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THE RECORDING INDUSTRY MAGAZINE

Mix

NAB Convention Issue



**Video Production
Supplement**

Eurythmics

**Compact Power
Amplification**

Dave Hassinger

**Radio Recorders'
Harry Bryant**

Worth Its Wait In Gold.

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Sure, Harrison has waited to enter the U.S. broadcast market. When you're a stickler for precise engineering and a perfectionist when it comes to quality performance – you've got to take your time to get it right. *Get it just right for you.*

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Now Available
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Harrison's new VSI Fader Section, which allows for simultaneous interface with automation and video editor/switcher, is available for TV-4 and PRO-7 consoles.

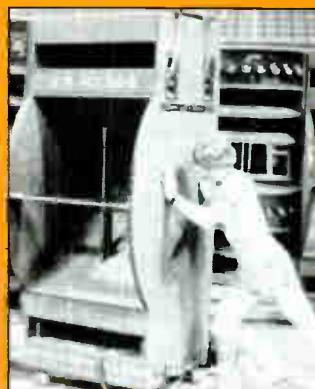


Why wait any longer? Call or write Harrison Systems, Inc., P.O. Box 22964, Nashville, TN 37202; (615) 834-1184, Telex 555133.

Harrison



Cover: Universal Recording Corporation
Photo by: David Honor
With two film mixing theaters having 16/35mm and video projection, as well as five recording studios for video sweetening, Chicago's Universal Recording is one of the world's best equipped audio-for-video facilities.



In our Sound on Stage column, writer Mike Stande takes a look at A-1 Audio's sound system for Barry Manilow's huge world tour, which has taken the singer from venues as varied as the Superdome in New Orleans to Radio City Music Hall in New York. Mike's nuts-and-bolts report begins on page 18.

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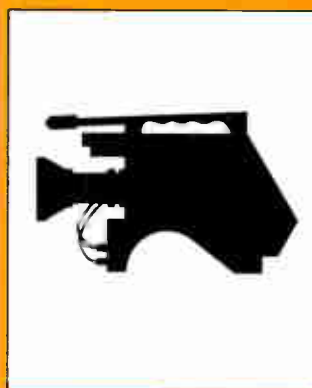
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The first course is already on the table for Mr. Bonzai's "Lunching," and this time his guest is Harry Bryant, one of the main figures involved with Radio Recorders, for years one of the top studios in Los Angeles. The interview takes us from the '30s to the '80s. Page 33.



The listings in this issue focus on video production and post-production facilities across the country. In addition, we offer a number of video-related features. See the special contents page for our Video Supplement on page 53.

For the past three years, Annie Lennox and Dave Stewart, better known as the Eurythmics, have been topping the charts with one synthesizer-driven hit after another and a series of imaginative videos. Iain Blair interviews Annie and Dave on page 168.



KEVIN CRONIN ON MAKING IT: ON AN OTARI.

Recording Artist-Writer Kevin Cronin has been laying his ideas down on an Otari since 1978. Many of the REO Speedwagon cuts are produced the way Kevin likes to work.

"There's nothing harder than bringing an idea up to the band. By recording my musical ideas, working-out some of the things I hear in my head, the apprehension of presenting a new song is gone. Anyone who works with other musicians knows about this kind of 'musical frustration factor.'

"It's important to get your ideas down when they're happening and not lose your focus on the creative energy. And this happens best when the equipment doesn't get in your way.

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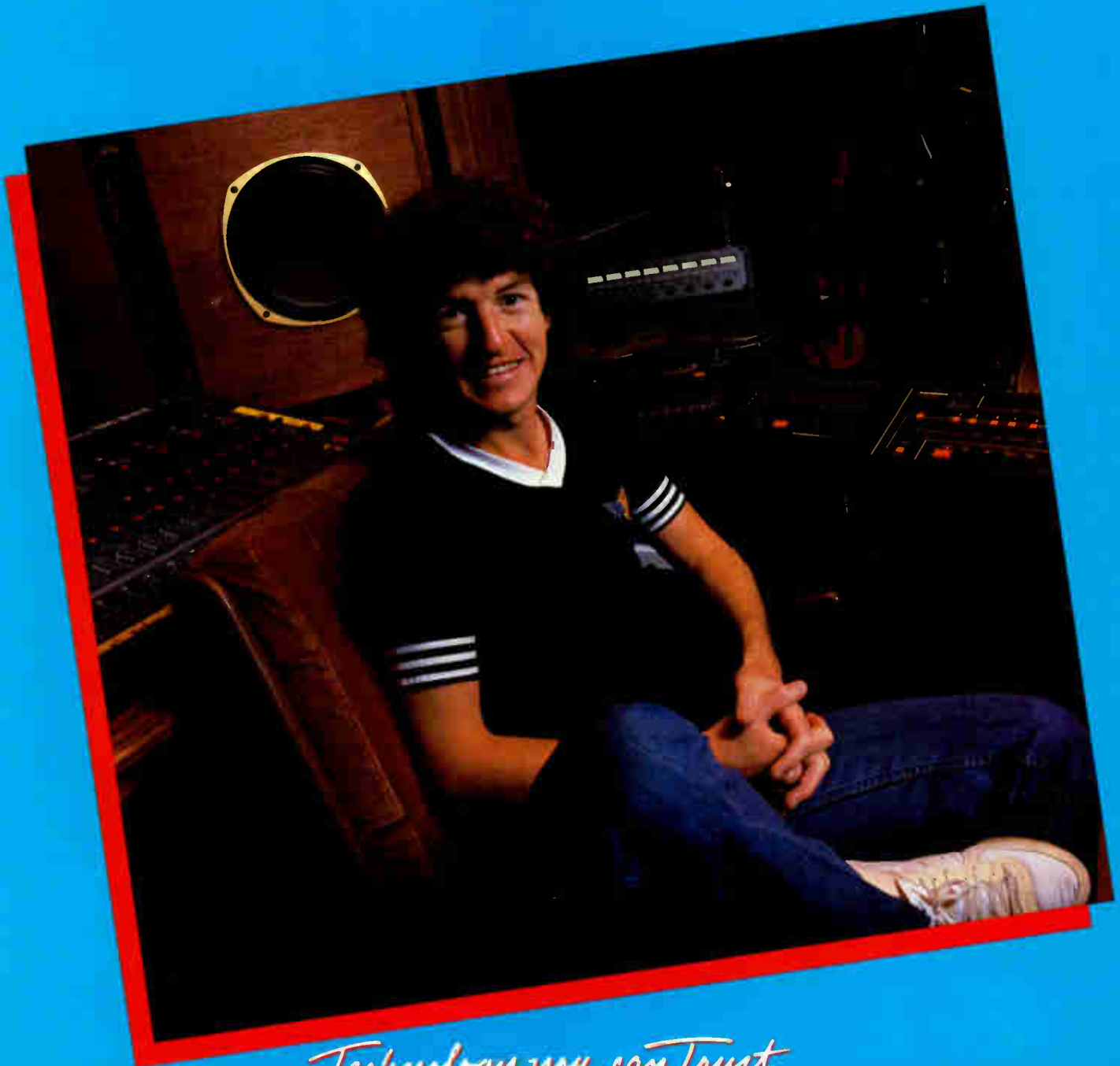
"Keep writing. Keep recording. Keep

making demos. Even when you're turned down, keep trying. Someone will hear you and respond."

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feedback

Dear *Mix*:

Many so-called music industry and recording schools have sprung up over the past 8 to 10 years and millions of dollars are being spent by parents and students to attend these schools. The market is ripe for opportunists and it is being well supported. Here is an idea for an article which "should" be written. Call the article "Hamburger Stand Education" and write it about those multi location franchise schools who give education in the entertainment industry a bad name. One particular school actually sells franchises to studios containing 8 track set-ups or better. Instructors are not even qualified! The best schools concentrate on education quality, not volume of students processed in a year. In short, "buy hamburgers from franchises not education." What do I tell a mother who is just about to spend a lifetime's savings on a son or daughter's education? Maybe that all schools are not the same? Just "most of them?" How about it, let's shed a little light on the matter.

I have included a suggestion sheet which we provide to our inquiring students to enable them to research the available schools. This information might help with your article on "Hamburger Stand Education." Please feel free to quote me. I believe your research will turn up a few "very good" schools, deserved of an article and I would very much like to see the efforts of those schools rewarded through a little attention.

CHECKING AROUND?

