning and Development, Appendix (sample forms). 553 pp.(H) \$18.95

3340) INSIDE THE MUSIC PUBLISHING INDUSTRY, Paula Dranov Examines what music publishing is, how it works, and why it can be so profitable. Thoroughly explains the role and economics of the major licensing organizations and the impact of the Copyright Act of 1976. Includes profiles of leading publishers and shows how and why many are moving increasingly into production and packaging. 185 pp.(H) \$29.95

3660) ELECTRONIC PROJECTS FOR MUSICIANS, Craig Anderson Shows how to inexpensively build your own preamp, compressor/limiter, ring modulator, phase shifter, noise gate, talk box, tuning standard, plus 20 other accessories. Written in clear, easy-to-follow language with a complete overview, hundreds of helpful diagrams, and step by step instructions. 220 pp.(P) \$14.95

3700) THE RECORD PRODUCERS, John Tabler & Stuart Grundy Profiles based on exclusive interviews with 13 of the greatest hitmakers, Leiber & Stroller, Tom Dowd, Phil Spector, Richard Perry, Bill Szymczyk, Todd Rundgren, George Martin, Mickie Most, Glyn Johns, Tony Visconti, Chinn & Chapman, Roy Thomas Baker, and Chris Thomas. 248 pp.(P) \$10.95

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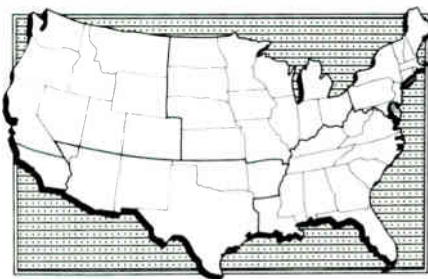
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Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPPIE (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

TAJ SOUNDWORKS

APPV
8207 W. Third St., Los Angeles, CA 90048
(213) 655-2775
Owner: Hugh Benjamin Corp. & The Bellaire Group, E Bannon

Manager: Debra L. Prusa

EQUIPMENT

Synchronizer: Audio Kinetics Q.Lock 3.10.3.
VTRs: Sony SLO 383 Beta 1.
Audio recorders: MCI JH-16 24-track, JH-110 2-track; Tascam 52; MTM 35mm single and three stripe recorders.
Audio mixers: MCI JH-528 w/B&B audio VCAs and special cueing functions.

Other major equipment: 50 x 25-foot main studio, V-star 4 video projector, Stewart 7 x 9 silver filmscreen.

Rates: Available on request.

Direction: TAJ Soundworks has recently undergone major acoustic redesign and reconstruction. We continue to significantly improve the signal quality throughout. The primary focus is film and video post-production sound, including automated dialogue replacement (ADR), sync sound effects (Foley), scoring and audio sweetening for video. We are a compact, highly efficient video-based film post-production facility, capable of the flexibility necessary to cost-effective post-production. As always, our commitment to unsurpassed audio excellence for all aspects of the industry continues to make us the premier facility of our type. We welcome your inspection by appointment.

TALENT CENTER

VPF, OLVP
#10 McLaren Ste. A, Irvine, CA 92714
(714) 837-3521
Owner: David Thor
Manager: Laine Hansen

TELEVISION MATRIX

VPF, OLVP, VPP/E, APPV
1438 N. Gower St., Hollywood, CA 90028
(213) 465-9616
Owner: Frank Beacham

TOPANGA SOUND RECORDERS

APPV
P.O. Box 1344, Topanga, CA 90290
(213) 455-3461
Owner: Christopher Dinneen
Manager: Christopher Dinneen

TRANS-AMERICAN VIDEO, INC.

VPP/E
1541 N. Vine St., Hollywood, CA 90028
(213) 466-2141
Owner: Merv Griffin Enterprises
Manager: Mike Eyre

VIDEO DIMENSIONS

VPF, OLVP, VPP/E, APPV
7220 N. Rosemead Bl. Ste. 108, San Gabriel, CA 91775
(818) 287-0921
Owner: Tony Bohlin
Manager: Debra Johnson

VIDEO/FILMS INTERNATIONAL INC.

APPV
1530 Elizabeth St., Pasadena, CA 91104
(818) 798-2118
Owner: C. Ray Carlson
Manager: Mike Bell

VIDEO GENERAL

VPF, OLVP, VPP/E, APPV
1200 E. 2nd St., Long Beach, CA 90802
(213) 436-4525, 437-7569
Owner: Ed Lapple

VIDEO IMAGERY

VPF, OLVP, VPP/E
204 Calle De Anza, San Clemente, CA 92672
(714) 492-5082
Owner: Robert Fisher
Manager: Dawn Trujillo

VIDEO IT-INC.

VPF, OLVP, VPP/E
1016 N. Sycamore Ave., Hollywood, CA 90038
(213) 876-4055
Owner: John Kohan-Mallick
Manager: Felisa Kohan-Mallick

VIDEO PIONEERS CORP

VPF, OLVP, VPP/E, APPV
1636 E. Edinger, Santa Ana, CA 92705
(714) 835-3330
Owner: Ting Hui
Manager: Sonya Auzenne

VIDEO RENTS

VPP/E
2414 W. Olive Ave., Burbank, CA 91506
(818) 843-8675
Owner: Video Rents Inc.
Manager: Julie MacKinnon

VIDEO SERVICES UN-LIMITED

VPF, OLVP, VPP/E
13733 Ventura Blvd., Sherman Oaks, CA 91423
(818) 789-7849
Owner: Maury L. Gomberg
Manager: Maury L. Gomberg

VIDEO TAPE ENTERPRISES

OLVP
8610 Sunset Blvd., Hollywood, CA 90069
(213) 659-4801
Owner: One, Two, Three Corp.
Manager: Roland Maynard

VIDEOLADY

VPP/E
P.O. Box 2276, San Bernardino, CA 92406
(714) 882-4057
Owner: Shirley Harlan
Manager: Emerson Symonds

WEST VALLEY VIDEO

VPP/E
8859 Wilbur Ave., Northridge, CA 91324
(818) 993-4433
Manager: Alan B. Henderson

WESTLAKE STUDIOS

VPF, OLVP, VPP/E, APPV
31320 Via Colinas #118, Westlake Village, CA 91362
(818) 991-5452
Owner: Corporation
Manager: Jim Cerrotta

WHITE FIELD STUDIOS

VPF, OLVP, VPP/E, APPV
2902 W. Garry Ave., Santa Ana, CA 92704
(714) 546-9210
Manager: Thom Roy

WILD WING PRODUCTIONS

VPF, OLVP
7240 Valjean Ave., Van Nuys, CA 91406
(818) 994-4955
Owner: Drew Michaels

GERALD WILLIAMS PRODUCTIONS
VFF, VPP/E
 P.O. Box 82245, San Diego, CA 92138
 (619) 265-5041
 Owner: Gerald Williams

WINDSOR TOTAL VIDEO-WEST
VFF, OLVP
 1722 Hollywood Way Unit B, Burbank, CA 91505
 (818) 848-6258
 Manager: Alan B. Henderson

WORLD VIDEO PRODUCTIONS
VFF, OLVP, VPP/E
 10625 Scripps Ranch Blvd., San Diego, CA 92131
 (619) 695-1045
 Owner: Roman Yerema
 Manager: Roman Yerema

NORTHWEST

AATRONICS INC.
VPP/E, APPV
 5903 Franklin Rd., Boise, ID 83709
 (208) 343-0900
 Owner: Paul Orlovich
 Manager: Bill Donnelly

ADVANTAGE VIDEO PRODUCTIONS, INC.
VFF, OLVP, VPP/E
 1502 St. Marks Plaza Ste. 2, Stockton, CA 95209
 (209) 474-2505
 Owner: Fluetsch, Russell and Montes
 Manager: Kent Russell

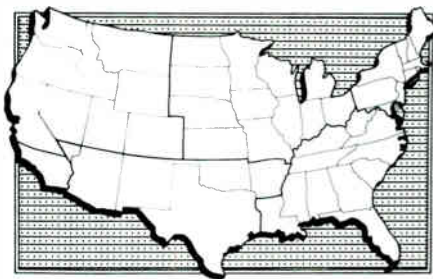
ANGEL FILMS & DIST.
VFF, OLVP
 5785 E. Hampton, Fresno, CA 93727
 (209) 291-0502
 Owner: William H. Hoehne Jr.
 Manager: Joyce Chow

ANTHONY PRODUCTIONS
OLVP, APPV
 Rt. 1 Box 98A, Nine Mile Falls, WA 99026
 (509) 466-6832
 Owner: Mark Anthony
 Manager: Jeannine

ANTOMAR PRODUCTIONS
VFF, OLVP, APPV
 Oakland, CA
 (415) 482-0839 evs., 835-9862 day
 Owner: Tony Pasciucco
 Manager: Tony Pasciucco

AROUND THE BAY COVERAGE VIDEO SERVICES
OLVP, VPP/E
 1140 Irving St., San Francisco, CA 94122
 (415) 665-1077
 Owner: Craig Dawson
 Manager: Craig Dawson

ARTICHOKE PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 4114 Linden St., Oakland, CA 94608
 (415) 655-1283
 Owner: Paul Kalbach
 Manager: Paul Kalbach
EQUIPMENT
 Synchronizer: Fostex 4030.
 VTRs: ¾-inch: Sony BVU-100 (broadcast portable), ½-inch: JVC BR-6200U, Sony SLO-320(a).
 Video Monitors: Contrac RHM-19 (RGB), JVC TM-R9U, TM-22U, Panasonic CT-1910M.
 Switchers/editors: Sony RM-430 edit controller. (2) Sony 2860A (¾-inch editors).
 Cameras: Sony DXC-M3 (three-tube broadcast camera).
 Audio recorders: Fostex 80 (8-track), TEAC 3340S (4-



NORTHWEST

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track), TEAC A-7030 (½-track), Negra III.
 Audio mixers: (2) Tascam model 10 consoles (24 x 8); plus various custom voltage-controlled mixers.
 Other major equipment: Fairlight CVI (computer video instrument), Amiga computer, various audio synthesizers.
 Rates: Call for rates.
 Direction: Paul Kalbach has worked in video, film, and music production for 14 years, and is an accomplished visual artist and electronic composer as well. Music video credits include: director/cameraman for Kesha Wright's "So Good;" art director for Jefferson Starship's "No Way Out." His specialty is music videos, using the amazing Fairlight CVI combined with an Amiga computer for unique digital video effects, computer graphics and animation. Soundstage and film production available as well.



AUDIO VIDEO RESOURCES, INC.
 San Francisco, CA

AUDIO VIDEO RESOURCES, INC.
VFF, OLVP, VPP/E, APPV
 60 Broadway, San Francisco, CA 94111
 (415) 781-2603
 Owner: Gary A. Duos
 Manager: Jeff Mestler
 Rates: Call for schedule of services and rates.
 Direction: Audio Video Resources, Inc. has recently changed ownership and the new owner is proud to announce that in a move to upgrade the company, Carson C. Taylor has returned as consultant for audio services and equipment acquisition, and Jeff Mestler has returned as director of producer services for audio and video.

AUDIO VISIONS
VFF, OLVP, VPP/E, APPV
 313 Brokaw Rd., Santa Clara, CA 95050
 (408) 988-2048
 Owner: Leo A. Graziani
 Manager: Leo A. Graziani

AVALANCHE PRODUCTION SERVICES
VFF, OLVP, VPP/E
 708 N. Tejon St., Colorado Springs, CO 80903
 (303) 685-1452

Owner: Mike Laur
 Direction: Avalanche Production Services provides video and audio production to broadcast, business and industry. With over ten years of television and film experience, we specialize in location and studio photography, using complete Betacam packages that include lighting and audio. We also provide Betacam editing, both in-house and on-the-road, with multi-channel audio mixing and post-production. Clients include major television networks, GE, Honeywell, McDonald's, and worldwide TV news agencies. Information, rates and reel provided on request.

AVALANCHE RECORDING STUDIOS, INC.
APPV
 10650 Irma Dr. #27, Northglenn, CO 80233
 (303) 452-0498
 Owner: Harry, Linda Warman, Steve Forgy
 Manager: Linda Warman

AVID PRODUCTIONS
VFF, OLVP, VPP/E, APPV
 235 E. 3rd Ave. Ste. 214, San Mateo, CA 94401
 (415) 347-3417
 Owner: Henry Bilbao
 Manager: Peter Nixon

BAY AREA VIDEO COALITION
VPP/E
 1111 17th St., San Francisco, CA 94107
 (415) 861-3280
 Manager: Morrie Warshawski

BCQ PRODUCTIONS
OLVP
 201 Duncan, San Francisco, CA 94131
 (415) 826-4483
 Owner: Chris Vincent
 Manager: Chris Vincent



ROBERT BERKE SOUND
 San Francisco, CA

ROBERT BERKE SOUND
APPV
 50 Mendell St., #11, San Francisco, CA 94124
 (415) 285-8800
 Owner: Robert Berke
 Manager: Mark Escotte
EQUIPMENT
 Synchronizer: Cipher Digital Softouch and Shadow, (2) Otari EC-101.
 VTRs: Sony BVH-1100; (2) Sony BVU-800; Sony 5800; Panasonic 6300.
 Video Monitors: Sony and Panasonic.
 Switchers/editors: Cipher Digital Softouch.
 Audio recorders: Otari: (2) MTR-90 16-track, (2) MTR-10 2-track with time code, (5) MTR-10 4-track.
 Audio mixers: Audiotronics 700, Audiotronics 100.
 Other major equipment: Cipher Digital time code generators and readers, Fortel TBC, Tektronix scopes, Lexicon and Eventide reverb and special EFX devices.
 Rates: Please call.
 Direction: Robert Berke Sound Production & Recording specializes in post-production audio for TV, radio, and multi-image. Our new state-of-the-art facility features one of the most versatile and sophisticated audio for video computer systems in Northern California and includes multi-machine synchronization, event control and electronic audio editing. Our thousands of music and sound effects selections, digital reverb and effects devices, and our highly experienced and creative staff make us a valuable production resource.

THE BLEUCLAIR GROUP, INC.
OLVP
 P.O. Box 70505, Bellevue, WA 98007
 (206) 643-2642
 Owner: Gil Zimmerman

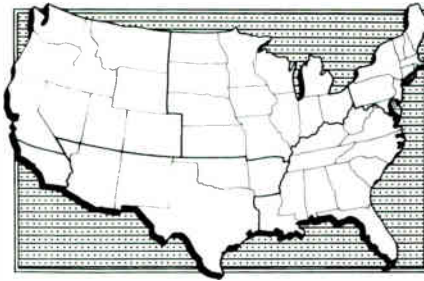
BOB'S BANDAIDS
APPV
 3782 E. Austin Way, Fresno, CA 93726
 (209) 227-1224, 228-0652
 Owner: Bob Martin
 Manager: Bob Martin

BRUNO BORELLO PRODUCTIONS
OLVP
 2935 Summit Dr., Hillsborough, CA 94010
 (415) 340-9396
 Owner: Bruno Borello

BRAVURA FILMS, INC.
OLVP
 680 Beach St. #373, San Francisco, CA 94109
 (415) 928-4273
 Owner: Bob Kalsey

BROOKS BAUM PRODUCTIONS
OLVP
 2261 12th Ave. W., Seattle, WA 98119
 (206) 283-6456
 Owner: Wm. B. Baum
 Manager: Wm. B. Baum

BY VIDEO INC.
VFF, OLVP, VPP/E
 225 Humboldt Ct., Sunnyvale, CA 94089
 (408) 747-1101
 Owner: By Video Inc.
 Manager: Whit Mather



NORTHWEST

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CAMERA ONE PRODUCTIONS
OLVP, VPP/E, APPV
 8024 11th Ave. N.E., Seattle, WA 98115
 (206) 524-5326
 Owner: Gray Warriner
 Manager: Gray Warriner and Orlando Duenas

**CAMRAC STUDIOS/
 POSTMASTERS POST PRODUCTION**
VFF, OLVP, VPP/E, APPV
 1775 Kuenzli St., Reno, NV 89502
 (702) 323-0965, (Camrac) 323-8910
 Owner: Jim Mitchell and Shirley Russel

CASSETTE PROFESSIONALS
OLVP, APPV
 320 Stewart St., Reno, NV 89502
 (702) 322-6292, 800-322-4422
 Owner: Bill Stephens
 Manager: Bill Stephens

CEAVCO TELEPRODUCTIONS
VFF, OLVP, VPP/E
 1650 Webster, Denver, CO 80215
 (303) 238-0443
 Owner: Jack Emerson
 Manager: Don Roberts

CHONK MOONHUNTER
OLVP, APPV
 2721 Belleaire Pl., Oakland, CA 94601
 (415) 436-6978
 Owner: Curtis A. Choy

CONCEPT FILM & VIDEO
OLVP
 P.O. Box 2003, Sacramento, CA 95809
 (916) 677-7556
 Owner: Nathan Kaufman
 Manager: Nathan Kaufman

COUGAR RUN LAKE TAHOE
APPV
 P.O. Box 7418, Incline Village, NV 89450
 (702) 832-7711
 Owner: Cougar Run, Inc.
 Manager: Jody Everett Peterson

COX VIDEO PRODUCTIONS
VFF, OLVP, VPP/E
 1181 San Andreas Rd., Watsonville, CA 95076
 (408) 722-3132
 Owner: Duane Cox and Denise Cox-Collins
 Manager: Denise Cox-Collins

CREATIVE MEDIA DEVELOPMENT INC.
VFF, OLVP, VPP/E
 710 S.W. 9th, Portland, OR 97205
 (503) 223-6794
 Owner: Douglas A. Crane
 Manager: Seth Bloombaum

D.B.R. PRODUCTIONS
VFF, OLVP, APPV
 460-B Reynolds Circle, San Jose, CA 95112
 (408) 923-0887
 Owner: Matthew Howe, Nick Porrovecchio, Jerry McReynolds, John Merritt
 Manager: Jerry McReynolds, Matthew Howe

DESIGN MEDIA
VFF, OLVP
 2235 Harrison, San Francisco, CA 94111
 (415) 641-4848
 Owner: Howard Steinman, Norman Kurtin, Wallace Murray, Robert Russo, Pamela May

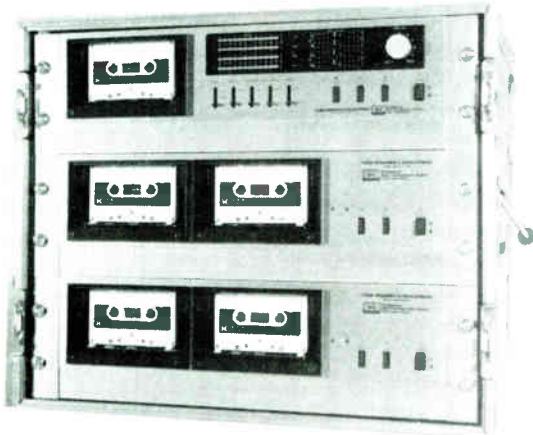
DIFFERENT FUR RECORDING
APPV
 3470 19th St., San Francisco, CA 94110
 (415) 864-1967
 Owner: Susan Skaggs, Howard Johnston
 Manager: Susan Skaggs

DREAMARTS INTERNATIONAL CORPORATION
VFF, OLVP, VPP/E, APPV
 900 Fort St. Ste. 1777, Honolulu, HI 96813
 (808) 533-7227
 Owner: Jan Huston
 Manager: Joseph Rothstein

DUDKOWSKI-LYNCH ASSOCIATES, INC.
VFF, OLVP, VPP/E
 150 Shoreline Hwy., Bldg. E, Mill Valley, CA 94941
 (415) 332-5825
 Owner: Ed Dudkowski, Marjane Lynch

DUPLICATIONS CORPORATION
VPP/E
 1045 Sansome St., San Francisco, CA 94111
 (415) 346-1244
 Owner: Mark McCabe
 Manager: Mark McCabe

AUDIOPHILE QUALITY ON-SITE DUPLICATION



The *KABA Professional*
 4-TRACK REALTIME & 2X DUPLICATION SYSTEM

Packaged for "Road Use"

Call or write for price & specifications
 Mention this ad for new product introductory special

KENNETH A. BACON ASSOCIATES
 24 Commercial Blvd., Suite E, Novato, CA 94947
 From California, call 415-883-5041



TOLL FREE
 800-231-TAPE

Circle #150 on Reader Service Card

MIX READER INQUIRY SERVICE

ISSUE: APRIL 1986 / CARD EXPIRES AUGUST 1, 1986

Name _____ Phone _____
 Company _____ Title _____
 Address _____
 City _____ State _____ Zip _____

PLEASE CIRCLE ONE ENTRY FOR EACH CATEGORY:

1. **Principle activity of your business:**
 - A. Recording Studio
 - B. Sound Reinforcement
 - C. Equipment Supplier
 - D. Equipment Mfg.
 - E. Record/Tape Processing
 - F. Video Production
 - G. Video Post-Production
 - H. Broadcast
 - I. Record Company
 - J. Production Company
 - K. Contractor/Installer
 - L. Studio Design/Acoustics
 - M. Recording Music School
2. **Job Title**
 - A. Owner/Manager
 - B. Sales/Marketing
 - C. Producer
 - D. Engineer
 - E. Technician
 - F. Consultant
 - G. Student
 - H. Musician/Performer
3. **Read Mix primarily for:**
 1. Technical/Applications articles
 2. News columns
 3. Music industry coverage
 4. Interviews
 5. New product columns
 6. Listings
 7. Advertising
4. **No. of years in industry:**
 - A. Less than 1
 - B. 1 - 3
 - C. 4 - 7
 - D. 8 - 12
 - E. 13 or more
5. **What is your annual budget for equipment?**
 1. Under \$50,000
 2. \$50,000 - \$149,000
 3. \$150,000 - \$249,000
 4. \$250,000 - \$499,000
 5. Over \$500,000
6. **This inquiry for:**
 - A. Immediate purchase
 - B. Files
7. **Purchasing authority:**
 1. Recommend
 2. Specify
 3. Approve
8. **Where did you get this copy of Mix?**
 - A. Personal subscription
 - B. Recording studio/Production facility
 - C. Newsstand
 - D. Audio/Video retailer
 - E. Other

Check each advertisement or editorial piece for corresponding number and circle below. (Maximum 20 items).

001	031	061	091	121	151	181	211	241	271	301	331
002	032	062	092	122	152	182	212	242	272	302	332
003	033	063	093	123	153	183	213	243	273	303	333
004	034	064	094	124	154	184	214	244	274	304	334
005	035	065	095	125	155	185	215	245	275	305	335
006	036	066	096	126	156	186	216	246	276	306	336
007	037	067	097	127	157	187	217	247	277	307	337
008	038	068	098	128	158	188	218	248	278	308	338
009	039	069	099	129	159	189	219	249	279	309	339
010	040	070	100	130	160	190	220	250	280	310	340
011	041	071	101	131	161	191	221	251	281	311	341
012	042	072	102	132	162	192	222	252	282	312	342
013	043	073	103	133	163	193	223	253	283	313	343
014	044	074	104	134	164	194	224	254	284	314	344
015	045	075	105	135	165	195	225	255	285	315	345
016	046	076	106	136	166	196	226	256	286	316	346
017	047	077	107	137	167	197	227	257	287	317	347
018	048	078	108	138	168	198	228	258	288	318	348
019	049	079	109	139	169	199	229	259	289	319	349
020	050	080	110	140	170	200	230	260	290	320	350
021	051	081	111	141	171	201	231	261	291	321	351
022	052	082	112	142	172	202	232	262	292	322	352
023	053	083	113	143	173	203	233	263	293	323	353
024	054	084	114	144	174	204	234	264	294	324	354
025	055	085	115	145	175	205	235	265	295	325	355
026	056	086	116	146	176	206	236	266	296	326	356
027	057	087	117	147	177	207	237	267	297	327	357
028	058	088	118	148	178	208	238	268	298	328	358
029	059	089	119	149	179	209	239	269	299	329	359
030	060	090	120	150	180	210	240	270	300	330	360

Circle number 360 for 12 monthly issues of Mix and we will send you subscription information.



READER SERVICE PAGE

To receive more information on the products and services advertised in this issue of Mix, circle the corresponding numbers on the attached reader service postcard, detach and mail promptly. Please supply all information requested.

*Important notice to readers: reader service inquiries are mailed directly to the advertiser, who is solely responsible for sending out product information. Mix does not process inquiries or guarantee advertiser response.

MIX READER INQUIRY SERVICE

ISSUE: APRIL 1986 / CARD EXPIRES AUGUST 1, 1986

Name _____ Phone _____
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 Address _____
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 - A. Recording Studio
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 - D. Equipment Mfg.
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015	045	075	105	135	165	195	225	255	285	315	345
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019	049	079	109	139	169	199	229	259	289	319	349
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021	051	081	111	141	171	201	231	261	291	321	351
022	052	082	112	142	172	202	232	262	292	322	352
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027	057	087	117	147	177	207	237	267	297	327	357
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UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 217 CLINTON, IOWA

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Mix Magazine
P.O. Box 1960
Clinton, Iowa 52735



NO POSTAGE
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UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 217 CLINTON, IOWA

POSTAGE WILL BE PAID BY ADDRESSEE

Mix Magazine
P.O. Box 1960
Clinton, Iowa 52735



EASTERN WASHINGTON UNIVERSITY
VFF, OLVP, VPP/E, APPV
203 Radio-Television Blvd., Cheney, WA 99004
(509) 359-2228
Owner: Eastern Washington University
Manager: Jim Kertes

EUCAN PRODUCTIONS
OLVP
4466 Montgomery Dr., Santa Rosa, CA 95405
(707) 539-2349
Owner: Eugene S. Canevan
Manager: Carmelita K. Canevan

EVESLAGE FILM & VIDEO
VFF, OLVP
39 Dorman Ave., San Francisco, CA 94124
(415) 821-7979
Owner: Ron Eveslage
Manager: Larry Lauter

FANTASY STUDIOS
APPV
10th & Parker Sts., Berkeley, CA 94710
(415) 549-2500
Owner: Fantasy Records
Manager: Nina Bombardier
EQUIPMENT
Synchronizer: Q.Lock 3
VCRs: BVU 800
Audio recorders: 4-, 8-, 16- and 24-track analog, Mitsubishi 2- and 32-track digital
Audio mixers: Neve 8108, Trident 80.
Other major equipment: Large inventory of outboard gear
Rates: Call for information.

MR. FILM
OLVP, APPV
2140 Bush St. #1, San Francisco, CA 94115
(415) 567-3724
Owner: John Allen
Manager: Morgan Curtis

FILM PRODUCTION SERVICES
OLVP
1605 12th Ave. Ste. 31, Seattle, WA 98122
(206) 325-4822
Owner: Marty Oppenheimer
Manager: Marty Oppenheimer

FILMPRO INC.
VFF
P.O. Box 2214, Honolulu, HI 96804
(808) 537-1896
Owner: David P. Crockett
Manager: Judith M. Ching

FOCUSED PRODUCTIONS, INC.
APPV
30 Berry St., San Francisco, CA 94107
(415) 777-3108
Owner: Jeff Roth
Manager: Jeff Roth
EQUIPMENT
Synchronizer: BTX Shadows.
VTRs: JVC 8250.
Video Monitors: JVC, Sharp, NEC.
Audio recorders: Otari MX-70 16-track, Otari 8-track, Otari MTR-10 2-track w/center track SMPTE.
Audio mixers: Speck 16 x 8 (split to 16 out).
Other major equipment: SMPTE-based automated mix, Effectron II DDL, MICMIX reverb, Gain Brains, KepeX, Orban EQs.
Rates: Please call.
Direction: Focused Productions is one of the most experienced audio-for-video facilities in Northern California. Our demo reel contains work for major broadcast, commercial, corporate, and educational clients, and illustrates the care and skill we bring to overall soundtrack design and execution. Services include: improvement and enhancement of existing "problem" location sync; recording of original music, EFX, and dialog-to-picture; layering of narration, music, and EFX tracks, and automated mixing to mono or stereo of your finished soundtrack.

FROZEN MUSIC
VFF, OLVP, VPP/E
1169 Howard St., San Francisco, CA 94103
(415) 626-0501
Owner: L.A. Paul
Manager: Don Goldberg

FULL FRAME PRODUCTIONS
VFF, OLVP, VPP/E
363 Brannan, San Francisco, CA 94107
(415) 546-0155
Owner: Kevin White
Manager: Kevin White, John Reid, Anita Partridge

FURMAN FILMS, INC.
VFF, OLVP
3466 21st St., San Francisco, CA 94110
(415) 824-8500
Owner: Will Furman
Manager: Norma Doane

GFO PRODUCTIONS
VFF, OLVP
122 E. 19th, Olympia, WA 98501
(206) 352-8028
Owner: George F. Ormrod
Manager: John Sabotta

GOLD STREET VIDEO DESIGN
VFF, VPP/E
40 Gold St., San Francisco, CA 94133
(415) 434-4544
Owner: Dale Thomsen
Manager: Roger Krakow

GOLDEN BAY VIDEO
OLVP, VPP/E, APPV
61 Camino Alto #108, Mill Valley, CA 94941
(415) 381-2566
Owner: Vinton W. Medbury, Jr.
Manager: Vinton W. Medbury, Jr.

GOLDEN STATE PRODUCTIONS
OLVP, VPP/E
P.O. Box 504, Orinda, CA 94563
(415) 253-1389
Manager: Brian Moran

PHILIP HACKER PRODUCTIONS
VFF, OLVP, VPP/E
671A 6th Ave., San Francisco, CA 94118
(415) 752-3314
Owner: Philip Hacker

The Missing Links

Discovered by FOSTEX



- A complete, low-cost, chase-lock, SMPTE Time Code Synchronization system for Audio and Video Tape Recorders and MIDI equipment
- Interfaces available for most 1", 3/4", and 1/2" professional video transports, as well as many audio decks.

The Essential Link:
Our knowledge & experience to link your system smoothly to the new world of Fostex Synchronization.



802 Fourth St., San Rafael, CA 94901
(415) 457-7600

Circle #151 on Reader Service Card

HAMNER PRODUCTIONS LTD.
VPP/E, APPV
 2085 Bush St. 602, San Francisco, CA 94115
 (415) 921-1718
 Owner: T. Gayle Hamner
 Manager: Daniel J. Weech

BRUCE HAYES PRODUCTIONS
OLVP
 380 Chestnut St., San Francisco, CA 94133
 (415) 956-1542
 Owner: Bruce Hayes
 Manager: Susan Thomas

HI-FI VIDEO PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
 2200 196th St. S.E. Ste. 85, Bothell, WA 98012
 (206) 481-3477
 Owner: Clinton J. Hoerner
 Manager: Clinton J. Hoerner

HIGH COUNTRY FILMS
VPF, OLVP, VPP/E, APPV
 6865A E. Arizona, Denver, CO 80224
 (303) 756-8030
 Owner: John R. Lehman
 Manager: Lu Lehman

HOT SUN PRODUCTIONS
OLVP
 1421 Clement St., San Francisco, CA 94118
 (415) 752-4478
 Owner: J. Hutson Hart
 Manager: J. Hutson Hart

HOWEMEDIA ARTISTS INC.
OLVP, VPP/E
 P.O. Box 572, Orem, UT 84057
 (801) 226-1282
 Owner: Alan Taylor
 Manager: Kevin Guest

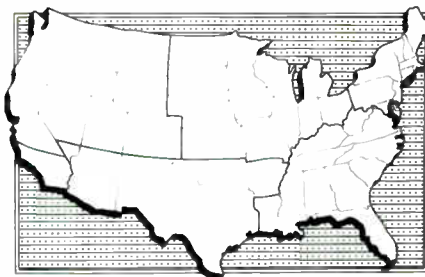
IN VISION PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 275 Magnolia Ave., Larkspur, CA 94939
 (415) 927-0555
 Owner: Clark Higgins
 Manager: Elaine Trotter

INDEPENDENT SOUND
APPV
 2032 Scott St., San Francisco, CA 94115
 (415) 929-8085
 Owner: Peter and Mary Buffett
 Manager: Peter and Mary Buffett

EQUIPMENT
 Synchronizer: EC-101 synchronizer card for Otari MTR-90.
 VTRs: JVC 6250 ¾-inch.
 Video Monitors: Sony PVM-1910.
 Audio recorders: Otari MTR-90 24 track, Otari MTR-12.
 Audio mixers: Sound Workshop Series 34 fully automated.
 Other major equipment: State-of-the-art sampling, digital, and analog synthesizers.
 Rates: \$125/hr. or per project rates.
 Direction: We specialize in high quality music production for visuals. In-house writers can supply music tracks for wide ranging needs.

ISLAND VISIONS VIDEO RECORDING SERVICES
VPF, OLVP
 P.O. Box 936, Kapaa, Kauai, HI 96746
 (808) 822-5124
 Owner: Bruce Smalling
 Manager: Bruce Smalling

KALEIDOSOUND
APPV
 185 Berry St. Ste 2805, San Francisco, CA 94107
 (415) 543-0531
 Owner: Forrest G. Patten
 Manager: Forrest G. Patten



NORTHWEST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

KBYU-TV
VPF, OLVP, VPP/E, APPV
 C-306 HFAC, Provo, UT 84602
 (801) 378-6903
 Owner: Brigham Young University
 Manager: Jay Sumsion

KCFW-TV
VPF, OLVP, VPP/E, APPV
 401 1st Ave. E, Kalispell, MT 59901
 (406) 755-5239
 Owner: Eagle Communications
 Manager: Curt Smith

KENT FILMS
VPF, OLVP
 Box 2713, Novato, CA 94948
 (415) 485-1190
 Owner: Lawrence Weiner
 Manager: Manon

KROGSTAD PICTURES
VPF
 P.O. Box 95260, Seattle, WA 98145
 (206) 682-2369
 Owner: Karl Krogstad

KTBY INC.
VPF, OLVP, VPP/E, APPV
 1840 S. Bragaw St. Ste 101, Anchorage, AK 99508
 (907) 276-4449
 Owner: Ronald K. Bradley
 Manager: Sean M. Bradley

KTVU-RETAIL SERVICES
VPF, OLVP, VPP/E, APPV
 2 Jack London Sq., P.O. Box 22222
 Oakland, CA 94623
 (415) 874-0228
 Owner: KTVU, Inc.
 Manager: Richard Hartwig

KTZO TV-20
VPF, OLVP, VPP/E
 2500 Marin St., San Francisco, CA 94124
 (415) 821-2020
 Owner: James Gabbert
 Manager: James MacIvaine

LANDMARK VIDEO
VPF, OLVP, VPP/E
 P.O. Box 7557, Bend, OR 97708
 (503) 382-3475
 Owner: David Kozowski

NORM LEVY VIDEO
OLVP, VPP/E, APPV
 154 Corbett St., San Francisco, CA 94114
 (415) 552-1654
 Owner: Norm Levy

LIVE OAK STUDIO/PRODUCTIONS
APPV
 1442A Walnut St., Berkeley, CA 94709
 (415) 540-0177
 Owner: Priscilla and Jim Gardiner
 Manager: Priscilla Gardiner

LOOK SHARP VIDEO
OLVP
 2215 'P' St. #4, Sacramento, CA 95816
 (916) 448-4625
 Owner: David W. Bunge
 Manager: Kurt Lehn

LEE LUSTED MEDIA SERVICES
OLVP, VPP/E
 214 W. Baltimore Ave., Larkspur, CA 94939
 (415) 924-6124
 Owner: Lee Lusted

MADNESS LTD.
OLVP
 848 Lovell Ave., Mill Valley, CA 94941
 (415) 388-8842
 Owner: Lynn Stevenson

MARANATHA VIDEO PRODUCTIONS
OLVP, VPP/E
 P.O. Box 851, Northbend, WA 98045
 (206) 888-0292
 Owner: Robert Schwartz
 Manager: Robert Schwartz

MASTER TRACK PROD.
APPV
 1524 W. Winton Ave., Hayward, CA 94545
 (415) 782-0877
 Owner: Don Enns
 Manager: Don Enns

MAXIMUS RECORDING STUDIOS
APPV
 2727 N. Grove Ind. Dr. #111, Fresno, CA 93727
 (209) 255-1688
 Owner: Tnad Communications, Inc.
 Manager: Jeff Hall



McCUNE STUDIOS
 San Francisco, CA

McCUNE STUDIOS
VPF, OLVP, VPP/E, APPV
 951 Howard St., San Francisco, CA 94103
 (415) 777-2700
 Owner: McCune Audio Visual
 Manager: Jim Draper

Direction: McCune Studios provides full audio and video production services. We offer concept development, scripting, directing, and lighting design services, as well as pre- and post-production facilities. Custom production packages include multi-camera recording in all video formats (1-inch, Betacam, ¾-inch), 8-, 16-track audio recording,

audio for film and video, video projection and satellite video conferencing. Our comprehensive production services are supported by a wide selection of audio/video equipment readily available from McCune's extensive rental inventory.