LET US OFFER YOU
SOME SUGGESTIONS:

1) Ensure the school is properly registered. For Canadian schools, this would be with the B.C. Ministry of Labour under the apprenticeship and training development act.

Other registrations to check into would be:

A) Revenue Canada—are tuitions tax deductible?

B) Canada Student Loans—is the school eligible?

C) Student Services—For Canada Student Loans via individual provinces—is the school registered for both?

D) Affiliated industry organizations—active organizations, not just organizations formed for promotional reasons of the members.

2) STUDENT RECORDS

A) How are they maintained and for how long?

B) Are transcripts issued?

C) What are grades based on? and how are your courses tested?

D) Is counseling available for any discrepancies or other problems in this area?

3) COURSE CONTENT

A) Are lesson by lesson breakdowns available for your scrutiny?

B) How large are the classes? Obviously, in terms of learning equipment use (or practicum, practical, lab time, or hands-on as it is sometimes referred to) the smaller the class the better, particularly in more advanced sections of the course. Some schools actually pack 14 to 20 students in an audio control room and expect a student to have adequate time to learn to operate "one" console and "one" tape machine. You be the judge, ask the school the following questions:

1) How many students in practical classes?

2) How many total hours of practical "in studio" experience will you get?

3) Will you have the opportunity to work on the school's equipment individually, without an instructor?

4) Will you have the opportunity to bring in your own act for recording sessions, video's etc. or are they always assigned to you?

5) What does the school do for you after your program is over? Can you continue to use school facilities? What provisions are made for this?

4) STUDENT CARDS

Are student cards issued so students may take advantage of "student discounts" offered by various merchants in the schools area?

5) SCHOOL PROFILE

Is the school active in the local and foreign industry or are they just part of the "school" business?

Note: Names are easy to drop. Beware of the name dropper; being "active" does not necessarily mean the ability to remember the most glamorous names. Most industry personnel at any level of success do not necessarily like to be put in a position of endorsing schools. They are more likely to have respect for a

—PAGE V149

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CURRENT

Report on Industrial Competition

A Special Report on the Protection of Intellectual Property Rights has been released by the President's Commission on Industrial Competitiveness. The report recognizes that the continued international competitiveness of creative American industries, such as the recording industry, depends heavily on the protection of intellectual property rights at home and abroad. It calls for new U.S. strategies to strengthen intellectual property rights, such as copyrights, patents and trademarks.

Stanley M. Gortikov, president of the Recording Industry Association of America (RIAA) hailed the work of the President's Commission in recognizing that the mushrooming growth of piracy and counterfeiting threatens dynamic sectors of the U.S. economy:

"Piracy and counterfeiting threaten many of this nation's most unique and creative sectors. American record companies create a substantial portion of the music that is listened to and enjoyed in other nations around the world. But American companies are frequently denied revenues for their creative works in many of these international markets because American recordings are being manufactured and sold by pirates and counterfeiters, for their own profit, and without the payment of any compensation to the American artists and companies who created the recordings they exploit. In many nations, they do this with the tacit approval of their governments. Around the world, sales of counterfeit and pirated recordings have displaced some \$1 billion in sales.

"The President's Commission has taken an important first step in combatting this growing threat, by developing specific proposals for action by the United States government to protect the trade competitiveness of America's creative industries. But much more

needs to be done to secure adequate copyright protection in foreign countries for American artists and companies."

More information on this topic can be obtained by contacting RIAA, 888 Seventh Avenue, 9th floor, New York, NY 10106.

NAB Promotes Multi-Channel Sound

The future of multi-channel sound for television looms as a hot topic as the National Association of Broadcasters, with a membership of over 4,500 radio and 770 television stations, prepares for its annual convention April 14-17 at the Las Vegas Convention Center.

In the wake of the Federal Communications Commission's study to determine the feasibility of a "must carry" status, which would require cable systems to include multi-channel sound as it becomes available on television stations in their area, NAB president, Edward O. Fritts, has stated that "NAB is pleased that a majority of the FCC Commissioners recognize that multi-channel sound is a part of the basic signal and is required to be delivered by cable systems. We are also pleased that the commission has decided to leave the docket in this proceeding open, and that interested parties will be afforded an opportunity to comment on the FCC's staff reports."

notes

Representatives from a number of companies that manage, present, stage, merchandize and house touring live entertainment acts have formed the **Touring Entertainment Industry Association (TEIA)** "to raise the public consciousness regarding the responsibility and professionalism of the industry." They can be contacted at 1022 Currie Street, Fort Worth, TX 76107; (800) 433-5569. . . . **Wil Sharpe** has taken on the duties of president and chief executive officer at **Showco**, which has also moved to expanded headquarters at 201 Regal Row, Dallas, TX 75247. . . . **DeltaLab** has been purchased by **Analog & Digital Systems, Inc.**, of Wilmington, MA. . . . **Steve Krampf** has been named vice president, sales and marketing of **Otari Corporation**. . . . **Bradley J. Naples** has been appointed to the position of president and chief operating officer at **New England Digital**. . . . **BASF Systems Corp.** has appointed **Robert McKinley** video product manager. . . . **Nakamichi U.S.A.** has established a professional audio products division, with **Jett Logan** as manager. . . . **Peter Wellikoff** has been appointed vice president of **Tandberg's** consumer and professional audio products divisions. . . . **Dolby Laboratories** has named **Kevin G. Dauphinee** as vice president, sales and marketing, and **Robert M. Schein** to vice president, motion picture division. . . . **Mark B. Nevejans** has been promoted to national sales manager for the magnetic tape division of **Agfa-Gevaert, Inc.**. . . . **Barbara Fairhurst** has been named president of **Sequential**, formerly **Sequential Circuits, Inc.**. . . . **Monitor Video Pro-**

ductions, Inc. has announced the merger of its facilities with those of **Television Matrix**, in Miami Beach, Florida. . . . **Dr. William O. Mehuron** has joined **Ampex Corp.** as corporate vice president of engineering. . . . **Comprehensive Video Supply Corp.** has relocated its West Coast office to 2082 Michelson Drive, Suite 200, Irvine, CA 92715. . . . **Andy Overton** has formed **Video Support Services**, a new rental company featuring 3/4" editing systems and decks; video cameras; projection systems; industrial 1/2" gear; and PAL/SECAM equipment. The firm is located at 3473 1/2 Cahuenga Blvd. West, Los Angeles, CA 90068. Call (213) 851-8866 or (818) 842-4488 for more information. . . . Highlights of the recent **SPARS** board of directors meeting at **Tres Virgos Studios**, in San Rafael, CA, included an intensive session on the future of digital, a trip to the **Otari** data computer disk drive facility, in Sunnyvale, CA for a seminar on Winchester disk drive technology, and an evening party thrown by Otari and their Northern California dealer, **Sound Genesis**. . . . **Carl Van Ryswyk**, formerly the vice president of engineering, has purchased **White** instruments from the White family. . . . **Sonic Landscapes/Architectural Acoustics** has changed its name to **RLS Acoustics** and relocated to the Townsend Street Design Center, 650 Fifth St., Suite 301, San Francisco 94107, 415/541-0818. . . . **Kevin Wall** and **Jo Manuel** have formed **Radio Vision International**, at 8833 Sunset, Los Angeles 90069 to distribute and license long-form video music programming. . . .

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SESSIONS

SOUTHWEST

At **Studio Southwest** in Sunnyvale, TX **Ray Wylie Hubbard** was in recording his next album produced by **Andy Salmon**, bass player for Christopher Cross and now a respected producer. Also at Studio Southwest, a Texas blues compilation album was recorded with such greats as **Johnny Winter**, **Jimmy Vaughn** of The Fabulous Thunderbirds, **Van Wilks**, **Mike Clark**, **Bobby Chitwood**, **Mike Gage**, **Bugs Henderson** & the **Stratoblasters** and **Wallace**, who plays guitar for the **Stratoblasters**. **Pantheon Recording Studios** in Paradise Valley, AZ has had a host of local artists recording at the facility recently: **Pyramid**, **Danny Love Cruz**, **Arthur Faulk**, **Euphony**, **Sacred Axe**, and others. In addition, **Pantheon** finished doing the audio transfers for **Glen Campbell's** first music video. **Kemper Crabb**, vocalist and songwriter for **Radiohalo**, was at **Rivendell Recorders** in Pasadena, TX with the group's guitarist **David Marshall** and producer **Brian Tankersley** completing their latest project.