WILLIAM McINTIRE ENTERPRISES
VFF, OLVP, VPP/E, APPV
Box 4244, Portland, OR 97208
(503) 286-4193
Owner: William McIntire

McVEY AND VOGT PRODUCTIONS
VFF, OLVP
39 Dorman Ave., San Francisco, CA 94124
(415) 821-7979
Owner: Joseph Vogt, Tony McVey
Manager: Larry Lauter

MEDIA DESIGN ASSOCIATES, INC.
VFF
855 Broadwaddy, Boulder, CO 80302
(303) 443-2800
Owner: Corporation
Manager: Bert Kempers

MENDOCINO COUNTY ROP PROGRAM
VFF, OLVP, VPP/E
School St., Mendocino, CA 95460
(707) 937-1200
Manager: Stephen Olsson

M ENTERTAINMENT CORPORATION
OLVP
1301 Spring St. Ste. 19G, Seattle, WA 98104
(206) 323-8022
Owner: Dan O'Brien
Manager: Dan O'Brien and Richard Roberts

MINCEY PRODUCTIONS, INC
VFF, OLVP, VPP/E
116 N. Page, Portland, OR 97227
(503) 287-1931
Owner: John Mincey
Manager: Dick Wright
EQUIPMENT
Synchronizer: Video: Zeus, Audio: BTX.
VTRs: (4) VPR-3, (4) VPR-80, (2) BVH 500A, BVU-800,
VO-800, Betacam.
Video Monitors: Ikegami RH series, Asaca/Shibasaku
hi. res. mon.
Switchers/editors: AVC-31.
Cameras: (2) Panavision SP, Ikegami 730, HL95, HL79EAL.
Audio recorders: ATR-800, Otari 5050 8-track.
Audio mixers: Amek 16 x 8 x 2.
Other major equipment: Thompson Vidifont V w/graphic
store, Ace editor. Note—VPR-3 w/Zeus as complete pack-
age, 2-channel ADO w/perspective.
Rates: \$290/hr.
Direction: Commercials, industrial, music video, home
video, cassette.

MIND'S I PRODUCTIONS
VFF, OLVP, VPP/E
2900 Boniface Pkwy #559, Anchorage, AK 99504
(907) 344-9117
Owner: Patnck A. Hunstiger

LYNDA MORRIS VIDEO PRODUCTIONS
OLVP
1989 Reliez Valley Rd., Lafayette, CA 94549
(415) 944-0190
Owner: Lynda Morris
Manager: Lynda Morris

MOVING MEDIA
OLVP
Box 2046, Aspen, CO 81612
(303) 925-8656
Owner: Greg Poschman

MULTIVISION OF DENVER
VFF, OLVP, VPP/E, APPV
1121 S. Pearl, Denver, CO 80210
(303) 698-0420
Owner: Corp.
Manager: David A. Johansen

In A/B tests, this tiny condenser microphone equals any world-class professional microphone. Any size, any price.

Compare the Isomax II to any other microphone. Even though it measures only $5/15" \times 5/8"$ and costs just \$189.95,* it equals any world-class microphone in signal purity.

And Isomax goes where other microphones cannot: Under guitar strings near the bridge, inside drums, inside pianos, clipped to horns and woodwinds, taped to amplifiers (up to 150 dB sound level!). Isomax opens up a whole new world of miking techniques — far too many to mention here. We've prepared information sheets on this subject which we will be happy to send to you free upon request. We'll also send an Isomax brochure with complete specifications.

Call or write today.

* Pro net price for Omnidirectional, Cardioid, Hypercardioid, and Bidirectional models.



COUNTRYMAN ASSOCIATES INC.
417 Stanford Ave., Redwood City, CA 94063 • (415) 364-9988
Canadian Distributor: Gerr Audio, 363 Adelaide Street, Toronto, Ont. M5A 1N3

Circle #152 on Reader Service Card



You put everything you got into making your record the best it can be.



But before everyone hears your work, they're going to see it. Let the quality of your graphics reflect the excellence they can expect to find in your music.

Stoughton can provide all of your record-related printing needs in one stop. Top-quality lithography and fabrication of jackets and sleeves for both albums and 45's, single or multi-color. Labels in all sizes and styles, including picture disks. And, of course, posters and any other graphic material you may need to promote your product.

If it's worth doing, it's worth doing right. Come to the source.

stoughton printing co.

130 N. Sunset Avenue, City of Industry, CA 91744
From Los Angeles: (213) 686-2753
(818) 961-3678

Quality Printing For The Record Industry Since 1965

©1983 Stoughton Printing Co

Circle #153 on Reader Service Card



MUSIC ANNEX
Menlo Park, CA

MUSIC ANNEX, INC.
VFF, APPV
970 O'Brien Dr., Menlo Park, CA 94025
(415) 328-8338

Owner: Music Annex, Inc.
Manager: David H. Porter

EQUIPMENT

Synchronizer: Audio-Kinetics Q.Lock 3 10.
VTRs: IVC 8250, Sony 2860s.
Video Monitors: Asaca, Sony.
Switchers/editors: Call for availability.
Cameras: Call for availability.
Audio recorders: MCI, Otari, Ampex.
Audio mixers: Amek, Neve.
Other major equipment: Soundstage and video control room interlaced to 24-track audio control room.
Rates: Call for rates.

Direction: In our 12th year of providing a full service facility to the music and media community of Northern California, the Music Annex will now also provide a professional audio/video soundstage. This is the largest studio of its kind interlaced with a state-of-the-art 24-track control room. With design supervised by George Augspurger, Studio D and the audio/video soundstage provides the perfect location for video, audio, showcases, product debuts, MTV, screenings and corporate presentations. As always, the staff will provide the best possible assistance with any project, large or small... and tailor our services to your budget specifications. Currently shooting "Morning Stretch" syndicated TV series.

SCOTT NELSON VIDEOGRAPHY

OLVP, VPP/E, APPV
P.O. Box 56, Snowbird, UT 84117
(801) 742-2450
Owner: R. Scott Nelson

NEOTERIC PRODUCTIONS INC.

OLVP
4005 N.E. 57th, Seattle, WA 98105
(206) 522-3250
Manager: David Crowther

NORTHWEST MOBILE TELEVISION

VFF, OLVP
7867 S. 180th St., Kent, WA 98032
(800) 251-0560
Owner: King Broadcasting Company
Manager: Thom Kroon

CLARENCE NOVAK PICTURES

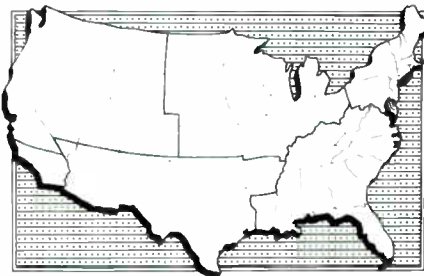
OLVP
4226 Irving St., San Francisco, CA 94122
(415) 731-4624, 330-7134

OCEAN TELEVISION

OLVP
Box 747, Stinson Beach, CA 94970
(415) 868-0763
Owner: Tim Tomke
Manager: B.J. Meines

ON SIGHT VIDEO

OLVP
1079 Tennessee St., San Francisco, CA 94107
(415) 641-8600
Owner: T. Robin Hirsh
Manager: LaShayne Fitch



NORTHWEST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

ONE PASS FILM & VIDEO

VFF, OLVP, VPP/E, APPV
One China Basin Bldg., San Francisco, CA 94107
(415) 777-5777
Manager: Scott Ross

ORION RESEARCH

1315 Main #230, Durango, CO 81301
(303) 247-8855
Owner: Roger Rohrs
Manager: Marty Rohrs



PACIFIC VIDEO RESOURCES
San Francisco, CA

PACIFIC VIDEO RESOURCES

VFF, OLVP, VPP/E, APPV
2339 3rd St. M-4, San Francisco, CA 94107
(415) 864-5679

Owner: Jim Farney, Steve Kotton

Manager: Liz Inart

EQUIPMENT

Synchronizer: Convergence 104/204/205; Time-Line Lynx
VTRs: Sony BVU-800/820 and BVU-110 3/4-inch; Sony BVW-15/40 and BVV1A Betacam; Sony BVH-2000 1-inch.
Video Monitors: Sharp RGB/NTSC.
Switchers/editors: Grass Valley 100/100CV, Convergence ME110; Convergence 104/204/205.
Cameras: Ikegami HL-83; Sony BVP-30.
Audio recorders: MX-70 (16-track); Otari 5050 (2-track); Sony PCM F-1/SL-2000 stereo field digital recorder; Sony PCM 501 ES/Sony SLO-383 stereo studio digital recorders (2).
Audio mixers: 24-channel Sound Workshop 34B w/ ARMS II Automation and Diskmix; Ramse 8210; Shure FP-32.
Other major equipment: Component Ampex ADO; Chyron Scribe and Chyron VP-2 character generators; Lexicon PCM60 digital reverb; DeltaLab ADM 1024 digital delay, dbx 160X compressor/limiters; dbx noise gate, de-esser, parametric EQ; Dynaflex; CD, stereo cassette, turntable.
Rates: Call for rate card.

Direction: Total component video! Project-oriented storytellers. Complete planning from project's inception. Very cost effective on whole project basis. Seven-time Emmy Award winners, as well as numerous awards for advertising and corporate communications.

PAL PRODUCTIONS INC.

VFF, OLVP, VPP/E
511 2nd Ave. W, Seattle, WA 98119
(206) 282-2025
Owner: Laszlo Pal
Manager: Laszlo Pal

PAT-MAR PRODUCTIONS

VFF, OLVP
P.O. Box 4688, Rolling Bay, WA 98061
(206) 842-5895
Owner: Pat May



PDR PRODUCTIONS
Hayward, CA

PDR PRODUCTIONS

OLVP, VPP/E, APPV
3423 Investment Blvd. Ste. 12, Hayward, CA 94545
(415) 783-5000

Owner: Paul D. Rosa
Manager: Paul D. Rosa

EQUIPMENT

VTRs: BVH-2000/02, BVW-10s, BVU-800s.
Video Monitors: Sony Broadcast, Panasonic EFP and B&W.
Switchers/editors: ECS-103C, SWI-100, 3M-812, WV-5500B and Quantel DPE-5000 DVE.
Cameras: DXC-6000, BVP-110 w/Betacam BVV1A recorder or BVP-110 and BVP-330
Audio recorders: Tascam 1/4-inch 1/2-track, Sansui cassette.
Audio mixers: Sony MXP-21 TEAC 2A.
Other major equipment: Sony BVT-2000 TBC for 1 to +3 playback on BVH-2000, EFP 4WD, IVC VE-93 off-line system 3/4-inch and VHS, aerial videography mounts.
Rates: Call for complete rate card.

Direction: Winning their first Cindi Award in 1985, PDR Productions provides broadcast results for the corporate and music video producer on a realistic budget. One of the fastest growing EFP, and post-production facilities in the San Francisco Bay Area, PDR added a complete multi-format post-production suite to their 1800-foot facility last year, and now includes DVE and Betacam EFP in the fast growing list of "in-house" professional services they offer.

PELICAN FILM & TAPE

OLVP, VPP/E
1212 Willard St., San Francisco, CA 94117
(415) 566-0450
Owner: Doug Miller
Manager: Arthur Aravena

PHILIP PERKINS PRODUCTIONS SOUND

OLVP
171 S. Park, San Francisco, CA 94107
(415) 543-6661
Owner: Philip Perkins
Manager: Nancy Baddock

PINNACLE PRODUCTIONS

VFF, OLVP, VPP/E
E. 204 Nora, Spokane, WA 99207
(509) 326-7030
Owner: Cowles Publishing Co.
Manager: Don Jensen

POSITIVE IMAGES UNLIMITED
VPF, OLVP
 2200 Sheffield Dr., Carmichael, CA 95608
 (916) 489-5808
 Owner: Stephen J. Steinberg
 Manager: Stephen J. Steinberg

PRODUCERS GROUP LIMITED
VPF, OLVP, VPP/E
 2430-A W. Colorado Ave.
 Colorado Springs, CA 80904
 (303) 632-2463
 Owner: Rusty Kern, Steve Flanigan

RAP PRODUCTIONS
APPV
 615½ Angela, Rexburg, ID 83440
 (208) 356-8705
 Owner: Trent Walker
 Manager: Trent Walker

BILL RASE PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
 955 Ventura Ct., Sacramento, CA 95825
 (916) 929-9181
 Owner: Bill Rase
 Manager: Bill Rase

REAL TIME VIDEO PRODUCTIONS
VPF, OLVP, VPP/E
 1717 17th St., San Francisco, CA 94103
 (415) 864-1444
 Owner: Will Hoover
 Manager: Dennis Minnick

RED RIDER PRODUCTIONS
OLVP
 2217 Cedar St., Berkeley, CA 94709
 (415) 849-1157
 Owner: Arthur Aravena
 Manager: Doug Miller

REIZNER & REIZNER FILM & VIDEO
VPF, OLVP
 7179 via Maria, San Jose, CA 95139
 (408) 226-6339
 Owner: Dick Reizner
 Manager: Dick Reizner

RESORT INDUSTRIES COMMUNICATIONS, INC.
VPF, OLVP, VPP/E, APPV
 P.O. Box 1247, Avon, CO 81620
 (303) 949-4770
 Owner: George J. Sedlack
 Manager: Gerard Golden

REX RECORDING CO.
APPV
 1931 S.E. Morrison, Portland, OR 97214
 (503) 238-4525
 Owner: Sunny Day Productions
 Manager: Rhiner P. Johnson

ROYCE VIDEO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 3333 Watt Ave. Ste. 213, Sacramento, CA 95821
 (916) 424-8772
 Owner: Robert Ansell
 Manager: John Myers

RUSSIAN HILL RECORDING
APPV
 1520 Pacific Ave., San Francisco, CA 94109
 (415) 474-4520
 Owner: Jack Leahy, Bob Shotland
 Manager: Gail Nord

SAMFILM PRODUCTIONS
VPF, OLVP, VPP/E
 P.O. Box 6616, Carmel, CA 93921
 (408) 394-3800
 Owner: Sam Harrison
 Manager: Judith Cole



SAN FRANCISCO PRODUCTION GROUP
 San Francisco, CA

SAN FRANCISCO PRODUCTION GROUP
VPP/E, APPV
 550 Bryant St., San Francisco, CA 94107
 (415) 495-5595
 Owner: Joel Skidmore, Jeff Cretcher
 Manager: Peter Takeuchi
EQUIPMENT
 Synchronizer: Adams-Smith.
 VTRs: 1-inch Sony BVH 2500, 2000s; BVU-820s, 800s.
 Video Monitors: 27-inch HR-Asaca, Sonys.
 Switchers/editors: Grass Valley 300/3A; 1600-1X, and 100.
 Cameras: (2) Ikegami HL-79 DALs.
 Audio recorders: Otari MTR-90
 Audio mixers: Sound Workshop Series 34, Neve 5400 series.
 Other major equipment: CMX-3400, Ampex ADO NEC E-flex DVE, Ultramatte, CGL Images II.
 Rates: On request.
 Direction: Video post-production and special effects computer graphics. New facilities now open with state-of-the-art video editing, sound sweetening and computer graphics.

SAN FRANCISCO VIDEO
OLVP
 P.O. Box 42189, San Francisco, CA 94142
 (415) 648-0745
 Owner: Richard Carlson

SECURED FANTASIES INC.
 533 Irwin St., San Rafael, CA 94901
 (415) 456-ROCK
 Owner: Greg Zuehl
 Manager: Matt Hilton

SFO PRODUCTIONS
VPF, OLVP
 P.O. Box 16035, San Francisco, CA 94116
 (415) 621-3434
 Owner: Jeffrey Daly
 Manager: Paula Rahn

SHOOTING STAR VIDEO
VPF, OLVP, VPP/E
 256 Shearwater Isle, Foster City, CA 94404
 (415) 345-0919
 Owner: Jeff Regan
 Manager: Jeff Regan

SMEED SOUND SERVICE
VPP/E, APPV
 790 W. 8th, Eugene, OR 97402
 (503) 686-1654
 Owner: Glenn H. Smeed
 Manager: Paul V. Smeed

SONIC IMAGES
OLVP, VPP/E, APPV
 13039 Pierce Rd., Saratoga, CA 95070
 (408) 741-5757
 Owner: Mark Weldon
 Manager: Jack Weldon

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Circle #155 on Reader Service Card

SOUND SERVICE**VPP/E, APPV**

1338 Mission St., San Francisco, CA 94103

(415) 433-3674

Owner: David Dobkin, Steven Pinsky

Manager: David Dobkin

EQUIPMENT

Synchronizer: Audio Kinetics Q.Lock 3.10.

VTRs: JVC 8500; Sony BVU-800, 1-inch MCI/Sony Lay back.

Audio recorders: Otari MTR-10 w/center track time code, Ampex MM-1100-16, Magna-Tech film recorder.

Audio mixers: NEOTEK II.

Other major equipment: Emulator, complete line of digital synthesizers. Complete video and film mixing.