SOUTHERN CALIFORNIA

The **Complex Studios** in West L.A. had **The Jacks** in to mix their single, "Wait," at The Studios. The project was engineered by **Greg Ladanyi**, who also mixed **Don Henley's** last single at the facility. **Danny Kortchmar** co-produced. **Kortchmar** also added his expertise when **David Lindley** tracked and mixed his latest solo album in The Studios. The project was produced and engineered by **Ladanyi** and **Tom Knox** with **Murray Dvorkin** as second engineer. **Larrabee Sound's** producer **John "Jellybean" Benitez** and engineer **Michael Hutchinson** mixed dance versions of singles by **Donna Summer** on **Geffen Records**, and **Kenny Loggins**, **Barbra Streisand**, and **Santana** all on **CBS Records**. **Sabrina Buchanek** assisted. At **Ground Control Studios** in Santa Monica **CBS International** artist **Nina Hagen** was in cutting three tracks for her latest album. **Adam Kidron** was producer/engineer. **MCA** artist **Melissa Manchester** was in at **Sunset Sound** in Hollywood doing vocal overdubs with producer **Trevor Veitch** for her upcoming LP. **Don Murray** engineered. Also, **Arista's Air Supply** was in tracking with producer **Bob Ezrin** and engineer **Brian Christian**. **Bill Jackson** assisted. There's been plenty of activity at the **Village Recorder** in L.A., including: **Tom Petty & the Heartbreakers** working with producers **Jimmy Iovine** and **Shelly Yakus** and engineer **Don Smith** on the group's long-awaited new album; **Rick Springfield** tracking with producer/engineer **Bill Drescher**; and **New Edition** mixing a single with producer **Michael Sembello** and engineer **Elliot Scheiner**

The most notable activity at **Lion Share** in LA, of course was the **Quincy Jones**-produced all-star Ethiopian famine relief single, "We are the World," co-written by **Lionel Richie**, **Michael Jackson** and **Stevie Wonder**. Tracking, overdubs and mixing were done using two **Mitsubishi X-800** 32 track digital recorders. The engineers were **Humberto Gatica** and **John Guess** with assistance from **Larry Fergusson** and **Khalid Glover**. Also at **Lion Share**, **Michael Omartian** produced new tracks for **James Ingram** on **Qwest Records**. **John Guess** engineered with **Larry Fergusson** assisting. At **Group IV Recording** in Hollywood, **Steve Lawrence** mixed the final cut for his new album with wife **Eydie Gorme**, **Thru The Years**. Engineering was **Dennis Sands**, assisted by **Andy D'Addario**, for **Stage II** productions. At **Crystal Studios** in Hollywood was **TV's "Benson," Robert Guillaume** recording tracks for his forthcoming album, featuring players such as **Nathan White**, **Ndugu Chancler**, **Charles Fearing** and **Michael Boddicker**

NORTHWEST

Pacific Mobile Recorders in Carmichael, CA completed live tracks for the **Edwin Hawkins Workshop Seminar** in Monterey; also tracks for a live album for comedian **Danny Marona**, at the **MGM Grand/Reno**. **Jim Hibbard** engineered both sessions. **Hut-Hut**, headed by **Michael Kohl**, just finished a three-song project at **Banquet Sound Studios** in Santa Rosa, CA with staff engineer **Denis Hulett**. Also, **Trafalgar** cut tracks for a new LP produced & engineered by **Warren Dennis**. At **Studio C** in S.F., **Luther Greene** has been mixing **Rachel Lyons' Men Who Abuse** documentary (**Debbie Hoffman**, **Greg Chapnick**, editors), **Phil Tippett's Prehistoric Beasts**, **Ocean Quest**, and a number of other projects. At **Montage Recording Studio**, **Newark, CA** projects included an EP for **Bay Rum** with **Will Mullins** engineering and **Louise Singleton** assisting. **Billy J. Walsh** was in completing his latest album with **David Hartzheim** and **Randy Spendlove** engineering. At **Triad Studios** in Redmond, WA an LP project was completed for **Phillip and Pam Boulding** of **Magical Strings**; **Michael O'Domhnaill**, producer, **Tom Hall**, engineer. **Recording Etc.** of Palo Alto has been overflowing with slide show soundtrack productions for groups like **Ross Stores**, **Triad Systems** and **Rolm**.

NORTH CENTRAL

Creative Communications recently opened the first automated 24 track facility in South Dakota.

Newly remodeled **Renaissance Studio (Studio A)**, now boasts a modified live end-dead end control room featuring a **Sound Workshop Series 34** console with **ARMS** automation, an **MCI JH24** 24 track machine with **Autolocator III**, and a host of outboard gear. For more info, call (605) 334-6832.

At the **Sound Suite Recording Studios**, former **Motown** producing great **Henry Cosby** has recently finished producing several songs for the Detroit-based group **Chazz**. Engineering and mixing was handled by **Steve "Dr. Ching" King**; **Frank "Cornbread" Corn, Jr.** was the assistant engineer.

The **Haircut Dudes**, engineered by **Gary Cobb**, recently completed two singles recorded at **A.R.S.** recording studio in Alsip, IL. Recently recording at **Paragon Recording Studios** was **Ben Sidran** for his series for **National Public Radio**, **Sidran On Record**. Also at **Paragon**, **Paul Petratis** and **Paragon's** engineer, **George Warner**, wrote, co-produced and recorded a new title theme for the television re-release of **The Prisoner**, the '60s cult classic.

NORTHEAST

After their recent success with the single "Roxanne, Roxanne," **UTFO** was back at **Sound Heights Recording Studios** in Brooklyn where the single was recorded, laying down the tracks for their first album. **Questar Welsh** was at the board with **Full Force** once again in the producers' chairs. **Omega Recording Studios** (Kensington, MD) had engineer/studio manager **Bill Brady** mixing spots for **ATT Communications** featuring **David Clayton Thomas**. At **Sigma Sound**, Philadelphia, sessions for the **O'Jays'** new album on **Philadelphia International Records** were produced by **Bunny Sigler** and **Reggie Griffin**. Engineering was by **Shameek**, assisted by **Barry Craig** and **Scott MacMinn**. Also, mixing sessions for **Jessica Williams** were recently completed. The producer was **Billy Terrel** for **Mastered Records**. The engineer was **Gene Leone**, assisted by **Scott MacMinn** and **Glen McKee**. **Mastermind Recording** of NYC has been working with choreographer **Alvin Ailey**, mixing music by **Charlie Parker** together with original music composed and arranged by **Coleridge Taylor (Perk) Perkinson** for the premier of **Ailey's** new ballet, "To Bird with Love." It was engineered by **Ed Rice**. Producer **Greg Carmichael** cut sides at **Reel Platinum Studios** in Lodi, NJ for the new **Wish** album on **Personal Records**. **Greg** also made a 12-inch for the legendary **Ben E. King** called "Love Itch." **Bob Allecca** engineered both projects. At **Power Play**, Long Island City, NY, **Davey DMX** finished his new single release "The DMX will Rock" for **Tuff City Records**. **Davey** also mixed the new **Jekyl & Hyde** release called "Transformation" for **Profile Records**; **Davey DMX**