Rates: AVPP: \$110/hr. Scoring-to-picture: \$160/hr.

Direction: We are building the Bay Area's newest public audio facility designed expressly for the visual media. In addition to full multi-machine synchronization and Dolby stereo film mixing, we offer the following services: scoring-to-picture, Foley, ADR, film-to-tape synching, sound effects, editing and music editing with stereo mixing for video and film projects. Our clients include Bay Area TV stations, and corporate video departments, but our strength is the host of independent producers working in the visual media.

SPECTRUM STUDIOS, INC.**APPV**

905 S.W. Alder St., Portland, OR 97205

(503) 248-0248

Owner: M. Carter, L. McGill

Manager: M. Carter

EQUIPMENT

Synchronizer: AK Q.Lock 3.10c with all software.

VTRs: Sony BVH-1100 1-inch with Dolby A; JVC CR8250 3/4-inch.

Video Monitors: Sony.

Audio recorders: Otari MTR-90 24-track; Ampex ATR-104 and 102; Nagra IV-S Time Code.

Audio mixers: Custom built API inspired consoles.

Other major equipment: 26 channels of Dolby A, EMT-140S, Yamaha REV7, Lexicon Prime time, Harris CU590 TBC, Sony BVG1500, Vectorscope, waveform monitor.

Rates: \$135/hr.

Direction: Spectrum is a full service commercial sound production company with award-winning staff of 15. Location sound with stereo time code Nagra IV, large SFX/music libraries, three production studios, and our passion for making work sound great.

SPOT SERVICES INC.**VPF, OLVP, VPP/E, APPV**

942 Enterprise Dr., Sacramento, CA 95825

(916) 929-7127

Owner: Gary Tomsic

Manager: Charles Willson

EQUIPMENT

VTRs: BVH-2000, BVW-40, BVW-15, BVU-10, BVU-800.

Video Monitors: Sony BVM-1900.

Switchers/editors: Grass Valley 1XCV component model 1600.

Cameras: BVP-3 (Betacam).

Audio recorders: Nagra 4.2 and Sony SL-2000 w/F-1 digital Atari.

Audio mixers: Soundcraft (600) 24 x 8 w/Grass Valley AFV.

Other major equipment: 40-foot location film/video production tractor/trailer w/400 amp crystal generator w/extensive inventory.

Rates: Full component video editing @ \$240/hr.

Direction: Specialized in full component (R-Y, B-Y) production and post-production as well as 35mm motion picture production and support. Recent clients include: Showtime/Oliver Wilson-Gallagher, Stephen J. Cannell/Hardcastle & McCormick, VPPI/Escapes-starring Vincent Price and many others...

STAGE 39**VPF**

39 Dorman Ave., San Francisco, CA 94124

(415) 821-7981

Owner: Ron Eveslage

STOLEN HORSES PRODUCTIONS**APPV**

P.O. Box 358, Eagle, ID 83616

(208) 939-6197

Owner: Rob Matson

Manager: Jim Barott

STUDIO M PRODUCTIONS UNLIMITED**OLVP, APPV**

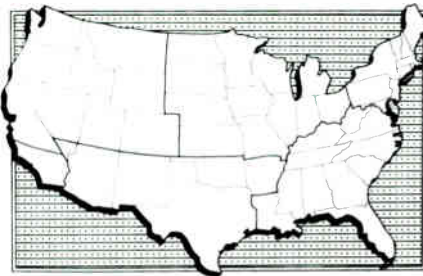
8715 Waikiki Station

Honolulu, HI 96815

(808) 734-3345

Owner: Mike Michaels

Manager: Mike Michaels



NORTHWEST

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

SUMMIT FILMS INC.**OLVP**

P.O. Box 420, Gypsum, CO 81637

(303) 524-9769

Owner: Roger Brown

Manager: Bill Wildberger

TARPAN STUDIOS**APPV**

1925 Francisco Blvd., E Ste., San Rafael, CA 94901

(415) 485-1999

Owner: N.M. Walden

Manager: Janice Lee

TELEMAN PRODUCTIONS**VPF, OLVP, VPP/E, APPV**

1200 Stewart St., Seattle, WA 98101

(206) 623-5934

Manager: Lance Kyed

TELEMAN PRODUCTIONS, INC.**VPF, OLVP, VPP/E**

7700 E. Iliff Ste. H, Denver, CO 80231

(303) 751-6000

Owner: Michael Teis

Manager: Jim Anderson, Michael Golden, Peter Ten Eyck

TELESCENE INC.**VPF, OLVP, VPP/E, APPV**

2185 S. 3600 West, Salt Lake City, UT 84119

(801) 973-3140

Owner: George Hatch

Manager: Fred Edwards

TELEVISION ASSOCIATES**VPF, OLVP, VPP/E, APPV**

2410 Charleston Rd., Mountain View, CA 94043

(415) 967-6040

Owner: Ed Carlstone

Manager: Jim Taylor

TIME LAPSE FILMS**OLVP**

6502 3rd Ave. N.W., Seattle, WA 98117

(206) 789-TIME

Owner: John Nonnenmacher

Manager: Philip Nwland

TOTAL VIDEO CO.**VPF, OLVP, VPP/E**

220 E. Grand Ave., So. San Francisco, CA 94080

(415) 583-8236

Owner: Aldo J. Panattoni

Manager: Aldo J. Panattoni

TRI VIDEO TELEPRODUCTION-LAKE TAHOE**VPF, OLVP**

P.O. Box 8822, Incline Village, NV 89450

(702) 323-6868

Owner: Jon Paul Davidson

Manager: Beth Davidson

TTS INC.**OLVP**

2177 S. Cherry St., Denver, CO 80222

(303) 758-8082

Owner: Rick Wurlpel

Manager: Doug Stewart

UNIVERSITY OF COLORADO TELEVISION**VPF, OLVP, VPP/E, APPV**

Campus Box 379, Boulder, CO 80309

(303) 492-7341

Owner: Univ. of Colorado

Manager: Bud Leonard

VIACOM VIDEO PRODUCTIONS**VPF, OLVP, VPP/E**

900 132nd St. S.W., Everett, WA 98204

(206) 745-5930

Owner: Viacom International Inc.

Manager: Rick Portin

VIDEO PRESENTATIONS**VPP/E**

2326 6th Ave., Seattle, WA 98121

(206) 728-9241

Owner: H.V. Wright

Manager: Paul Forrest

VIDEO WEST**VPF, OLVP, VPP/E**

Broadcast House-5 Triad

Salt Lake City, UT 84180

(801) 575-7400

Owner: Bonneville Intl. Corp.

Manager: Brent Feulner

VIDEOCAST INC.**VPF, OLVP, VPP/E, APPV**

5040 Smugglers Cove, Freeland, WA 98249

(206) 454-0902

Owner: Alan Bixby

Manager: Alan Bixby

VIDERE-VIDEO PRODUCTION SERVICES**OLVP**

3512 Crystal Springs Rd. W., Tacoma, WA 98466

(206) 565-0884

Owner: Craig Kelly

Manager: Craig Kelly

THE VISUAL COMMUNICATIONS GROUP, INC.**OLVP, VPP/E, APPV**

3330 Mitchell Lane Ste. 393, Boulder, CO 80301

(303) 443-6003

Owner: Fred Hull and Shoni Ogder-Hubatka

Manager: Shoni Ogder-Hubatka, Fred Hull and Joe Garguilo

VISUART ENTERPRISES**VPF, OLVP, VPP/E, APPV**

5915 Doncaster Dr., Anchorage, AK 99504

(907) 337-5006

Owner: Roger L. Miller

Manager: Roger L. Miller

VTR PRODUCTIONS, INC.**VPF, OLVP, VPP/E**

1780 Fowler Ste A, Richland, WA 99352

(509) 783-5426

Owner: Gary L. Kuster

Manager: Gary L. Kuster

WAVE PRODUCTIONS**OLVP**

24 Pico Ct., San Rafael, CA 94903

(415) 479-3052

Owner: Daniel Newman

Manager: Daniel Newman

WESTERN AMERICA FILMS INC.**VPF, OLVP, VPP/E**

2110 Overland Ste. 103, Billings, MT 59102

(406) 656-0965

Owner: Ken Slater

Manager: Ken Slater

WHEELS PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 2336 University Ln. #15, Cheney, WA 99004
 (509) 235-5774
 Owner: Michael Hansel
 Manager: Michael Hansel

WIZ MEDIA
OLVP
 P.O. Box 1100, Fremont, CA 94538
 (415) 656-4251
 Owner: Andrew John deBruyn
 Manager: Andrew John deBruyn

LARRY WOOD PRODUCTIONS
OLVP
 P.O. Box 11291, Las Vegas, NV 89111
 (702) 739-7705
 Owner: Larry Wood
 Manager: Larry Wood

XANDOR RECORDING STUDIOS
VPF, APPV
 407 Camino Sobrante, Orinda, CA 94563
 (415) 254-9077
 Owner: Jim Weyeneth
 Manager: Jim Weyeneth

Z-AXIS CORPORATION
VPF, VPP/E
 10800 E. Bethany Dr., Aurora, CO 80014
 (303) 696-9608
 Owner: Steve Cohen
 Manager: John Switzer

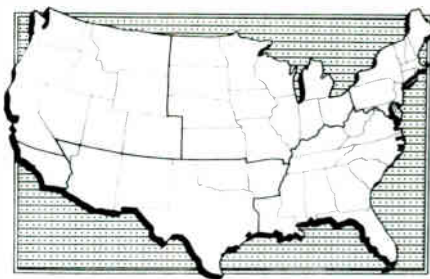
SAUL ZAENTZ FILM CENTER
APPV
 2600 10th St., Berkeley, CA 94710
 (415) 549-1528
 Owner: Saul Zaentz
 Manager: Roy Segal, Steve Shurtz

—FROM PAGE 10

just finished mixing Spindletop recording artist *Lou Ann Barton's* new LP, *Forbidden Tones*. Both projects were engineered by *Larry Wallace*. . . At *L.A.W.* in Las Vegas, *B.B. King* was in Studio A, overdubbing horns on two of his album projects with engineer *Lee Watters* and assistant *Holly Sharpe*. . . At *Omega Audio* in Dallas, the *Dallas Jazz Orchestra* mixed their *Live at Montreaux* release recently utilizing the Mitsubishi X-80 for digital mastering. *Linda Adelfkoff* engineered with *Galen Jeter* and *Byron Parks* producing. . . The remote truck from *Digital Services Recording* of Houston was on hand at Houston nightclub, Midtown Live, for the recording of various artists at a benefit performance for musician *Jimmy Don Smith*. . .

STUDIO NEWS

San Francisco has a new resource for high quality audio recording services and motion picture and video post-production services. *The Sound Recording Organization* (SRO) is a newly formed joint venture of *Studio C* and *The Sound Service*. Officers of the new company are: *Luther Greene*, president; *David Dobkin*, vice president/general manager; *William Harvey*, vice president engineering; and *Steven Pinsky*, vice president marketing & development. The new company is located at 1338 Mission Street, San Francisco 94103. The phone number is (415) 863-0400. SRO provides full recording



CANADA

Please Note: In the following listings, each facility's particular capabilities are indicated below its name using the following initials: VPF (Video Production Facility); OLVP (On Location Video Production); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

CAPTAIN AUDIO RECORDING STUDIOS
APPV
 133 Hazelton Ave., Toronto, Ont., Canada M5R 2E4
 (416) 922-9479
 Owner: Ben McPeck, Jerome McPeck
 Manager: Ben McPeck

CHAMPAGE PICTURES
VPF
 65 Lombard St., Toronto, Ont., Canada M5R 2E4
 (416) 863-6068
 Owner: Robert F. Quarly

ELORA SOUND STUDIO
APPV
 RR 2, Elora, Ont., Canada N0B 1S0
 (519) 843-4178
 Owner: Bill Mather
 Manager: Wendy Miller

services for producers of motion picture and video programs as well as other audio related material. The new facility features two high-speed film mixing rooms, two audio for video (AVPP) studios, film transfers in all formats, and an audio production studio for radio and multi-image clients. . . *MixMasters Recording* in San Diego completed work on Studio "B." The 16-track studio includes a Soundcraft 600 24 x 16 console, Otari MX70 and a large amount of outboard and MIDI equipment. . . Newly installed equipment at *John Wagner Recording* in Santa Fe included the following: Adams-Smith System 2600 SMPTE synchronizer, 3/4-inch JVC CR8250U stereo VCR with third time code channel, a Panasonic VHS stereo VCR, Sony/MCI one-inch VTR for layback, and a Network Stereo sound effects library. . . *Studio One Incorporated*, located in Doraville, GA has been acquired by Georgia State University. The main changes are: there will be classes held to support the Commercial Music and Recording Department, and more involvement in day-to-day studio operations by students. . . *Steven and David Vercelletto* of Acoustic Spaces, Inc. (Woodstock, NY) are currently designing two new studios in the Northeast region: one in Albany, NY, for *Ray Rettig* and *Ace Parkhurst*, the second for *Mee-kaeel Muhammad* in East Orange, NJ. . . *Doppler Studios* in Atlanta announced the completion of Studio E, the centerpiece of an extensive 10,000 sq. ft. expansion program. The new studio features a Solid State Logic

LITTLE MOUNTAIN SOUND STUDIOS
APPV
 201 W. 7th Ave., Vancouver, BC Canada V5Y 1L9
 (604) 873-4711
 Owner: Bob Brooks
 Manager: Rodger Monk

McLEAN HANNAH LTD.
VPF, OLVP, APPV
 154 Sanford Ave. N., Hamilton, Ont. Canada L8L 5Z5
 (416) 526-0690
 Owner: Dan McLean, Paul Hannah
 Manager: Vee Hannah

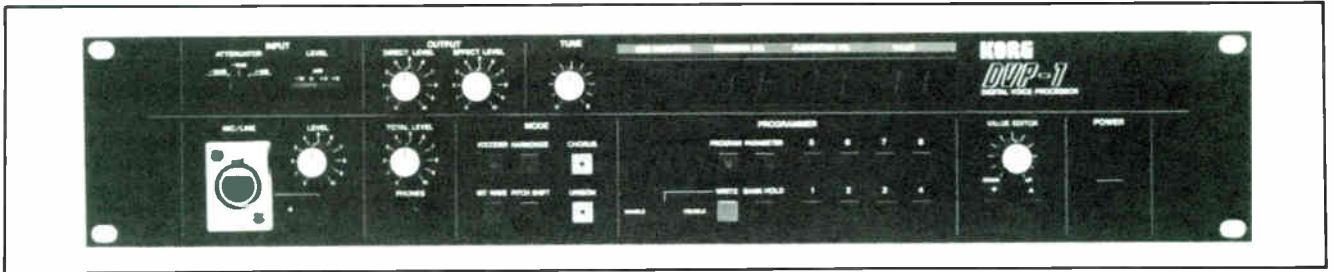
MANTA SOUND
APPV
 311 Adelaide St. E, Toronto, Ont., Canada M5A 1N2
 (416) 863-9316
 Manager: Luanne Leonard

MARC PRODUCTIONS LTD.
VPF, OLVP, VPP/E, APPV
 1163 Parisien St., Ottawa, Ont. Canada K1B 4W4
 (613) 741-9851
 Owner: Marcel Tessier
 Manager: Pierre Larabie

ANDRE PERRY VIDEO
VPP/E
 c/o Le Studio, 201 Perry
 Morin Heights, Que., Canada J0R 1H0
 (514) 226-2419
 Owner: Andre Perry
 Manager: Yael Brandeis

STUDIO PLACE ROYALE INC.
APPV
 141 St. Paul St. W., Montreal, Canada H2Y 1Z5
 (514) 844-3452
 Owner: S. Brown, N. Rodrigue
EQUIPMENT
 Synchronizer: BTX
 VTRs: JVC 3/4-inch.
 Audio recorders: 8-tracks; MCI JH-110 1-inch, VTR layback.
 Audio mixers: Syncon.
 Rates: \$100/hr.
 Direction: Documentary, A/V and commercial soundtracks.

4000 Series console and complete audio-for-video post-production capabilities with BTX Softouch, Sony one-inch and 3/4-inch VTRs, dual MTR 90-II 24-tracks. The studio and 800 sq. ft. control room were designed by George Augspurger. . . At the end of January, Joel Block's *Production Block Studios* moved to 906 East Fifth Street, Austin 78702, one block east of the Texas and Pacific Film/Video building. The phone number (512) 472-8975 will remain the same. Designed in a casual, post-modern style, the new facility will expand to offer 16-track capabilities as well as its existing 8-track system, and will nearly double in size. . . *Sound International Corporation's* 24-track recording studio has recently announced the addition of a sound effects library on Compact Disc to its already elaborate library. The library now encompasses over 3,000 effects. . . *Master Control* in Burbank recently added a pair of Drawmer gates and a Yamaha REV7 digital reverb. In addition, they installed a new SSL Series 4000E 52-input console with the SSL Studio Computer and Total Recall. . . *Bill Galanty*, president of *Eastern Artists Recording Studio, Inc.*, announced that *Howard Kessler* has been appointed studio manager. . . *The Headway Studios*, in Westminster, CA, has added a second room. In addition to their 16-track one-inch facility, they now offer 24-track recording. The studios have purchased a new Trident console, Otari MTR-90, ATR 2-track, Lexicon digital reverbs, Roland digital reverbs, just to name a few.



Korg DVP-1 Digital Voice Processor

NAMM and Beyond

by Craig Anderton

It's interesting how the music industry cycles in and out of trends. One year keyboards are hot—then guitar prices drop, and *they* start to generate a lot of excitement. New signal processor introductions used to occur daily, yet now they're down to a trickle. As Hartley Peavey said, the music business is like the fashion industry... a phrase that kept sticking in my mind as I walked around the latest NAMM (National Association of Music Merchants) convention.

The summer '85 convention, although not without items of interest, was a disappointment to retailers and manufacturers alike. This winter, the cycle seemed to be picking up again. Much is in flux in the music business, so now might be a good time to reflect on three developing trends.