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producer, **Julian Herzfeld** engineer . . . At **Evergreen** in NYC the **Slickaphonics** recorded their new album for the European label Teldec. **Rob Stevens** was behind the board, assisted by **Bob Kirschner** . . . **GBH Productions'** Unit 4 spent a few days recording and broadcasting the Club 47 Reunion Festival at Symphony Hall, Boston. The three-day event, commemorating the 25th anniversary of the legendary Cambridge Folk Club, reunited such famous alumni as **Tom Rush**, **Geoff & Maria Muldaur**, **Joan Baez**, **Mimi Farina**, **Richie Havens**, **Jonathan Edwards**, **Peter Rowan** and many others . . . **Jerry Goodman** (previously of the Mahavishnu Orchestra) recorded his new LP at **Secret Sound Studio** in Manhattan. Goodman produced with **Marty Rubinstein**. It was recorded and mixed entirely on the Mitsubishi 32 track X-800 digital recorder and Mitsubishi X-80 digital recorder. **Scott Noll** and **Warren Bruleigh** were the engineers . . . Recent happenings at **Quadrasonic Sound Systems** in NYC included producer **Mark Kamins** in the studio laying down new tracks for his group **Urban Blight**. They worked on their first 12-inch for Sire Records called "This Life's a Dream." The sessions were engineered by **Paul Smichael**. Also at **Quadrasonic**, **Afrika Bambaataa**, featuring **Shango**, finished up three new 12-inch disks for **Tommy Boy Records**. **Gavin Christopher** produced; **Eric Calvey** engineered . . . At **The Outlook**, Maine's only 24 track studio, activity included the recording of an LP **The First Winds of Autumn** for Paul Winter Consort vocalist and guitarist **Jim Scott**, engineered by **Ben Chandler** . . . **Northeastern Digital Recording** of Shrewsbury, MA did an unusual session for the MIT Experimental Music Studio. Various piano passages played by composer **William Albright** were digitally recorded and fed into the MIT computer for further digital signal processing. Albright was working on a piece for live piano and computer . . . At **Systems Two** in Brooklyn, **Mark Geringer** and **Edward Weiner** cut tracks for **Brazen Boy's** new LP on Emery Records, with **Joe Marciano** engineering and **Paul Jay** assisting . . . At **Planet Sound Studios** in New York, **Thelonius Monk III** and **Eric Mercury** have been producing themselves for Manhattan Records with **Craig Bishop** engineering and **Andy Heermans** assisting. Also, **Bobby Chouinard** and **Alan St. John** of the Billy Squier band produced **Scarlet Rivera** with **Rick Kerr** engineering and **Randy Lowman** assisting . . . Producers **Nick Martinelli**, **Mike Forte**, **Donald Robinson**, and **Bobby Eli** worked with Philly World Records' artist **Joanna Gardner** on her debut album on that label. **Remo Leomporra** was at the controls, along with **Al Albertini** being assisted by **Steve Pala** and **Richard Welter** . . . **David Lahm** finished mixing two jazz LPs with **Bernard Fox** engineering and **Barry Rogers** producing at NYC's **Big Apple Studio** . . .

SOUTHEAST

At **Cheshire Sound Studios** in Atlanta, **Prince** was in producing three sides for the upcoming **Sheila E.** project for Warner Brothers. **Dave Tickle** engineering. Also, **Peabo Bryson** was in laying tracks for his upcoming project for Elektra/

Asylum. Peabo produced in conjunction with **Arif Mardin** and **Tommy LaPuma**. **Tom Race** engineered . . . At **Lamon Sound Studios** in Charlotte, NC, **Carlton Moody & The Moody Bros.** finished production of their album for CDT Productions and Lamon Records. **David Moody** engineered the project . . . At **Criteria Recording Studios** in Miami, **Bob Seger** was in cutting tracks for a new album. **Punch Andrews** and **Seeger** produced the date with **David Cole** engineering. **Bob Castle** and **Dave Axelbaum** assisted. The L.A.-based rock group **Candy** was at Criteria recording their first album for Polygram Records. **Jimmy Jenner** produced, with **Rod O'Brien** at the board and **Stan Lambert** assisting . . . At **Morrisound Recording** in Tampa, Florida, guitarist **Rick Moon** has begun a new project with **Outlaws** drummer **Dave Dix** and bassist **Max Padilla** helping out on rhythm tracks. **Jim Morris** is engineering the sessions . . . Songster **Robbin Thompson** has been recording a new album at **Alpha Audio** in Richmond, VA. In addition to his own songs, **Robbin** is recording a previously unrecorded tune written by **Bruce Springsteen** entitled "Guilty." The Boss agreed to let **Robbin** record the song after a recent performance in Greensboro, NC where **Robbin** and **Gary "U.S." Bonds** joined **Springsteen** on stage singing back-up vocals on several numbers. The project is being engineered by **Joe Horner**, assisted by **Kim Person** . . . **Love Tractor** was in Atlanta's **Songbird Studio** doing a final mix on their latest album with **Danny Beard** producing . . . At **Music Mill** in Nashville producer **Harold Shedd** finished up tracks on a new album with **Lane Brody** being engineered by **Jim Cotton** and **Joe Scaife**; and **John Anderson** completed his new album with **Lou Bradley** and **George Clinton** engineering with **Jim Ed Norman** and **Lou Bradley** producing . . .

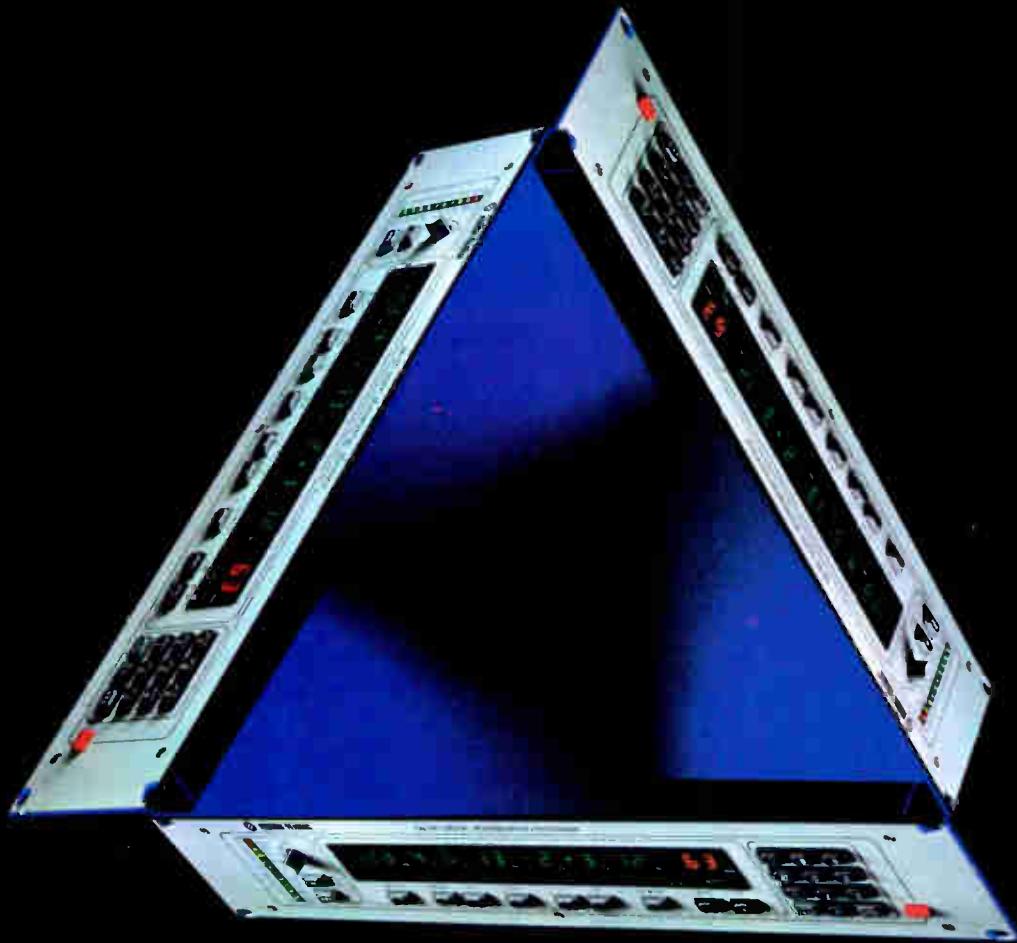
STUDIO NEWS

The first Solid State Logic console in Texas has been installed in Dallas at the recently expanded teleproduction facilities of the **Word of Faith Television Ministries**. Under the direction of President **Robert Tilton**, **Word of Faith** utilizes its own satellite facilities to distribute closed-circuit programming to over 1200 churches in the United States . . . Also, **Russell Whitaker's Dallas Sound Lab** has installed an **SSL SL 6000 E Series Stereo Video System** in Studio A at their facilities in the Dallas Communications Complex at Las Colinas . . . **Systems Two** in Brooklyn has installed a new **Studer A80 MKIII** and a new **Studer A810** as well as completing their new editing and real time duplication facility . . . **John Hill Music** of NYC has expanded their headquarters with the addition of a **Sound Workshop Console**, **Auto-Tech 16 track recorder** and much more . . . **Advance Recording Products** of San Diego, CA have added the complete lines of **Ampex** and **3M reel-to-reel digital recording tapes** to their selection of tapes, cassettes, boxes and supplies . . . **Colorist Larry Seigal** has joined **Movielab Video, Inc.** With over ten years of professional experience in color correction and film-to-tape transfer, **Seigal**, formerly with **JSL**, has worked with such clients as **Volvo**, **New England Telephone**, **Kodak**, **ITT** and **ABC's American**

Sportsman . . . **VPS Studios** in Hollywood have acquired four **Hitachi SK970** studio cameras and two **Hitachi SK97 EFP** cameras for use at its teleproduction studio . . . **Amber Sound** of Toronto has acquired the first-ever digital multitrack machine for a Canadian facility—a **Mitsubishi X-800 32 channel digital recorder**. The package also included **Mitsubishi X-80 digital 2 channel channel master recorder** . . . Dallas recording engineer, **Ron S. Lagerlof**, has announced his resignation from the **Otis Conner Companies** and **Studio**. **Ron** is leaving to pursue his freelance career as an independent engineer and to actively manage his studio installation and accessory company, **Recording Systems Ltd.**, which he formed in 1982 . . . **Streeterville Studios** in Chicago has embarked on a major expansion of their audio-for-video post-production capabilities. The remix room at the popular five-studio complex in downtown Chicago re-opened in late February sporting a new **SSL SL 6000 E Series Stereo Video System** . . . **Reel Sound Studios, Inc.** made its February '85 debut to the Southeastern media industry. Audio and video talents from major facilities in New York unite in Miami to offer multi-track audio for video services. Featuring **Tascam multi-track recorder/reproducers**, **dbx noise reduction**, **Carvin console**, **Hafler DH-500s**, **Aphex Aural Exciters**, **Roland Digital Delays**, **dbx 160x compressors** as well as an extensive selection of musical instruments including the **LinnDrum**, **Reel Sound** is currently gearing up for multi-track/SMPTE interlock for film and video scoring and sound sweetening with remote capabilities. Contact **Reel Sound Studios** at 12555 Biscayne Blvd., Suite 405, N. Miami, FL 33181 or call (305) 759-7877 for information and rates . . . **Don Van Gorden** has joined **Executive Recording** in NYC as disk mastering engineer . . . **Soundcraft Electronics, Inc.** of Santa Monica, CA announced the installation of a new **TS 24 - 32 x 24 mixing console** into **Sounds Unreel Studios** of Memphis, TN. The studio, owned and operated by **Jon Hornyak** and **Don Smith** began operation in mid April of 1984. It is the first new 24 track room built in Memphis in over four years . . . Recent equipment upgrades at **Skyline Studios** in New York City include a 56 input **Solid State Logic SL4000E console mainframe** with 40 channels and total recall automation, plus a rack of **Neve equalizers** and **compressors**. Other acquisitions include the addition of the **Synclavier II digital music system** with the new touch sensitive keyboard . . . **A/T Scharff Rentals** has opened its new office in Nashville, TN and has added a **Sony 3324 24 track Digital Recorder** to its rental inventory . . . Detroit's newest name in video production is **Grace & Wild Studios, Inc.**, having recently purchased the former **CBS/Fox Video** studio production facilities in Farmington Hills, MI. Their facilities offer a full range of video services including: stage production facilities; 1" post-production edit salons; film-to-tape transfers; remote production featuring an advanced remote vehicle by **Wolf Coach**; and the **Quantel/Mirage**, one of a few special effects systems of its kind in the United States. For more information, contact the firm at 23689 Industrial Park Drive, Farmington Hills, MI 48024, (313) 471-6010 . . . **Cantrax Recorders** in L.A. recently purchased a **Studer A810** and also completely remodeled its control room . . .

A small universe

325
164



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RADIO

SYNDICATION

by David Knight

What do John Leader, Casey Kasem, M.G. Kelley, and Robert W. Morgan all have in common? They're all competitors fighting for our ears in the battle of syndicated weekly music countdowns—those timely reports we hear each weekend on our favorite radio stations, that not only inform us of chart action of popular songs, but also enlighten us with fascinating trivia about today's music superstars. One of the newest and most successful members to the ranks of these weekly programs, is *The Rick Dees Weekly Top 40*.

The name Rick Dees may not ring a bell, but no doubt you've seen or heard the man's work before. Rick is the crazy morning disk jockey at KIIS-FM, the number one radio station in Los Angeles. He's also the new host for television's *Solid Gold* show, and the culprit behind the 1976 platinum single "Disco Duck." Other activities? He has a traveling comedy show, a new motion picture contract with Paramount Pictures, and has just released his comedy album *Put it*

Where the Moon Don't Shine.

Putting together a countdown is quite different from other recording studio projects—it has to be done every single week. Sort of an accelerated album project every seven days. The Weekly Top 40 has many hours of preparation behind each four-hour show. "I figure 160 man hours go into each weekly show,"

The Snippet record is a popular song that's played for only a second or two on each week's countdown. Listeners are encouraged to write in with their guess of the artist and title of the song. Each week, a winner drawn from the pile of letters receives a special prize for correctly identifying the Snippet.

After Cutler programs the sequences of the show, the script can



says Ron Cutler, the producer and main workhorse behind the show.

At the beginning of a week, Cutler begins working with the writer and a few assistants on material for the following week's show. It's their job to research and compile articles that can be used in the show. Then all the information is filed under categories and programmed into a computer bank for instant retrieval at a later date.

Usually by Tuesday Cutler will receive his list from *Radio and Records* magazine of the songs that will appear in the next week's Top 40. Once the list is received, the singles are gathered, along with two other records—a "Sure Shot" and a "Snippet." The Sure Shot is a record picked subjectively by Cutler, that's expected to have significant chart action and eventually land in the Top 40.

Engineer Don Elliot performs an edit on the master voice reel in the control room during tracking.

be written. The writer, Louise Palanker, writes out dialogue for Dees to use between songs. She employs comedy, musical facts, or even local Hollywood gossip to provide entertaining groundwork for Rick to build on.

The tracking session on Wednesday is one of the most interesting procedures in the creation of the show. Rather than recording at any of the many local recording studios, Dees uses the production studios of KIIS-FM. There, Dees has over 800 comedy drop-ins on prerecorded broadcast cartridges which he uses daily on his morning show, and also sneaks onto his countdown program. Anything from hysterical laughter to wild animal noises can be found in Rick's vast collection.

Perhaps the main reason for



Rick Dees hosting "Solid Gold."

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World Radio History

recording at KIIS is that Rick feels comfortable there, especially when sitting behind his old RCA broadcast console. The RCA is the only console that Dees will work on. That's only fair considering that he runs most of his comedy bits himself during the track-

pendent EQ and balance between the tracks. The tape is played back in mono when it's combined with the music in the assembly stage.

In Dees' studio, on either side of the RCA console, sit three ITC broadcast cartridge decks. These six

the control room and runs the main recording deck and two playback decks. Ten feet to his left, in the studio, Rick is reading a script, playing sound effect cartridges, and talking to his wife, who's doing the voice of Dolly Parton. Producer Ron Cutler and writer Louise Palanker are timing the vocal segments and listening for any apparent mistakes in the script. With so many things happening at once, mistakes are made. Rick has a footswitch connected to a tone generator that slates all mistakes for easier editing. Rick seems to have an uncanny ability to know whether a pick-up will work in an edit.

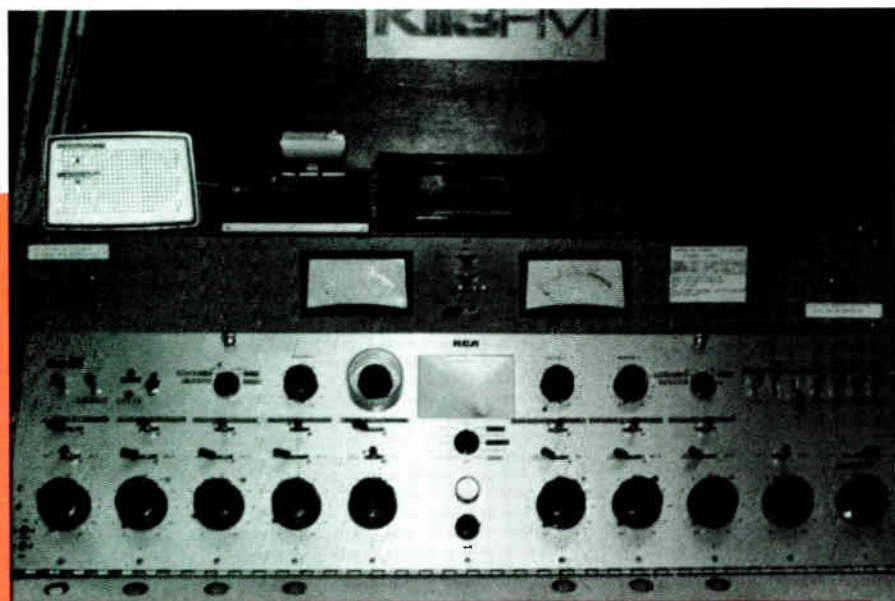
Once the script has been completed, the tape is taken over to Cutler's private studio for assembling. Engineer Peter Perkins and assistant Paul Liebenkind are responsible for combining the recorded voice tape with the music and commercials for the finished program. In a small room jammed full of equipment, they work their magic like precision watchmakers.