Do-All Signal Processors

Unlike analog signal processors, which are usually limited to one particular function (or perhaps a couple of related functions), digital signal processors can be programmed to perform many different tasks. First delay lines started adding sampling capabilities, then devices such as Lexicon's PCM70 and Yamaha's REV7 packed dozens of delay-based effects into a single box. Now the Yamaha SPX90 gives delay, reverb, noise gating, compression, equalization, and a whole lot more for an under-\$800 price tag. The one drawback is a 12 kHz response, but that's not too much to give up for this kind of functionality. Meanwhile, Korg's DVP-1 digital voice processor is a vocoding/pitch shifting/harmonizing device with 64 MIDI-controlled programs.

I think we'll be seeing more and

more of these multiple-identity devices in the years ahead as engineers try to pack more and more functions into single-space rack units. Conceivably, before too long, universal signal processing blocks could be integrated onto a single chip or chip set, and built into recording consoles. These blocks would change identities or settings as needed according to control track information (from an automation track, SMPTE, MIDI, etc.). Life has been kind of dull lately in signal processing land, but it looks as though a new wave is on the way.

Alternate MIDI Controllers

Let's face it, a lot of synth players are keyboard synth players by default. Why? Because until recently, if you wanted synth sounds you needed to play synth keyboards. Fortunately, that situation is changing. Guitarists now have several guitar-to-MIDI sys-

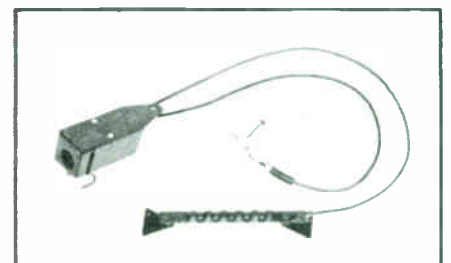
tems to choose from, with varying price tags (\$995 for the Kramer/IVL Pitchrider 7000, multi-thousands of dollars for a dedicated controller like the SynthAxe) and varying levels of technical sophistication. On the most basic level, you can just retrofit a guitar with the right pickup/electronics and hook into a guitar-ready synth (such as the Oberheim Xpander or Yamaha TX816 rack). Next step up is to buy a guitar optimized for pitch-to-voltage conversion (Roland, Ibanez, IMC), or you can go all the way for a "MIDI instrument" that just happens to play like a guitar (Octave-Plateau guitar controller, SynthAxe). Woodwind players can retrofit Lyricons with a J.L. Cooper box, pianists can retrofit their instrument with a Forte MIDI adapter (without distressing the piano), and drummers have a variety of drum-pad-to-MIDI converters.

The widespread acceptance of alternate MIDI controllers could have several implications. First, I think this will accelerate the trend towards sepa-

—PAGE 207



The Kramer Pitchrider 7000 guitar-to-MIDI system features individual channel assignment for each string and a transpose mode.



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MUSIC NOTES



Dream Academy: Gilbert Gabriel, Nick Laird-Clowes, Kate St. John

DREAM ACADEMY

by Rip Rense

If you think you hear echoes of The Beatles when you listen to Dream Academy, you *do*—almost literally, in fact, in the single “Life in a Northern Town,” which features a fading “yeah, yeah, yeah.”

You’ll also hear wisps of Buffalo Springfield, the Yardbirds, Simon & Garfunkel. Dream Academy clearly—and sincerely—has its heart in the ‘60s, or at least what founder Nick Laird-Clowes loved most about ‘60s music.

Laird-Clowes (pronounced *clues*) was practically weaned on *yeah, yeah, yeah*. “I think my mother bought the first Beatles singles,” he says, “and my sister and I quickly made it into something of our own. Almost immediately we asked the parents to give us cheap acoustic guitars for Christmas, and they did.”

That was 1965. Laird-Clowes was about seven years old. When he says “grew up in the ‘60s,” he means *grew up*. He wasn’t a runaway middle-class

hippie teenager, he was a *tyke*. His parents took him to The Beatles’ concert at the Hammersmith Odeon that year as a Christmas present. The Yardbirds opened that show. Laird-Clowes was never the same.

Twenty years later, he and keyboardist Gilbert Gabriel and multi-instrumentalist Kate St. John (who was at that same Beatles concert) have become chart-toppers as Dream Academy. Their first hit, “Life in a Northern Town,” seems to give a little nod to those early roots:

*In winter nineteen sixty-three
It felt like the world would freeze
With John F. Kennedy
And the Beatles...*

Let it all sound a little too *dear*, dear reader, keep one thing in mind: These people are sincere. This is not contrived “neo-psychedelia”—Laird-Clowes and company are trying hard to do something original. “Northern Town,” they feel, succeeds with a blend of wistful pop melodies, African chant, and free-associated imagery.

“I was trying to write stream-of-consciousness lyrics, words that would

trigger images for me and hopefully for other people,” says Laird-Clowes. “It seemed to me that the song was about being up north—and about my childhood, somehow—somebody coming into your world, telling you about the outside world, and leaving you at the end of the day.”

No, Laird-Clowes is not from a “northern town.” The refrain comes from a visit he made to one, though—Newcastle, to be specific—in which he was visited by someone from an “outside world.” It was at a time when the struggling Dream Academy had taken a break from touring to work regular jobs in an effort to save money for the purchase of better equipment, and Laird-Clowes found himself in Newcastle at a job interview. A prospective employer showed him around the broken-spirited town, as if to say, “You think you’ve seen unemployment?”

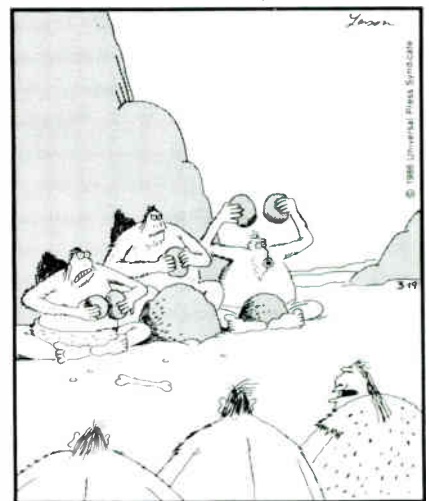
It took a rather impressive second opinion to convince him to add the “life in a northern town” hook—the last part of the song to be finished.

“Paul Simon, who I’ve met on and off since my days in New York, listened to that song and he said to me, ‘That’s great, but you must come up with a line for the chorus.’ I said, ‘What about *life in a northern town*?’ He said, ‘Great title.’”

And, evidently, great tune—as far as the public was concerned. The gentle song slowly but surely climbed the charts and conquered the not-so-gentle airwaves of MTV. Not bad for a lad who grew up dreaming of The Beatles—but then, Laird-Clowes was

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By GARY LARSON



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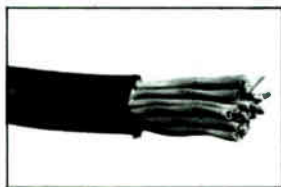
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not the ordinary suburban kid content to stare wide-eyed at the '60s on the telly. This guy ran away at age 12 to the Isle of Wight festival, and hippied with the best of them against a backdrop of Jimi Hendrix, The Doors, Leonard Cohen...

"I was fascinated by the charts," he recalls. "I bought anything I liked. I bought 'Positively Fourth Street' when it came out, which must have been 1966. I started to frequent the record shop, stopping every day on my way home from school while this guy who worked there played records for me. I couldn't even see over the edge of the counter, and this guy—he was a folk-singer—would be saying, 'You should listen to this'—Dylan or Simon & Garfunkel or whatever."

Laird-Clowes became a teenage DJ at a London dance club, and he didn't get "serious" about performing music until the ripe old age of 15. At 16, he formed a group, christened *Alfalfa* by former Beatles publicist Derek Taylor. "It was America Part Two, or Crosby, Stills & Nash Part Two, really," he says, "and we got a deal amazingly fast."

That deal faded amazingly fast, however, with the onset of punk. Suddenly music was no longer interested *whatsoever* in clinging to any soft-molded, drug-fogged '60s notions of melody and lyric. Laird-Clowes bailed out of *Alfalfa*, went to New York, formed another group called *The Act* ("sort of Elvis Costello meets Tom Petty meets The Byrds"), cut one album, returned home, and placed a newspaper ad for a keyboardist. Gilbert Gabriel answered and became his songwriting partner. Thus, however ingloriously, was born the germ of *Dream Academy*.

"He and I started talking about another type of group where we would experiment with things other than rock and roll. We felt there must be *more*—a renaissance type of group, you know, that wouldn't limit itself. While touring Spain, where you could always play to a full house, we spent time listening to classical music, talking about philosophy, et cetera. I was thrilled to have found someone who could relate to all this and didn't think I was *mad*."

The duo's association survived the dissolution of *The Act*. Laird-Clowes met Kate St. John, a classical musician intrigued by pop experimentation, and shortly thereafter *Dream Academy* opened for business in a decrepit gambling casino in Barclay Square. "It was faded, crumbling grandeur, which kind of went with our sound," Laird-Clowes laughs.

From there came the rounds of battling with prospective producers—trying to convince them that there was a market for such "atmospheric" and "sensitive" songs. At the risk of being

labeled naive, *Dream Academy* clung to its...er...dream. There would be no compromise. Laird-Clowes, Gabriel and St. John added acoustic stringed instruments to string machines to produce a sort of '80s version of Phil Spector's "wall of sound" behind lyrics like "Look out of your window on any day/ From June to September the love parade's/ Out on the street where you live and you know/ It's just a matter of time before it takes over..." One of their earliest recordings was "Test Tape No. 3," which combined a plaintive love song with whale noises ("giving it a sound like Ornette Coleman blowing against it"). Some laughed. Some were polite. Warner Bros. president Lenny Waronker liked it and the label signed them. Pink Floyd's David Gilmour co-produced them (with Laird-Clowes).

Now they're touring the States, following that trail blazed long ago by The Beatles. And, at least in their own minds, the members of the *Dream Academy* have yet to compromise.

"I know things have got to be commercial to a certain extent," says Laird-Clowes. "But to make something on the basis of whether it's going to be a hit or not—that's not why you're doing it, not why you make music."

He laughs again. "We'll see if we change now." ■

David Lindley

El Rayo-X Marks the Spot

by Michael Nash

"All right now, we gonna dub eet," an eccentrically clad and typically playful David Lindley announces in perfect mock Jamaican—but by no means mock sincerity. Then the smiling multi-instrumentalist and his merry bandmates in *El Rayo-X* take their already twisted syncopations of "She Took Off My Romeo's" a turn further, dropping the perverted arpeggios into a tight dub-reggae groove that at once demonstrates the humor, proficiency and eclecticism of Lindley's music.

Lindley is a modern-day musical renaissance man. Best known for his decade-long association with Jackson Browne, where his rich instrumentation forged a trademark '70s California sound, on his own he expounds upon a broad range of styles through his mastery of multitudinous and often strangely-named stringed instruments. Historian and translator of a world of musical tongues, Lindley has earned the enduring respect of his fellow musicians as well as acclaim from critics, and the status of cult hero to a devoted following that knows a weird thing when it hears it. And like his pal Ry

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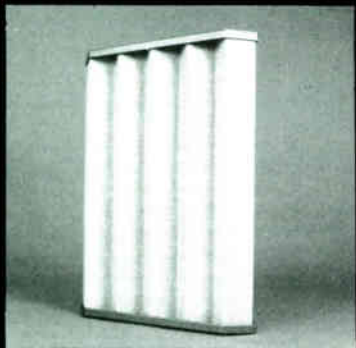
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PHOTO: RANDY BACHMAN

David Lindley

Cooder and groups like New Orleans' Neville Brothers, he has done so while sticking to his own best instincts and values, musical and otherwise—often in the unsmiling face of a music industry that favors the hook over the heart.

El Rayo-X, the band Lindley formed five years ago, is in many ways a statement of those values—a marriage of musical wizardry, social conscience and good old-fashioned fun. Guitarist Bernie Larsen, bassist Jorge Calderon, keyboardist William "Smitty" Smith, and drummer Walfredo Reyes—collectively as multicolored as the music they play—ardently share Lindley's enthusiasm for the music. It's a happy brew of roots, rock and reggae as only Mr. Dave knows how to cook: Cajun to Caribbean, Mediterranean to Tex-Mex, West African to Central and South American, street-smart R&B to down-home rock and roll, all spiced with Lindley's weird humor, masterful chops, and an uncanny sense of rhythm—ingredients that unfortunately, within the questionable climate of today's music industry, don't always add up to a recording contract.

Despite two well-received albums (*El Rayo-X*, released in 1981, and *Win This Record*, 1982), Lindley and company were dropped by Elektra/Asylum following a major shakeup at the label three years ago. A band full of music and no domestic recording contract can be an unsettling state of affairs, but there *is* a third El Rayo LP—*Mr. Dave*, released in Europe last year by WEA International and available State-side as an import. Distribution being what it is—or, more precisely, what it

isn't—Lindley has taken to selling the disk at his shows.

Backstage after a set at Wolfgang's in San Francisco, Lindley's smile and shrug belie his frustration with the vagaries of the record business and its deficiencies of conscience. He talks of "tribalism" in the industry, the radio formatting and chart compartmentalization that divide music into discrete camps and create needless barriers similar to ones that follow larger social and political lines.

"No camps," says Lindley, peppering his remarks with references to Rastafarian cosmology to make the point ("Babylon" being the bad guys who are unable to hear the whole). "There's something good in everything."

His own style emanates from his older brother's classical piano playing, his father's Middle Eastern and Mediterranean record collection, and the R&B on the L.A. airwaves of his youth. He started playing baritone ukulele at 14, soon swapped it for a guitar, and not long after that began hanging out at the Ash Grove and soaking up all the folk, country and bluegrass the legendary club had to offer. At 18, Lindley won the first of five consecutive victories in the annual Topanga Canyon Banjo and Fiddle Contest, a streak ended only by the organizers' request that he become a judge in order to give someone else a chance.

Lindley could just as often be found on the other side of town and in a distinctly different corner of the musical universe. "I used to hang out at Bernardo's Guitar Shop on Brooklyn Avenue in East L.A. all the time," he

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Christine McVie



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recalls. "Their radio was constantly on, tuned either to the local Mexican station or the heavy R&B station. We'd hear the Midnighters, Sam the Sham & the Pharaohs, Little Julian Herrera & the Tigers, the Masked Phantom Band . . . Between the players in that store and what was on the radio, I heard some of the most amazing guitar ever. That experience influenced me very deeply." So did an old poster on the wall of the shop—a poster that featured the words El Rayo-X.

His fascination with the various musical worlds to which he was becoming exposed led Lindley to begin seriously collecting exotic stringed instruments, learning to play them traditionally and then delving into his own experiments with techniques. Playing the banjo with the bow from a viola da gamba, for example, he came up with a sound resembling a pump organ. Over the years, Lindley has brought his magic hands to a vast array of axes, from electric and slide guitar, fiddle, harp and mandolin to lap steel, baritone guitar, tambour, banduria and Turkish saz, to name a few.

In 1966, Lindley formed Kaleidoscope, his first major group, and recorded four albums over the next three years. Then he ventured off to England for two years to work with Terry Reid and stumbled upon yet another world of sound and rhythm—ska, bluebeat, African highlife and reggae—music for which he would develop a long-standing love. "I was playing country-rock with Terry," Lindley recalls, "but I bought all these ska and bluebeat records. I really liked that stuff, though you weren't supposed to unless you were from the West Indies or a skin-head."

Lindley toured Japan with Reid, the first of half a dozen visits he would make there over the next decade, and heard a guitar player named Makoto Kubota. "Guys like him, Shokichi Kena, and more recently Haroumi Hasono of Yellow Magic Orchestra took Okinawan, Japanese, Korean and Chinese music, mixed it together with rock and roll and reggae, and came up with something they called 'chunk.' Amazing sound—very rhythmic, all highs and lows with nothing in the middle."

Lindley returned to the States in 1971, began his celebrated tenure as Jackson Browne's right-hand man, and developed a strong reputation as a session player with the likes of James Taylor, Linda Ronstadt, David Crosby and Graham Nash, among others. He also worked in a variety of settings with Ry Cooder, including a 1979 tour of Japan and the recent soundtracks for *Alamo Bay* and *Paris, Texas*. His musical relationships along the way



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have brought him to involvement with such non-musical causes as the anti-nuke movement, environmental protection, and the plight of the Native Americans.

Unsigned though he may be, David Lindley continues to do his thing, grinning as he goes. He continues to study and broaden his craft, cataloging and interpreting a world of music in the process of creating his own. And what's more, he has a hell of a time doing it. Watching Lindley perform,

whether electrifying with his soaring slide guitar excursions, pacifying with his sonorous fiddle improvisations, or mesmerizing with the strange and wonderful sounds he conjures from his collection of Silvertones, Danelectros and other guitar-shop curios of bygone days, one comes to feel that this man is the real thing, an inspired troubadour spreading the message the way he knows best. Asked about specific plans, Lindley smiles broadly. "Get the music out."

PHOTO: JEFFREY MAYER



Neil Geraldo

Neil Geraldo

by Robyn Flans

Neil Geraldo has his hands full in the studio these days. Working as a writer, guitarist, and producer on his wife Pat Benatar's latest LP, *Seven the Hard Way*, Geraldo says he's essentially carrying the same load he had as a co-producer, with one main difference.

"We don't have anyone in between anymore, so that's a little strange sometimes," explains Benatar. "I don't have the other guy to say to, 'I don't want to sing this part...'" Now I have to say it to Neil, and he treats me differently than someone who's a friend.

He's my husband, too, and he says, "Will you stop!"

Benatar admits she isn't the easiest person to work with in the studio, but Geraldo says he remains calm.

"We know there are going to be arguments and discussions, but we're both adults. As you get older and have children, you find that the little things that you thought you were upset about, really mean nothing in the scheme of life. I wish I had a punching bag around, though, because it's not a good thing to have the producer talk to the artist like, 'Screw you, I don't give a damn.' I'm a pretty patient guy, so when she says, 'I'm not going to sing it this way,' I just say, 'Okay, you don't have to do it that way,' but inside I'm going 'gggrrrrr.'"

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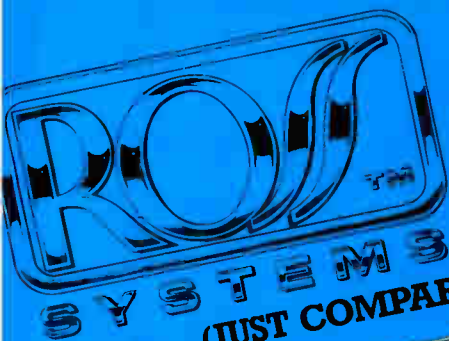
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records and not let the technology make you lose sight of the music you want to make. You don't need keyboards MIDled, you don't need 42 drum machines, and you don't have to lock up 42 tape machines to experiment. What I would experiment in would be ways to have people expand. Technology is great, but if you can't use it to put soul in or keep the music the way it should be played like it was in the '50s or '60s and even now in some situations, then it's not worth having that technical stuff. Machines can be useful tools to a certain extent, but I like a real band and real players."

Most important to him is the song and the lyrics. It is precisely this that he looks for when producing outside projects such as John Waite's, and an album for Steve Forbert, which never saw the light of day.

"I don't know why the record company didn't release it. It was a great album and it really hurt him. What I tried to do with him, because he's such a great writer, is put that character into his songs. I wanted to really show off his personality by making everything extreme. I really think it worked."

Geraldo recently completed production on the Del Lord's second album, *Johnny Comes Marching Home*.

"The wife sang on one song called 'Soldiers Home,' and I also used the gospel background singers that I used on our record. It kicks because it's a guitar-oriented band. No keyboards, just straight ahead guitar and it sounds like a real live rock and roll band. All of a sudden, you hear these gospel singers and Patty poking through, and then Scott (Kempner, lead singer). It really works well," he says of the project, which he recorded at MCA Whitney and Cherokee in L.A., as opposed to the East Coast where the band resides.

"I expressed to them I would do it in New York if they wanted to, although I didn't really want to have to move my wife and child out-of-state. Besides, I have studios in town that have been very kind with their rates, and I get along with the people, and I can maybe leave a set-up going for a couple of days. At the Power Station, if you work a lock-out of 16 hours, it costs you about \$2,500. Here, I can get a lock-out for \$800 or \$900. If it's a new band and their budget is small, you want to make sure you keep the costs down. I don't care if the band has a million dollar budget, \$50,000 or \$25,000. If I love the band, we're going to make that record."

On *Seven the Hard Way*, Geraldo used six studios, not in pursuit of the perfect studio, but as a result of poor planning. He's in the process of building the studio he considers perfect; it's

located in back of their home.

"In this case, it's perfect in the sense of not having to drag the child outside to different studios and set up nurseries. If the child is asleep and people are walking by, I don't have to ask them to be quiet. We can do our vocals, bass, guitar, keyboards, drums and anything back there, and still let the child sleep. At the same time, I get to see my daughter more. I can put her to sleep and go back into the studio and work. In that situation, it's the perfect studio."

Benatar paints a picture of her husband as musically obsessed, and jokes that she'll probably lose him to the studio out back where he and his engineer Michael Frondelli will constantly be.

"I probably am obsessive," Geraldo admits. "There's nothing I love more than music except for my family. I love making records that have meaning, inspiration and soul. I don't plan to make a slick record ever in my life, although I did in the past. I won't go for perfection. I will go for the feel. Patty probably won't see much of me, though," Geraldo laughs. "I'll tuck the daughter in, read her a little story, and split. Patty'll be asking, 'What do you want for dinner?'" and I'll be out the door, 'Ummm, I'll be in in a couple of hours...'"

Peter Erskine: An Education in Drums

by Brooke Comer

Peter Erskine's snare drum has fueled the rhythm of more recordings than even he can count. That's be-

cause anyone using the snare drum sound on an Oberheim DMX is using a little of Erskine, too. "I recorded about three drum sets worth of drums onto a 2-track tape and then the Oberheim people sampled them to find which recording would go best onto a chip," he says. Far from feeling threatened by the advent of electronic music, however, Erskine is an enthusiastic proponent of computerized drum technology.



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The first-call session drummer, also known for his work with Weather Report and Steps Ahead, started young. "My father used to be a musician. He played bass in college, so we always had instruments around the house. When I was 4 years old, he built me a set out of an old Chinese tom-tom, with thumbtacks attaching the head onto a shell, and a sizzle cymbal made with paper clips."

Formal lessons followed, until Erskine was old enough to attend Stan Kenton's music camp. "That experience had a lasting impact on my career," says Erskine. "Stan always kept an eye on me, and later arranged for me to tour with him." Most of his peers were playing rock and roll in the '60s, but Erskine "started out listening to jazz and I didn't get into rock until later. Janis Joplin was the first rock record I bought. I liked James Brown, Blood, Sweat & Tears, and The Beatles. But I wanted to play jazz."

Erskine did play jazz, touring with Kenton and fusion kings Weather Report in between studies at Indiana University. Working with Kenton gave him his first major studio experience. "Aside from what I'd done in school, I hadn't had much time in the studio. Weather Report was one of the best learning experiences in terms of being creative. When I joined the band, we'd tell the

engineer to keep the tape running whether it was multi-track or 2-track or cassette whenever anyone was in the room, because anything could happen. A lot of Weather Report's albums were composed spontaneously; tunes would just happen to get caught, then we'd take them in and do them on 24-track and fix them up."

Erskine didn't become a studio pro overnight. "I didn't learn any semblance of good studio technique until I'd spent a lot of time in Los Angeles, and I don't feel I really learned to work in a studio until I came to New York," he explains. "I don't mean my recording sessions didn't go well then. But now I feel I can go into any room and get as optimal a sound on tape as possible, in any situation. It has to do with sussing the room out, and the mic situation, and playing with the proper dynamics."

Playing jingles helped make Erskine a more versatile player, but breaking into the commercial music scene wasn't quick or easy for him, despite his obvious talent, and his considerable reputation. "There's a mathematical element to the way the jingle industry works," he says. "Work is taken care of before any new musician moves into town, so there has to be a reason for producers to get a chance to hear you and decide to use you,

and to stop using whoever they've been using. At first, I didn't understand the jingle scene so I didn't have the right approach. Jingles are a craft. You have to know what sounds best and works best in a very specific situation. There's no time to try to be artistic in a 30-second spot. You just have to play as well as you can. It isn't really a matter of compromising your creative integrity either, because when the top musicians are selling soap, it becomes a very hip thing to sell soap.

"When you have to compress all this music into a 30-second spot, you can learn a lot," he continues. "You have to be very focused and disciplined in a jingle session. There's no tolerance for mistakes. Then, when you magnify this focus and discipline into a larger creative framework, the time discipline you've developed really seems to carry over. It helps your focus when you're playing, and makes your statement fall right into place. So jingles are not only painless, they're fun and beneficial."

Erskine says his basic style hasn't been affected by his jingle work, however. "I play funky," he explains. "I'm not a hard rocker. There's a little bit of a lope to my beat. Once, Will Lee and I were rehearsing with Don Grolnick's band, and Don said a certain part should be played with the eighth notes

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swung a little bit, and Will said, 'You mean the way Peter always plays rock and roll,' which is a pretty accurate assessment of my style. I hear and play that way; I was typecast as a jazz drummer, but it's all music to me. I know I can swing it, no matter what the genre. If you've played enough, you can play any kind of music, it's like learning a language."

Tuning technique gave Erskine's sound a more defined punch both live and in the studio. "I just went out on the road with a four-piece Yamaha set [Erskine plays grey laquer Yamaha Recording Custom Drums including a 20-inch bass drum, an 8 x 10-inch rack tom, a 8 x 12-inch rack tom, a 9 x 13-inch rack tom, a 14 x 14-inch floor tom and a 5 x 14-inch wood snare drum. All except the 8 x 10-inch rack tom are fitted with "Detonator" pick-ups], though I have worked with a five-piece kit too. The problems with the bigger kits are in tuning the mounted toms. When you're dealing with 12- or 13-inch mounted toms close in size, if you're not careful with the tuning they'll be setting each other off in terms of sympathetic vibrations because they're right next to each other. I think that if you're careful with the tuning, though, you can get away with more drums."

Erskine has a couple of methods for getting a clean punch sound onto tape. "You can tape tissue paper over the head, but that's not an ideal situation. I learned a handy trick from Steve Gadd, which involves cutting a circle out of Mylar plastic that fits right inside the rim on top of the drum. It cuts out a lot of excess ringing and overtone. I've tried that on sessions, and it's great. It sits on the head and doesn't vibrate around so you don't need tape. I also carry around a couple of Yamaha external mufflers if I'm doing jingles, which I jokingly refer to as 'instatunes.' They've been around for years. They're made of soft foam that gently dampens the head if you want to tweak out some of the ringing here and there, either live or in the studio."

Tuning, and changing his heads helped Erskine get more heavy bottom in his bass drum sound. "My sound got more heavy bottom and there's more defined punch to it now," he notes. He's also increased his sound possibilities by triggering Simmons brains from his acoustic kit. "My Yamahas are fitted with Detonator pick-ups, or contact mics, whose outputs go into the MX-1 trigger interface [made by Marc Industries]. The MX-1 enables the signal from each acoustic drum to trigger the Simmons SDSV and SDS 7 modules, or brain. The MX-1 is an extremely fast triggering device. I'm also using a Marc custom switching box,

which controls, by means of a foot-switch, turning the trigger circuit off and on.

"I have the V and 7 brains connected so that they can sound together when triggered, as do the snare and tom modules. The bass, snare and tom sounds are mixed down and combined through two Rane mixers, where the signals then go into a Yamaha M406 mixer. This mixer has equalization capabilities as well as two effects sends, which include SC-33 stereo noisegate, and Lexicon PCM60 digital reverb." Erskine gets the best of both analog and digital worlds by combining Simmons V and 7 brains. "The V is known for its fat and warm analog sound, and the 7 for its digital capabilities. I'm also triggering the 7 brain with Simmons pads, using both stock and custom chip sounds."

Electronic music is still relatively young, and Erskine finds that not all studios are as up-to-date and equipped as New York City's Power Station, Skyline (where Steps Ahead finished its new album with James Farber engineering), Unique and Clinton studios. "When you want a certain effect at Unique, you name it and it's done. That studio's always on its toes. Clinton also has an amazing room, but Power Station is my all time favorite. I just worked with Bass Desires (at Power Station) on ECM, with Marc Johnson on bass, John Scofield and Bill Frisell on guitar and Norwegian engineer Jan Erik Konshavag at the board. I used a little four-piece kit and I've never gotten a better bass drum sound in the studio before. I asked Jan how he did it and he said he didn't do much, or use much EQ, which makes me believe it was careful mic placing. I noticed a consistency in where the mikes were placed in relation to the drums. There's really no reason why you can't get a great, true sound if the electronics in the studio are clean."

Erskine doesn't underestimate an engineer's role in the studio. "Sometimes I'll use a studio drum instead of my own kit because an engineer can often get a good sound out of a kit he's familiar with, even if it's not in good shape. For certain commercial sounds, I'll use the studio drums. I was doing one of my first commercial gigs and I asked a top session drummer for some tips on tuning. I had my set that I use on the road. He pointed to the floor tom of the studio drum, which was completely beat to crap, and said it would record better and sound better on tape than any of the other drums because the particular sound we were going for was dead and flat."

In addition to jingle gigs and record dates, Erskine has been busy completing a book, *Drumming Concepts and*

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Techniques for 21st Century Music Publications. "It's part of a master class series," he explains. "Stanley Jordan, Airtio, and Al DiMeola each wrote a series for their respective instruments. The drum book fills a special niche because it addresses timekeeping, recording situations and general professional applications." The advent of computerized sound has given not only drummers, but all musicians new horizons to explore. Steps Ahead members epitomize the trend toward electronics in their respective instruments. "Mike Manieri's vibes are interfaced," says Erskine, "and Brecker has an Oberheim X-pander in addition to his Steiner electronic wind instrument, and the acoustic sounds I get combining the Simmons and the acoustic drums are pretty hip."

It's clear that new technology is a vital part of music today. As state-of-the-art constantly changes and redefines itself, one can expect equipment choices and needs to change as well. I embrace these advances in technology and sound, while I take care not to underestimate the value of 'older' instruments, both electric and acoustic. ■

The Cruzados: Covering Ground

by Moira McCormick

If there's anything that really gripes the Cruzados, it's when people hear their Spanish name (which translates as "crusaders") and immediately peg them as clones of Mexican-American roots rockers, Los Lobos. For one thing, the group's nucleus is from El Paso, not Los Angeles. For another, their musical roots are in punk, rather than traditional Mexican music.

"We did a radio interview," says drummer and founding member Chalo (Charlie) Quintana, "and we spoke at length about many things, one of them being that we are not, and never have been, from East L.A. The next week I turned on the radio, and what was the first thing they said? 'Here we have an up-and-coming band from East L.A., right around the neighborhood where the Lobos started.'"

The Cruzados' sound, as exemplified by their self-titled debut album for Arista, has more in common with John Cougar Mellencamp than the Blasters-cum-Flaco Jimenez bent of Los Lobos. Their slices of American street life aim for the gut, effectively direct, but certainly more mainstream than when the band began as L.A.-based punks, the Plugz.

The Plugz were Los Angeles' favorite

unsigned band. While X, the Blasters, the Motels, the Go-Go's, and other lesser-knowns were walking off with big-label contracts, the Plugz kept plugging away, much loved on their home turf but inexplicably ignored by the record companies.

After releasing a pair of independent LPs, the band pared down to its founding members, Quintana and singer/songwriter Tito Larriva. Larriva, 32, is a native of the Mexican border town of Juarez, Chihuahua, who spent his high school years across the Rio Grande in El Paso. Quintana, ten years Larriva's junior (whose parents hail from Juarez), also grew up in that West Texas town.

El Paso's thorough commingling of American and Latin cultures is markedly different from Los Angeles, where the Mexican community largely keeps to itself in its own barrios. This could partly explain why the Cruzados don't emphasize their Hispanic roots as much as Los Lobos do.

"In L.A.," observes Quintana, "there's a lot of 'Are you from Mexico?' 'Yeah, Mexico! Oh, yeah!' In El Paso, it's more at ease. The border's right there; it's almost like there's no border. Nobody seems to care. Every day at six in the morning, my 70-year-old grandfather crossed over that *rio*, and my mom would pick him up and he'd do gardening at houses. He still does that today. There's less of a border there than there is here."


In deference to their heritage, the Plugz have included a Spanish song on each of their LPs. On *Cruzados*, it's the darkly romantic "Flor de Mal." "We thought it would sound totally stupid in English," says Quintana.

Before the Plugz officially became the Cruzados, they took on bass player Tony Marsico and guitarist Steven Hufsteter (who was replaced on the band's recent U.S. tour by Marshall Rohner). "Tony's from Philly," notes Larriva. "He's Italian, but there's no difference [in cultures]—the big family, the big meals. And Steve's from Arizona; his mother's Mexican and his father's German. So we're all Latin."


As the Plugz, the quartet did some music for the film, *Repo Man*, and following their name change they contributed a pair of tunes to the feature film, *Sylvester*. Larriva and Hufsteter collaborated on the score for the PBS film, *Survival Guides*, written by Pulitzer Prize winner Beth Henley, and directed by Jonathan Demme. Quintana turned up in Bob Dylan's "Sweetheart Like You" video, and he and Marsico later appeared as two-thirds of Dylan's backing band on *Late Night with David Letterman*.

Then the record companies finally began to sit up and take notice. The


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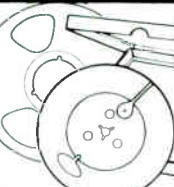
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Cruzados signed with Enigma and spent six months recording an album that never saw release because of legal snarls caused by the termination of the label's distribution deal with EMI.

For once, however, luck was on their side. The Cruzados signed with Arista and reworked their LP with producer Rodney Mills (.38 Special). *Cruzados* came out last September and became one of the most-added LPs at radio stations around the country.

Larriva believes that Mills added just the right touch to the Cruzados' long-suffering album. "It felt like I'd been doing that record for years," he sighs, then chuckles. "I was looking for someone who would make me feel

like I was doing this record totally from scratch. I didn't really listen to the music he had produced, but when I talked to Rodney on the phone, I just got the right feeling.

"That was the best decision I ever made in my life," he says. "Rodney was definitely coming from a hip point of view. He knows how to make good records, and he understands radio, which is something I don't understand at all."

"Motorcycle Girl," a '70s-style boogie number, was the first single. "I thought it was fun, but I didn't think it was a great song," Larriva admits. "But then I heard it on the radio, and I realized that it was a single. I really like the song now a lot. It does every-

thing it's supposed to."

Larriva's songs in general tend toward evocative portraits of people and places. "Movies influence me a lot," he remarks. "I love old movies, and I sort of project myself into 'em. I set scenes in my spirit, and whatever part of the lyrics work in the song, I'll put 'em in. It's sorta like when you write a script: you give the characters background, and *they* know what the story is.

"All the characters in my songs have a background that I've made up. I've got a whole story for 'Motorcycle Girl'—when I'm singing it on-stage, I see the whole thing. It's like acting: every song has a totally different thing for me. And by the end of the set, I'm exhausted."

Larriva is no stranger to drama. He came to L.A. originally as an actor after studying for four years in Mexico City. He's appeared on television in a



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Despite the Spanish name, The Cruzados have more in common with John Cougar Mellancamp than Los Lobos

number of character spots, including a role as Hammy in Pee-Wee Herman's HBO special. Most recently, Larriva wrapped up an appearance in David Byrne's directorial debut, *True Stories*.

Larriva pursued acting in L.A. with music as a sideline until his growing commitment to the band reversed his priorities. Now, his involvement in the Cruzados is first and foremost. They've made a promising start, he agrees, but there's a lot more ground to cover. "I'm just glad the record's out," Larriva says, "because we've had so many records done that we've never released—one for Infinity Records, which fell apart, then another record of our own, then the EMI album..."