Ron's studio is equipped with an Allen & Heath 16 channel console, through which everything is routed. Technics turntables spin the records and an MCI JH-110 two track is used as the master recording deck. Stereo Technics and Otari decks are used for playback, and an old Scully 280B footswitch is used for editing. In Cutler's words the Scully is, "Still the fastest editing deck around." Other gear used includes an Aphex Aural Exciter, and Dynafex noise reduction. The program exits via Crown amps and JBL monitors.

After the entire show has been recorded on the master reels, the creative process is over. The tapes are taken to Location Recording Services where they are cut into disk masters. The show is distributed in LP form because it is more economical and much faster than tape copies. L.R.S. is also responsible for the printing of the jackets and sleeves for each weeks show.

The disk masters are then sent over to Record Technology Inc. where they go into the plating tanks and the pressing begins. After the pressing is done, the finished albums are jacketed, labeled, and shipped directly to the respective radio stations that will air them the following weekend.

This is the end of the exhaustive procedure required to take *The Weekly Top 40* from paper to the airwaves. All the crew involved in creating this hit show can be proud of a job well done, but can't bask too long in the glory—it starts all over again next week. ■



Rick's RCA console at the KIIS Production Studio. Notice the recessed buttons in the counter top for remote starts of cartridge decks.

ing of the show.

Two production studios are used for tracking of the countdown. One assumes the role of a control room, while the other serves more as a studio. Both rooms are outfitted similarly, except that Don Elliot, the show's engineer, prefers his 12 channel Audiotronics mixer to the old RCA in Rick's room. A pair of MCI JH110 two track recorders sit in each room, as well as an old Studer A700 two track in Elliot's room. Crown power amps and Electro-Voice Sentry 5 speakers are used for monitoring purposes.

Elliot uses one MCI and the Studer for various prerecorded comedy bits or interviews that will be used in the show. These fragments are assembled beforehand, and leadered in the sequence that they will be needed. There's no cue system in Elliot's room, so he must cue all bits visually off the leader.

The other MCI is used as the recording deck. All of Rick's vocals are recorded on the right channel, and all of the comedy effects are recorded on the left. Even though there's no multitrack machine used, this gives Elliot the flexibility of inde-

pendent EQ and balance between the tracks. The tape is played back in mono when it's combined with the music in the assembly stage. Each effect has been recorded on its own cartridge. Like all broadcast cartridges, these cue up automatically, and are extremely fast starting—a definite plus to be when you're working with Dees.

The mikes that Elliot uses for Dees' show are Sennheiser MD421s. Elliot feels that with Rick running so much of his own equipment, a condenser would pick up too much room noise, especially when Dees is working around the mike a bit. "He likes to work it close and yet still have a range of motion. The 421 seems to fill the bill," Elliot says.

Although Elliot has a full array of outboard gear available, he usually records Rick flat. Occasionally Rick's voice will change from week to week, in which case a little EQ helps remedy the problem. A Symetrix 522 compressor/limiter is used on the two mikes (one for Rick, the other for guests). "The toughest part of recording the show is watching the levels and balances when Julie [Rick's comedienne wife] comes in live to do a bit with Rick," says Elliot, "A lot of unexpected things happen, so I'll use the Symetrix in as close to a limit position as I can, to catch her peaks. There might be a whisper followed by a scream. It's very unpredictable."

Unpredictable is a good word to describe the actual recording session, once under way. Elliot mans

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And the balanced Mic and Line inputs and Main outputs won't let any unwanted noise come between you and your sound.

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**SOUND
ON STAGE**

BY MIKE STANDE



ENTERTAINER BARRY MANILOW'S 1984-85 WORLD TOUR IS CURRENTLY PLAYING to a host of major venues across the country, including Louisiana's Superdome and New York's Radio City Music Hall (the site of a series of performances that established the facility's all-time box office record). The show's special production hardware is carted around the continent in five tractor-trailer trucks. "When a show this large does a tour of one-nighters, everything has to go together quickly, and work right every show," explains lighting designer Bill Heaslip of the Stig Edgren Group. "If a sound or lighting system takes too long to fly, or too many stage hands to set up, it just doesn't cut it."

For the last six years, sound system requirements for Manilow have been met by A-1 Audio of Hollywood, CA (with branch offices in Atlantic City, Las Vegas and Lake Tahoe). A-1 supplies this tour with its unique, time-tested V.I.P. (Vertically-Integrated Pow-

er) speaker system, which is powered by BGW Model 750B stereo amplifiers.

House soundmixer and chief audio engineer Gary Rivera started out on this tour nearly five years ago as low man on the sound totem pole. "Setting up mike stands was not exactly my idea of putting an electronics and communications degree to its best use, but it was definitely the way to learn this show from the ground up," explains Rivera. "Since Barry brings his show to such a wide variety of arenas, theaters and outdoor stages, I've had the opportunity to work with the V.I.P. system in many different acoustical environments. It's a good, all-around versatile P.A. system that works well whether hanging in the air or stacked

on sound wings."