"But this time I think we have a good team. It's sorta like formula racing. The driver can be great, but if the team doesn't have the engine tuned you'll never get off the starting line."

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—FROM PAGE 186, BEYOND NAMM

rate controllers and rack-mounted signal generators. In fact, we are probably seeing the end of the dedicated electronic keyboard instrument; who needs all those redundant keyboards? This bodes well for stage setups (fewer keyboards to lug around), bank balances (expander modules are less expensive than units with keyboards), and compatibility (any instrumentalist will be able to drive any sound generator). Second, the design and MIDI implementation of expander modules will change to accommodate these additional controllers. As one example, a Mono mode synth is generally more useful for guitar synthesis than a synth which is capable of only Poly or Omni mode—yet Mono implementations are not as common. If guitar controllers take off, we can expect to see more manufacturers making expanders that are designed with guitar in mind (or even synth patch software customized for guitarists).

As MIDI fever spreads through the general music community, sequencers, patch software, and accessories will no longer be designed exclusively for keyboard players. Ever notice how sequencer programs sometimes display the notes being played on a little graphic keyboard? Pretty soon, programs will have to at the very least offer a choice between a keyboard and fretboard. Paradoxically, I don't expect costs to increase much because of the need to take other controllers into account. Hopefully the influx of MIDI players will give a boost to the software industry, and increase volume to the point where the cost of adding these improvements can be spread out over a larger base of programs.

MIDI Cottage Industries

There seem to be a zillion little software and hardware accessory companies springing up, making everything from the umpteenth MIDI patch bay, to MIDI merging boxes, to novel MIDI-related software for any one of several computers. Surely not all of these small companies will hit the big time, but as I was walking around the NAMM show I couldn't help but wonder if that one-man garage operation over there would someday be the next Roland or Yamaha (remember, legend has it that Apple was started in a garage and financed by the sale of a VW bus). MIDI has opened up a lot of new opportunities to manufacturers as well as musicians, and it will be interesting to see the directions taken by these young companies in the months ahead.

We're out of space for this month's update...but we'll meet again next month. See you then! ■

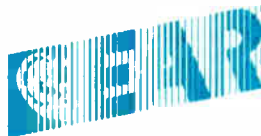


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PLAYBACK



Steven Gottlieb

TELEVISION'S GREATEST HITS

Various Artists

TeeVee Toons TVT1100

Executive producer: Steven Gottlieb, produced by Dave Erlanger, Dan Radlauer, and Todd Mason in association with Lontown Productions. Recorded at Mirror Image Studio, Marvista, California. Engineered by Dan Radlauer. Mastered by Bernie Grundman at Bernie Grundman Mastering, Hollywood, California.

by George Petersen

"This is the kind of idea that people have cooked up for years in late-night reveries for years, yet typically thought better of it the next morning," notes *Television's Greatest Hits* producer Steven Gottlieb, commenting on the enormously successful double album collection of 65 TV show themes he spawned. "But," he adds, "for me, there was no next morning. Part of it was just naiveté: I got involved thinking that a lot of this would be real easy. I thought that every TV company, studio or what-have-you would have that nice clean master of 'Green Acres' or 'Mr. Ed' just sitting on the shelf. It turned out to be a grossly mistaken assumption!"

However, the months of hard work negotiating contracts, searching for masters, and setting up his own record label to distribute *Television's Greatest Hits* has paid off handsomely for Gott-

lieb. At press time, the LP sat at the #82 mark in *Billboard's* Top 100 charts, and sales were quickly approaching the quarter-million mark, a truly unprecedented feat for an independent release on a new label.

The search for the ever-elusive original tracks proved to be quite a mystery in itself. "It's like a full court press in basketball," Gottlieb explains: "every lead is followed and pursued, because no matter what someone tells you over the phone, you never know whether a tape is useable until you check it in the studio. I've got to say that some of our tapes literally came out of the garbage—from archivists who dig through trash bins at dupe houses, picking up tapes over the years. That's the level of care given to this material. Very often when we'd go to license material, we'd get a 'no' from some companies; it's not that they didn't want to do the deal, but rather they didn't have a clue as to where the original was, and didn't want to admit it. So often we'd convince them to give us the licenses and tell them we'd find the track on our own. If someone had bothered to keep track of something for 20 years, they were typically delighted that it finally got put to use. Composer Herschel Burke-Gilbert had the original of 'The Rifleman,' recorded on early stereophonic equipment in Germany in the 1950s. He had a studio in his house, and was happy to

dub it off for us."

The originals for about half of the tunes on the album proved to be either unusable or unavailable, so Gottlieb enlisted the help of producer Dave Erlanger (see sidebar) to put together re-creations of the missing material. The re-creations vary widely in quality, but most are quite faithful to the originals. "We re-created them to production standards such that it would be virtually impossible for the listener to detect which was which—in fact we've now licensed our re-creations back to studios, ad agencies and television stations for use in promoting shows."

A dilemma concerning aesthetics came up on several of the remakes, according to Gottlieb. "The 'I Love Lucy' theme was a tricky one because we had this beautiful, clean track. The question was: 'Should we junk it up a little bit, compress it, and put a little noise on it so people think it's the original?' That was what we had to do with 'Combat,' make it tinny-er. It's hard when your track sounds beautiful, and the last thing you do is add the garbage to satisfy the fetishist who wants to pretend it's the actual theme." Fortunately, the remake of the "Lucy" theme was left intact, and is extremely clean.

Among his re-creations, Gottlieb's favorites are "Dobie Gillis" and "Surfside 6," in terms of recapturing a style of music. "But, I'm really proud of all our re-creations," he is quick to point out. "Our 'Tonight Show' is really hot, our 'Mission Impossible' is right-on, and who wouldn't know that our 'Gilligan's Island' wasn't the original? I'm especially proud of 'The F.B.I.'—although it's not a *great* TV theme, and no one buys the album because that's on it. We got a great orchestral sound and it's so much better than the TV version. It was a case where we could take some license and improve on a piece that originally wasn't done justice. I think the result is very impressive."

Since the project was originally conceived as a mail order product, Gottlieb never approached major record labels about marketing the record. Even though he had several offers, Gottlieb remained independent and went ahead to form his Manhattan-based TeeVee Toons label, partly due to misgivings about the majors' perception of the album. "They really underestimated the potential of the proj-

—PAGE 217

Dave Erlanger: A Report from the Front Line

Line producer Dave Erlanger soon found out that he really had his hands full when his Lonetown Productions company signed on to produce the *Television's Greatest Hits* album for Steven Gottlieb. Erlanger's classical background as a Julliard alumnus and former teacher of ear training at The Boston Conservatory was put to the test over months of listening to the original tunes before arranging the re-creations (Todd Mason also arranged a good portion of the cuts). Of course, while the re-creations were being staged, the search continued on all fronts for the ever elusive original tracks.

Mix: What studios were you working at?

Erlanger: Everything was done at Dan Radlauer's Mirror Image Studio, except the sessions with Don Pardo, which were done at Noise in New York City. We did a good job with what we had, and believe it or not, we did it on a one-inch Tascam 16-track. We were all really surprised at the quality. When we told this to [mastering engineer] Ber-

nie Grundman, his eyes sort of lit up—he said he's heard a lot of 2-inch product that didn't sound as clear.

Mix: Were you using sampling devices for the re-creations?

Erlanger: We started this in November of 1984, and the Emulator II we were using was serial number 80. It was one of the first units out and we were excited about it, learning and playing as we went along.

We used the Emulator in a couple of different ways. On the more orchestral things, like "The FBI," we used the Emulator's strings and punched it up with solo strings—violin, viola, cello—just to get the attack there and make it sound like a section. We used those solo strings, a solo trumpet, one solo horn, and all the rest—percussion, tympani, strings, trombones—was Emulator.

Each cut was different: on "Andy Griffith," we couldn't find a whistler, so we used the Emulator. We used it on a case-by-case basis; a lot of the time, we began with Emulator and ended up replacing it on the final product, but all in all, the Emulator was a joy, especially for special effects. We took a little dolphin

sample and re-created "Flipper." It was a lot of fun.

Mix: Did you use drum machines?

Erlanger: We used mostly live percussion. We didn't use any drum boxes, except a Casio thing as a joke on "We Interrupt This Program." All the congas, bongos, drums, timbales and all that are live. It has to be.

Mix: What formats were the original tracks?

Erlanger: We took quite a few off 16mm—"The Lone Ranger," "The Little Rascals." We got "Fireball XL-5" off 8mm; we couldn't find it anywhere, and had it rush-couriered from England. Some of the 1/4-inch tracks were 30 ips, but most were 15 ips, and I think "Mr. Ed" was 7 1/2 ips.

The originals were the hardest thing to chase down and were the last thing to come in, so I called Bernie [Grundman] beforehand, explained the situation, and he said we should just leave them flat and make all the adjustments in mastering. There are only a few of the originals where I wasn't happy with

—PAGE 217

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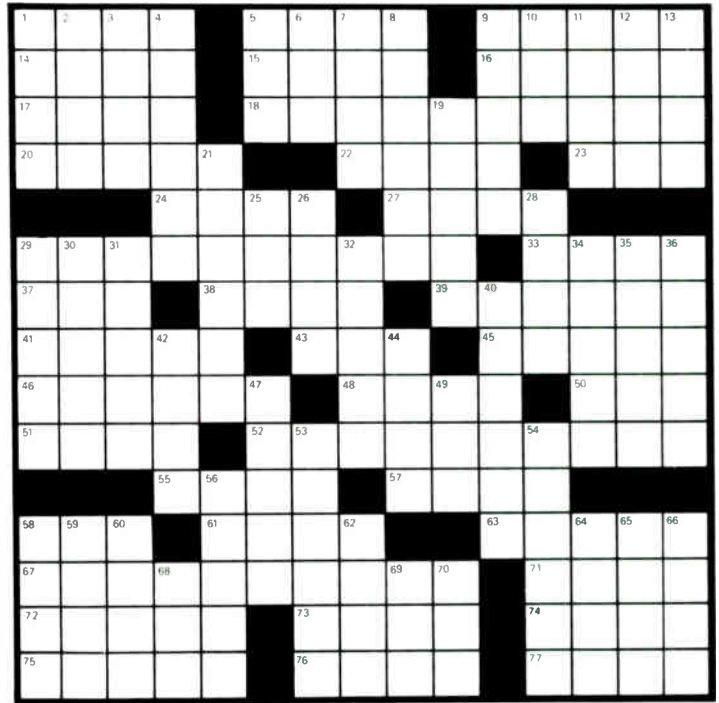
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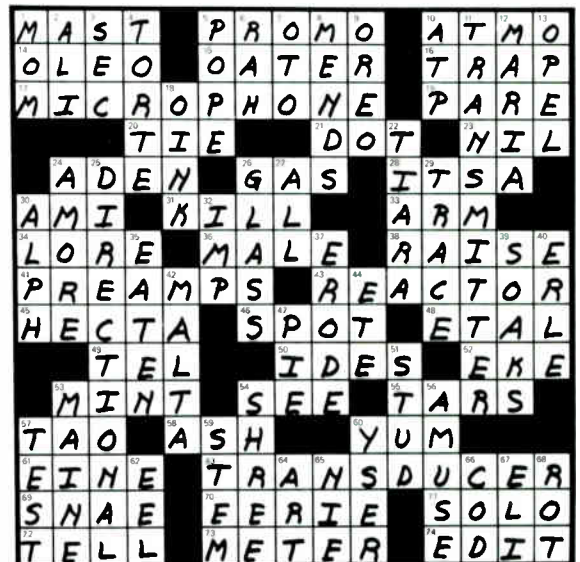
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19. Wear away
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25. _____ West
26. Med. school course
28. Assam native
29. Mode of application
30. Type of tone
31. Hat parts
32. Guitar amp manufacturer
34. Varnish ingredient
35. Sequencer program unit
36. Croce's Brown
40. Piece of luggage
42. Turntable manufacturer
44. Protective canvas
47. Beat to the story
49. Wine bucket denizen
53. Nebraska native
54. Familiar knob
56. Something not to be refused
58. Cuts
59. _____ Sonic Ltd. (Flushing, NY remote recording co.)
60. "Rudolph the Red-nosed Reindeer" guitarist Daughtry
62. Lion's pride
64. Certain acct's
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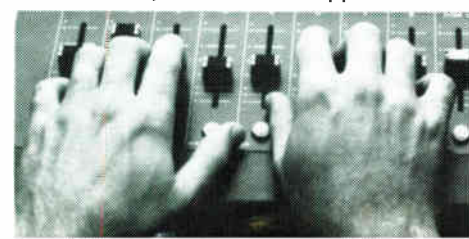
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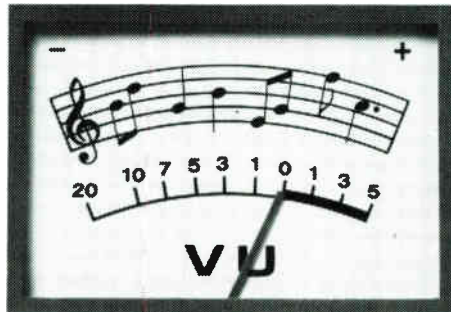
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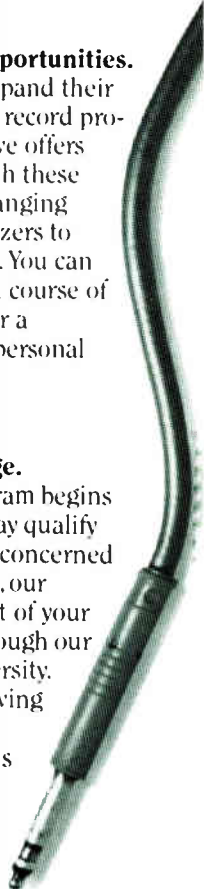
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FEEDBACK

Dear Mix,

Larry Oppenheimer's "Making Ends Meet: All About Interfacing" (*Mix*, December 1985 issue) offers a much-needed introduction to a subject that has long been swathed in layer upon layer of old wives' tales, obsolete standards, technical gobbledegook and misinformation. Although a more apt title might have been "Getting Ends Close Together: A Basic Introduction to Interfacing" (pardon my cynicism), the inclusion of Mr. Oppenheimer's article is indicative of a welcome trend in the audio industry towards an awareness of the important role played by proper equipment interfacing in optimizing the performance of an overall system.

The bad news is that the current situation regarding audio interface standards is in many respects actually deteriorating rather than improving. As an applications engineer with a company that manufactures cables and cabling systems for the M.I., pro audio, and recording studio markets, I have noticed a definite upswing in the number of "interfacing boobytraps" waiting to ambush the unsuspecting user, dealer or technician. Equally alarming is the massive quantity of obsolete, oversimplified, misinterpreted or just plain erroneous information held by a surprisingly high percentage of the aforementioned users, dealers and technicians. In view of this, I beg the editor's indulgence for a moment to confirm, refute, or clarify a few specific points.

Regarding cable shields and EMI (electromagnetic interference): I have been assured by several knowledgeable engineers in the wire and cable manufacturing industry that it is practically impossible to shield a portable cable against magnetic fields (such as power transformers, high-current AC lines, etc.). Such an application requires a ferrous shielding material with good magnetic permeability, such as steel, nickel, mu-metal, etc., none of which offer very good electrical conductivity. As cable shields they would also have some obvious and severe problems in flexibility and termination. The only practical solution to EMI pickup problems in audio cabling systems is in the use of twisted pairs, which

provides cancellation of magnetic fields in more or less direct proportion to the lay or number of twists per unit length. Further rejection is gained by the use of "star-quad" cable (two twisted pairs, twisted together). Meanwhile, cable shields do provide protection from the common gremlin of electrostatic interference caused by capacitive coupling between conductors and external static fields.

Turning to cable capacitance: it is a widely misunderstood property. Yes, it causes high-frequency loss. However, the losses incurred are very dependent on the *impedances* of the source and load involved. A high source impedance such as that of a normal magnetic guitar pickup or a high-impedance microphone, which may be on the order of 10k ohm or more, will cause an appreciable loss of top end when cable lengths exceed ten or 20 feet. In contrast, the low source impedance (100 ohms or so) of a typical modern line-level output allows cable runs of hundreds of feet without audio-frequency losses. Low capacitance cable matters most with high source impedances, which are increasingly rare in modern audio gear. I am also forced to disagree with the author's contention that "there is no such thing" as high- or low-impedance cable, because there actually *are* substantially different problems encountered in designing audio cable for high-impedance use than for low-impedance use.

While we're on the subject of the reactive characteristics of audio cable, it should be pointed out that there can also be nasty effects from cable inductance. They are at their worst in low-impedance, high-current circuits; properly connecting power amps to speakers, for instance, involves a lot more than choosing some big wire with low DC resistance.

I was very glad to see that Mr. Oppenheimer stressed the independence of such characteristics as balanced/unbalanced and high/low impedance, because it is a very important concept in connecting modern (transformerless-type) equipment. This is the '80s, we aren't the phone company, and we don't worry much about matching

source and load impedances anymore. We mostly have nice, high-level, low-impedance (50 to 100 ohms source) unbalanced outputs and equally cooperative, bridging-type (about 10k ohm to 50k ohm) inputs, which usually provide adequate amounts of headroom and may even be balanced electronically as an added bonus.

Next: "You can't tell looking at a jack from outside (what) it is." Amen. Worse yet, you can't tell how it might be wired, because a distressing number of manufacturers insist on burying interfacing information deep in the bowels of the owners' manuals that most people never seem to read anyway. (I should hasten to explain that this is not intended as a blanket indictment, since I have found the majority of manufacturers are quite helpful if one knows the right questions to ask.) One scary trend in mixer design is to provide both professional (+4 dBm) and "semi-pro" (-10 dBV) inputs and outputs to ensure compatibility with a wide variety of tape recorders. Hey, great idea, but it tends to be implemented by providing a single three-conductor ("stereo") phone jack, with the tip wired with one level and the ring another, each unbalanced and referred to common (in this case, the sleeve). Ever try to buy 16 RCA-plug-to-stereo-phone-plug patch cords wired sleeve to sleeve, RCA plug tip to phone plug ring, with the phone plug tip left open, at your local Radio Shack or music store? Better yet, I've seen the same trick done on XLR connectors. Hook one of these to a balanced XLR input with a standard microphone-type cable and you've got a wonderful demonstration of common-mode rejection at work: the input tries to reject the signal but keep the noise! Beware.