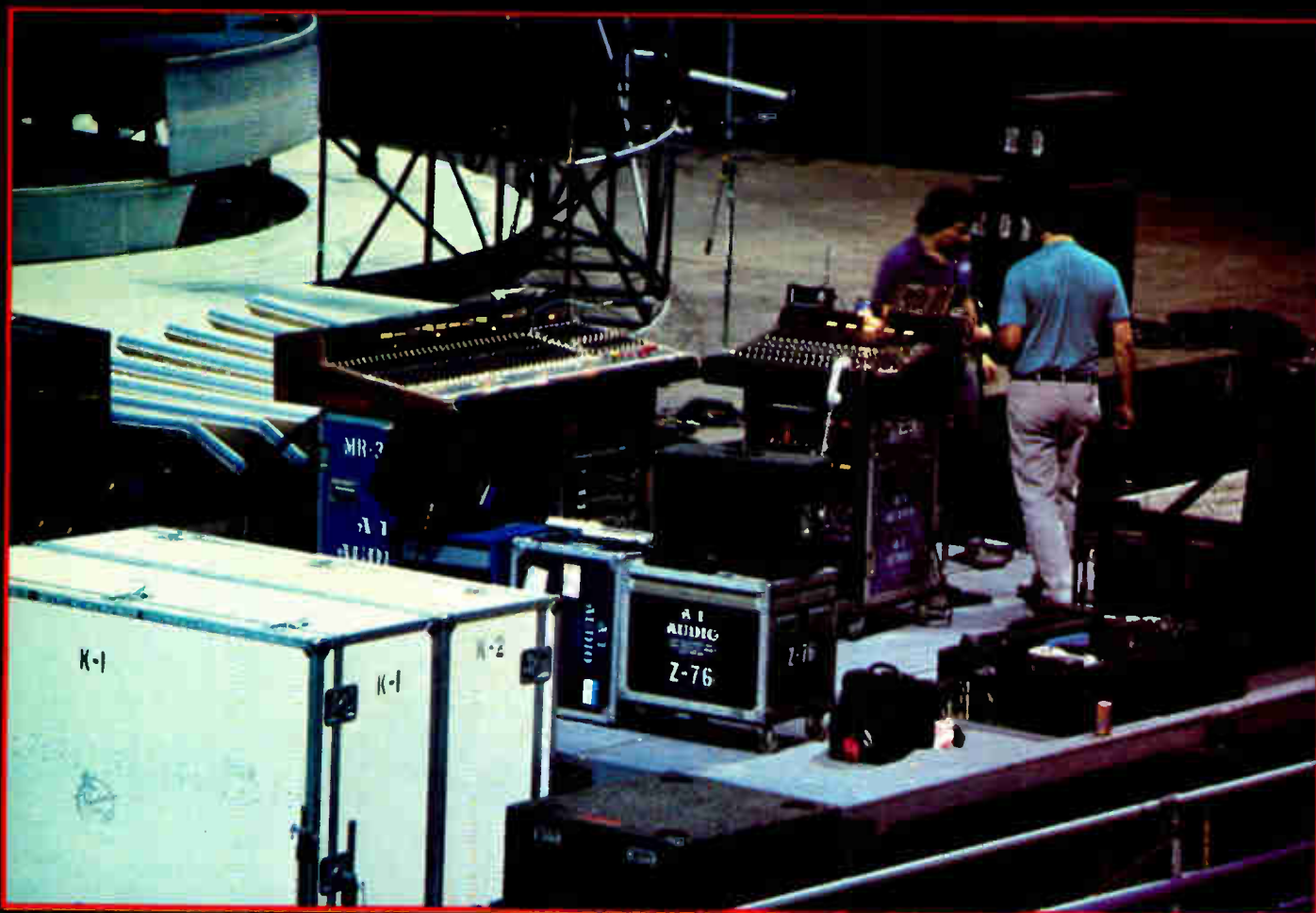
FLYING THE SPEAKER SYSTEM

The V.I.P. loudspeaker system is a three-way, two-box rig. Each large horn-loaded bass cabinet, equipped with two Gauss 4583 15" woofers, is teamed up with a pair of JBL 2350 radial horns that are backed with 2482 2" compression drivers. A curved array of eight JBL Model 2402 super-high frequency tweeters completes the tri-amped transducer package, which is crossed over at 500 Hz and 5000 Hz.

In Dallas' Reunion Arena, a total of 16 V.I.P. speaker packages were hung from eight rigging points on one-ton chain motors. Stage Rigging, Inc. of San Carlos, CA was contracted to rig both sound and lighting points.

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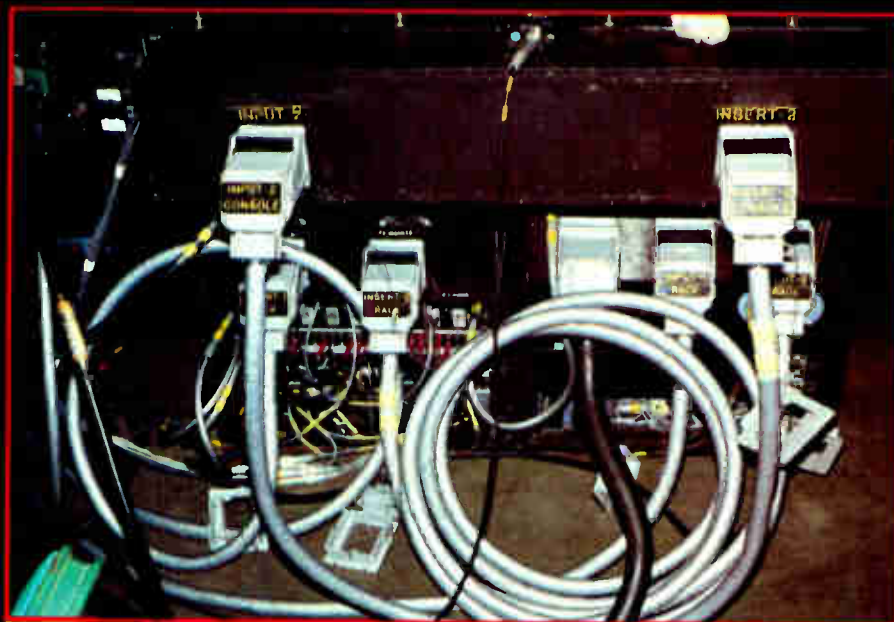
High with Manilow

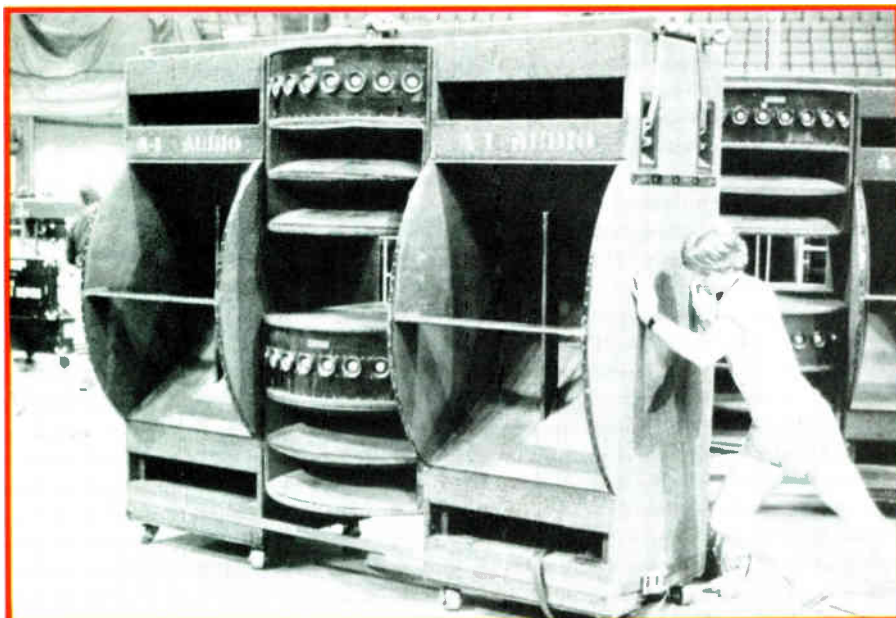


(Opposite) Each of the two V.I.P. clusters shown here houses eight 15" woofers, eight midrange horns, and 32 bullet tweeters.

(Above) The 9000 watt stage monitor system requires a total of 16 sends to the performance area. The Soundcraft 800B console is augmented by several Yamaha submixers for a total of 78 stage inputs.

(Right) 50-pair interconnect cables with quick-release AMP connectors significantly reduce set-up time.





V.I.P. speaker system is rolled right from the truck to the performance area, ready to fly. Nylon straps secure the cluster components, and metal truss bars at top each stack are coupled to the chain-motor hoists. Eight such clusters comprise Manilow's main speaker system.

A unique feature of the V.I.P. system is the self-contained BGW power amplifier in each speaker cabinet. The length of cable required between the amplifier output and speaker is minimized (less than 36"), affording a much improved damping factor.

Smaller 3-way RLS (Rear-Loaded System) speaker cabinets are hung in pairs, two per rigging point, at

the upstage left and right corners of the arena stage for rear-fill coverage in sold-out venues. The RLS boxes house a Gauss 15" 4580 woofer, a JBL Bi-Radial 60 X 90 fiberglass horn and 2445 driver, and two 2402 tweeter units. The mid-range horn's unique locking throat-collar mechanism (designed by A-1's chief of fabrication and maintenance, Lou Mannick) allows the entire horn to

be rotated. The cabinet may then be used in a vertical or horizontal position, while still providing optimum mid/high frequency dispersion.

"The way we wire the V.I.P. system is really simple," notes A-1 sound system technician John Hill. "In addition to the 10-pair signal input cable and the chain-motor control cable, we run out a length of 10-gauge 4-conductor A.C. power feeder from our 200-amp power distribution panel to each speaker cluster. We use 115V chain-motor hoists, so the same electricity that puts the speaker clusters up into the air is then used to run the power amplifiers when we are ready to fire up the sound system. The motors don't draw any current, of course, once the clusters are stationed overhead."

A selector switch at each amplifier position enables a given speaker unit to be assigned to a left, right or center output mix. A full mono mix is sent to the pair of speaker clusters hung in front of the centerstage area. "This whole rig goes up quickly," explains Hill. "And, it is even faster to take down. At the end of the show, the motor control cables are dropped down from each cluster. We lower each one, disconnect the feeder cables, and the package is almost ready to roll right out to the semi, just as it sits."

The seven-foot high speaker clusters travel for the entire tour with a sturdy truss bar attached that secures the steel hanging bridles. Aeroquip ratchet straps bind the cluster together. Heavy-duty caster dollies enable the amp/speaker package to be moved from loading dock to performance area by one or two stagehands.

HOUSE MIXING GEAR

Gary Rivera mixes the Barry Manilow show on two Harrison "Alive" consoles. The 32 and 24 channel boards are teamed up with an extensive array of signal-processing gear. A-1 Audio has modified the Harrison consoles by adding two back-frame extender "pods". This allows XLR connectors to be left patched into the board at all times. Only four 50-pair cables are required to accomplish most of the patching needed between boards and effects racks.