Further complications are created by the popularity of "electronically balanced" or differential input and output circuitry, especially by the nature of the garden-variety diff-type output which simply uses an op-amp inverter to produce a mirror-image of the unbalanced output signal. This scheme works pretty well as long as it always sees a balanced input to work into. Feed it into an unbalanced input and you can easily find yourself with a

very unhappy op-amp line-driver trying to push your system ground up and down, producing all sorts of weird crosstalk and distortion bugs. Adding insult to injury is the loss of 6 dB of maximum output, because now you only have one single-ended signal source instead of two (hence, the voltage swing is cut in half). Hopefully the designer has considered this possibility and allowed adequate adjustment range in the output level control to compensate for the drop in level; I recently encountered a very well-regarded professional cassette deck with this disease which could only be cured by modification of the output line-driver circuitry. Happily, there are a few clever people out there that have figured out how to build differential outputs that can sense a grounded signal pin and thus can be pretty much treated the same as good, old-fashioned transformer-coupled ones. Moral of the story: Be aware that balanced, floating, differential and "electronically balanced" are all distinct animals requiring different interfacing practices for best results. Also be aware that you *can* successfully interface balanced to unbalanced and vice versa, as long as you know the equipment and play by the rules.

Speaking of playing by the rules, let's talk about MIDI problems for a minute. There is a definite reason to avoid audio DIN cables: they are invariably wired with the shell connected to the ground (cable shield) pin, which is purposefully avoided by the MIDI specification to eliminate the possibility of analog/digital ground loops. Roland and Korg owners, please note: your gear may have jacks that look like MIDI connectors but are used to provide a non-MIDI sync function. This requires the use of two pins on the DIN plugs that MIDI does not use and which therefore may not be connected to anything. Special cables with four conductors and a shield are required to ensure sync operation, while a cable with two conductors and a shield are all that true MIDI interfacing needs. Having actually spoken to people who insist they have LinnDrums with 1/4-inch MIDI jacks (huh?) and want DIN to phone plug adapters (TILT!), I think there is a great deal of confusion concerning the differences between sync, MIDI, FSK, sync to tape, click tracks, etc.

It's almost impossible to talk interfacing without talking about grounding. Although the specifics are a bit too complex to go into without spawning an article of my own, be assured that there actually are some real principles that do work, are explainable and repeatable, and that save endless

heartache if applied properly. I should also point out that lifting the AC chassis ground of any piece of equipment to break a ground loop can create a lethal safety hazard should the chassis ever become "hot." Quiet audio systems can be assembled without requiring that 20 amps of fault current find their way home through some 22 gauge drain wire.

Finally, the polarity question. When people say that it doesn't matter which pin is hot as long as input and output are the same, they are missing two important things: sounds (acoustical signals) have polarity, and tapes sometimes get played back on machines other than the ones they are recorded on. Record on a "pin 2 hot" machine and positive signals on input pin 2 will cause positive signals to be recorded on the tape, which in turn will produce positive signals on output pin 2 when played back, which (if the rest of the system is properly connected) will cause the speaker cone to move toward you. Now take that tape and play it back on a "pin 3 hot" machine and the positive signals on the tape produce positive signals on pin 3, which means negative signals on pin 2, which means the speaker cone moves away from you. Hmmm. Consider the case of a kick drum: sounds different miked from the front than it

does from the back, right? One side is air being compressed, the other is air being rarefied, producing a different waveshape, different attack characteristics, etc. Obviously, it is vital that a positive-going signal remain a positive-going signal if we want it to remain recognizable. Sure, this may require a little bit of extra attention and a few cross-wired cables, but it is definitely worth the effort. I would like to humbly suggest that since we do have a standard for polarity (IEC 268-12, 1975, not to mention the EIA's RS-297A and RS-221A—yes, there *is* a standard, folks, and it *is* pin 2 hot), would the equipment manufacturers please address this problem and conform? Remember, please, that low-impedance balanced microphones are almost universally wired to produce a positive signal on pin 2 for positive pressure on the diaphragm; what exactly then is a "pin 3 hot" microphone input? Doesn't that mean it inverts everything? Hmmm.

Doesn't it seem sort of crazy to worry about stuff like digital tape format compatibility when we can't even settle something as simple as polarity of a connector?

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—FROM PAGE 208, *T.V.'S HITS*
ect," he recalls. "They've always treated the people who like TV music as buffoons, fanatics who would listen to anything. These TV themes are in some ways the modern equivalents to jazz standards: they're tunes everyone knows.

"Nelson Riddle once said that he thought some of the most wonderful music being written in the modern age was done for soundtracks and commercials. A lot of this just gets written off, even though a tremendous

amount of quality goes into this genre of music and its contributions by everyone from John Williams ["Lost in Space"] to Quincy Jones ["Ironside"]. There isn't a writer on the album who doesn't have great credentials to their name, whether in popular music or some other field. They don't regard their music as 'novelty' or trivial. A theme like "The Rifleman" is a great American melody, and 'Perry Mason' is not an insubstantial piece of music. It's a shame that it's taken this long to give this music a listen." ■

—FROM PAGE 209, *FRONT LINE*
the quality, but you should have heard them before they got on the album!

Mix: What was the greatest challenge you faced on the project?
Erlanger: Trying to get it to sound really good, but still have that "TV sound." We also did things like miking the drums badly, with only one track for the drums to get that '60s sound. We had one guitar player in trying to do "The Munsters," and

you know it's really hard to get a guitar to sound that bad these days.

The project wasn't a tremendously technical thing, like a lot of contemporary music is—it was more of a question of mics, or even finding bad microphones to mic the high-hat with, because we didn't want it to sound *too* good. The challenge was trying to match that sound. It took a lot of pain, but I feel we were close most of the time.

—G.P.

—FROM PAGE 113, *SATELLITE*

We were coming up to a moment in history. We were all sitting in the non-air-conditioned bread truck, and nobody at Longenot knew when the French would give it up. Meanwhile, San Francisco had a monitor that said "Tanzania"—but there was nothing on it.

Two seconds before the host said, "And now let's go to Tanzania, and Mr. Elli Mbotto, our host in Tanzania," I was on a four-wire to the director in San Francisco, and I could hear Phil saying at that instant: "There it is... there it is! Take it!"

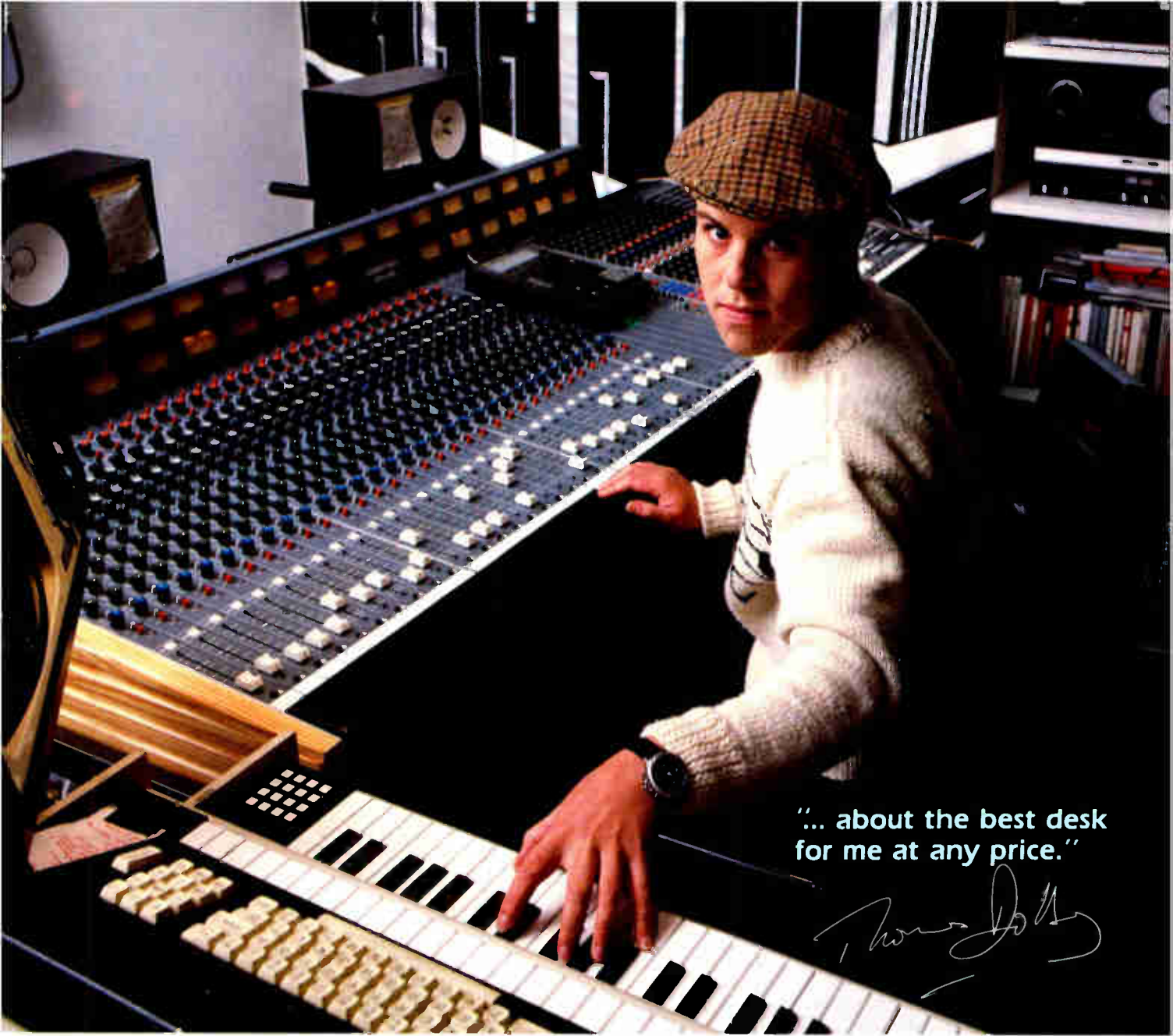
There were shouts of joy and triumph in our little bread truck.

Note: The Tanzanians managed to keep it together for the entire 90-minute show, despite a temporary loss of genlock. The Swedes lost audio for a few minutes, and while they recovered, they tossed the show back to Tanzania. Everything else worked pretty well.

On Monday, December 16, 1985, the Daily News of Tanzania ran a front page picture of His Excellency Julius Nyerere commending the Beyond War southeast regional director David Smith—and Phil Olsman. They love him in Tanzania. ■

ADVERTISERS INDEX

PAGE ADVERTISER	PAGE ADVERTISER	PAGE ADVERTISER
117 A&R Record & Tape Manufacturing	103 Editron	204 Polyline
142 Acoustic Sciences Corporation (ACS)	70 Educational Electronics Corporation (EEC)	173 Preferred Sound
34 Advanced Music Systems (AMS)	174 El Mar Plastics	118 The Pressing Plant
173 Advance Recording Products	45 Electro Sound	91 Producer's Color Service
155 Aircraft Music Library	131 Electro-Voice	109 Quantec
198 Akai/IMC	71 E-mu Systems	150 RCA Records
197 AKG Acoustics	76 Eventide Incorporated	35 R-Columbia Products
191 Alesis	23 Fairlight	159 Recording Workshop
193 Allen & Heath Brenell	101 Flanner's Pro Audio	136 Resolution
49 Alpha Audio	195 Fostex Corporation of America	67 RolandCorp U.S.
138 American Sound	41 Full Compass Systems	199 Ross/IMC
124 American Tape Warehouse	113 Furman Sound	84 Russian Hill Recording
204 AMP Services	117 Good Vibrations	31 Samson Music Products
74 Ampex Corporation	166 GRD	200 San Francisco Music Fair
92 Amtel Systems	211 Grove School of Music	43 Sanken Microphone Co.
201 Applied Research & Technology (ART)	143 Bernie Grundman Mastering	157 Sennheiser
125 Ardent	112 Hardy Company	133 Sheffield Audio-Video Productions
28 Ashly Audio	196 Harmony Systems	78 Sierra Audio Acoustics
206 Aspen Music Festival	139 Hill Audio	138 Skyelabs
92 Associated Production Music	19 HM Electronics	17 Solid State Logic (SSL)
72, 73 Audio Kinetics	59 Hy James Audio	162 Solid Support Systems
35 Audio Productions, Inc. (API)	143 IAN Communications	70 Sony A/V
63 Audio Technica	160 Inovonics	15, 36, Sony Pro Audio
149 Audioarts Engineering	106 Institute of Audio Video Engineering	37, 127
210 Auteri Associates	161 Interlochen Center for the Arts	203 Sound & Vision
121 AVC Systems	25 JBL, Inc.	194 Sound Fold
178 Kenneth A. Bacon Associates	85 The Joiner-Rose Group	89 Sound Genesis
179 Bananas At Large	176 Jordax	176 Sound Ideas
168 Bertech	39 JRF Magnetic Sciences	209 Sound Productions
134 Big Mo Recording	141 Lake Systems	207 Sound Source
124 Bridgewater Custom Sound	81 Lemo USA	220 Soundcraft Electronics
135 Bryston	111 Leo's Audio & Music	219 Soundtracs
122 Burlington Audio Tapes	& 183 Technologies	93 Soundworks Digital Audio/Video
137 Caig Laboratories	116 Lightning Music & Sound	142 Sprague Magnetics
123 Capitol Magnetics	194 Linear & Digital Systems	181 Stoughton Printing
147 Carver Corporation	144 Littlite	2 Studer Revox
188 Carvin Corporation	192 Marshall Electronics	135 Studio Consultants
& 189	117 Martin Recording	122 Studio Instrument Rentals
152 Dwight Cavendish Company	202 Master Digital	118 Studio Studio
165 Center for the Media Arts	108 McVee Productions	69 Studiomaster/IMC
61 Century III Teleproductions	29 Meyer Sound Laboratories	160 Sweet Sounds
34 Cetec Vega	175 Mix Bookshelf	38 Swintek
105 CMX	157 Moka Teleproductions	55 Symetrix
163 Columbia Video Systems	151 Monster Cable	112 Sync Sound
181 Countryman Associates	196 The Music Interface	53 Tannoy
117 Crossroads Audio, Inc.	96 Nagra Magnetics	27 TASCAM
79 Crown International	95 Nakamichi	18 Techtron Industrial Products
118 Crystal Clear Sound	87 NEOTEK	51 Tele-Image
171 Cyber Kinetic	12, 13 New England Digital (NED)	150 Thoroughbred Pro Audio
107 Daily Planet	169 New World Audio	98 TOA Electronics
117 Dallas Sound Lab	32 Non-Stop Music	49, 84 United Tape Company
9 Digital Entertainment Corporation (DEC)	156 Omni Craft	200 University of Chicago
11 DOD Electronics	210 Omni Music	65 Valley People
7 Dolby Laboratories	118 Opti-Case	203 Vertigo Recording Services
108 DP Books	50 Orban Associates	116 Video Post & Transfer
207 EAR Pro Audio	192 Lee Oskar Enterprises	134 Viewpoint Communications
97 Editel	4 Otari Corporation	162 Volunteer Record Pressing
156 Editing Services	33 Peavey Electronics	205 The Wakefield Company
	168 Phylco Audio	183 World Records
	116 Planet Dallas Studio	145 EU Wurlitzer
		21 Yamaha International



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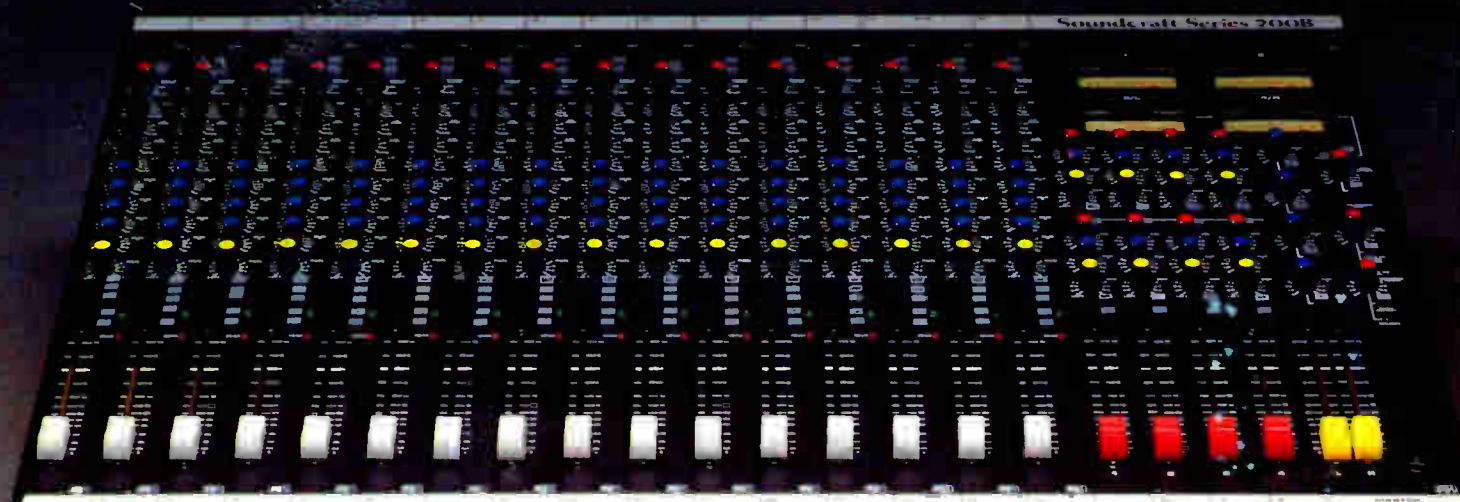
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