Effects devices and system drive components are neatly arranged in six compact racks, minimizing the space required for set-up in the audience. Signal-processing gear includes a Lexicon 224XL digital reverb, a secondary Lexicon 224, and two dbx Series 900 racks packed with noisegates, compressors and parametric equalizers.

Rivera is particularly fond of the Lexicon PCM-42 digital delay units in his rig. "They're very small, with lots of control over the VCO. They always work, and they sound great. I like them for background vocals, and to add a nice richness to some of the synthesizers," he explains.

An EXR-IV Exciter is used for

House sound-mixer Gary Rivera prefers to mix at audience-level, so as to hear the show in similar fashion to those persons seated next to him. The low-profile setup saves many valuable ticketed seats.





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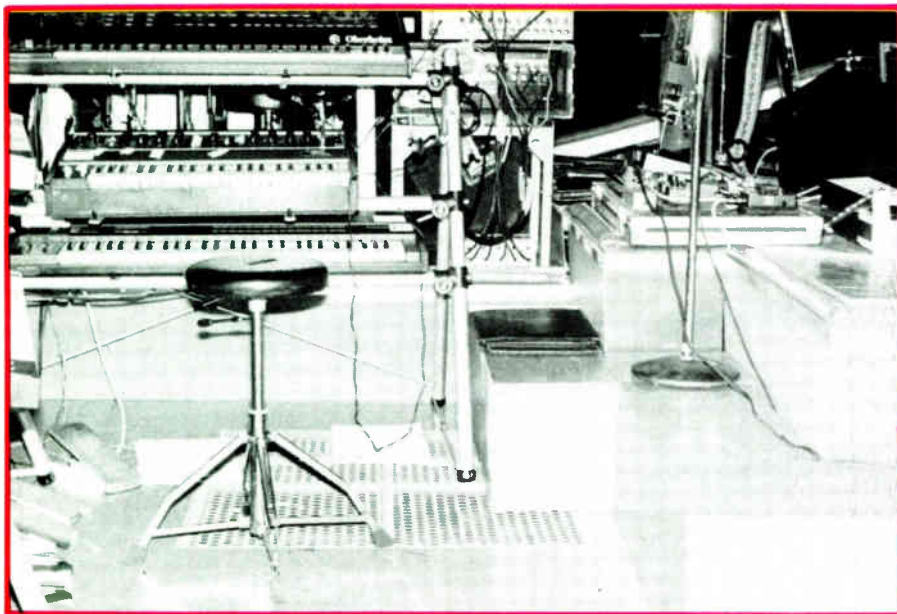
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Recessed stage monitors beneath metal grill panels conserve space at various instrumentalists' performance areas.

some extra "sparkle", particularly on the snare drum. A dbx Model 500 Subharmonic Synthesizer provides occasional deep-bass effects on the kick drum and synthesizers.

Yamaha F1030 electronic cross-overs and UREI 539 one-third octave graphic equalizers fill the main drive rack, along with a BGW Model 150 power amplifier used to drive a cue speaker.

Rivera provides Manilow with a stereo cassette recording of each live show. "Barry likes to hear a tape of each performance," advises Rivera. "I use a Fostex stereo ribbon mike, positioned at the house console, with good success. The true M-S placement of its cartridges gives a terrific stereo image on tape." A top-quality Revox B710 cassette tape deck completes the recording chain.

STAGE MONITOR SYSTEM

Operated by Steve Villoria, the A-1 Audio stage monitor system supplied to Barry Manilow is controlled with a Soundcraft Model 800B 32-input stage console and a 16-channel Yamaha M916 sub-mixing console. Steve does ten discrete mixdowns, as well as another six composite/matrix mixes for a total of sixteen. UREI 539 graphic equalizers, Audioarts 4100 parametrics, and sub-mix-inserted dbx 905 parametrics offer mix equalization. BGW 750B power amplifiers drive a variety of stage monitor cabinets, many of which are housed underneath metal grillwork assemblies in the custom-built stage set.

Monitor mixing engineer Villoria feels that the most difficult aspect of mixing for such a complex stage show is giving each performer what he or she needs without causing interference for the others. "The only way to make it work is to use the monitors to complement

each other," notes Steve. "I try to give each position on stage an inverse frequency curve from that already existing in the reflected sounds of the house P.A. and the other stage mixes. This gives me an excellent base on which to build each performer's mix."

An interesting thing for Steve about mixing stage monitors for this show is the wide variety of musical numbers done during the course of an evening's performance. Explains Villoria, "Barry has touched a lot of musical bases during his career over the past decade, everything from ballads to rock tunes. This is certainly not a 'set it and leave it' show. I have probably 500 specific monitor cues during the two-hour show.

Custom built area monitors are tripod-mounted to cover the upstage performance walkway. Each speaker cabinet houses a JBL E-120 12" speaker and a JBL 2402 tweeter.



These include everything from re-equalization and re-assignment to subgroups of individual channels to the total restructuring of many mixes. Barry alone has six individual mix channels incorporating fifteen different speaker systems, each covering a different area of the stage."

To help stay on top of the many show cues, Steve uses a TRS-80 Model 100 portable computer as an electronic "notebook". "I find this little machine to be very addicting. Not only does it allow me to organize and store my show notes, but I use it for telecommunications while on the road. And, I use it to update an ongoing technical maintenance schedule for our equipment. It is also an excellent data manager for cassette storage of our Lexicon 224XL digital reverb programs," he reports.

Monitor speaker enclosures include bi-amped floor slants with JBL and Gauss transducers, a pair of compact two-way sidefill stacks, Meyer UPA-1A and UM-1 cabinets, and special small, full-range rectangular enclosures (mounted on tripods) to service the upstage ramp and performance deck. Housing a single JBL 12" loudspeaker and a 2402 "bullet" tweeter, these cabinets also are used for near-field coverage of the first ten or so rows of the audience area, thereby doing away with the "sound wing" speaker stacks often seen in use.

A total of 78 stage inputs are required to pick up the show's variety of instruments. Many of these inputs are patched and re-patched during the show due to the concentrically-moving parts of the customized stage set.

Banks of MIDI-connected Yamaha DX-7 synthesizers are fed into sub-mixers behind the stage. A series of Sennheiser MKH 416-TF shotgun mikes are used during the show's finale, when a

30-voice choir makes a surprise last-minute appearance. Sennheiser 431 dynamic microphones are used for vocals.

"Probably the most interesting mikes up here are the hybrid 431 wireless units assembled for us by Ceteq-Vega in El Monte, CA," points out Gary Rivera. "The Sennheiser 431 has always been one of my favorite mikes for live vocal use because it sounds so 'open'. Its hyper-cardioid qualities make it that much easier to work with, particularly for monitors."

ON THE ROAD AGAIN

After an all-too-short vacation break during the Christmas holiday season, the Barry Manilow tour returned to the road for another tour leg that runs into this summer. Having nearly perfected the ins and outs of taking this system on the road, the A-1 crew still seems to take pleasure in shaving an extra few minutes off the previous show's load-out. Sometimes, the main speaker clusters are hitting the ground less than ten minutes after Barry leaves the stage, if the audience clears out quickly enough. "When it comes to load-out, the name of the game is getting it all out to the truck fast so we can catch the maximum number of 'ZZZ's' before the next day's work," quips Stark.

House soundmixer Rivera finds his nightly challenge to be rewarding, too. "Barry has this rare talent of being able to do any style of music he wants, and be successful," remarks Rivera. "Over the years, I have watched his show evolve from heavy ballads, to disco, to rock and roll. Now, he's doing some great jazz stuff. And I get to mix all of those different styles of music in a single night!"

Recently, Community Light & Sound M-4 long-throw midrange horns have been added to the system to help cover the bigger arenas. "When you have 17,000 screaming fans in a huge room, the need for vocal clarity is obvious," Rivera points out. "And, that's part of the beauty of live soundmixing as opposed to studio work. On tour, you're in a new 'studio' every day with different acoustics. Although much of our equipment is the same as what we'd use in the studio, we still haven't figured out how to hook up a 'rewind' button to a live show!"

Working with the same system daily in a variety of acoustical environments improves a soundmixer's chances of knowing how to react to different venues. But when the houselights go down, and there is a hush from the crowd, it is too late to wonder whether or not anyone remembered to check the hi-hat mike placement, or to adjust the upper-balcony speakers. It has to be right... now! For the sell-out crowd in Dallas, it was evidently right, once again, as acknowledged by the series of deafening ovations that Barry Manilow's show received throughout the evening. ■

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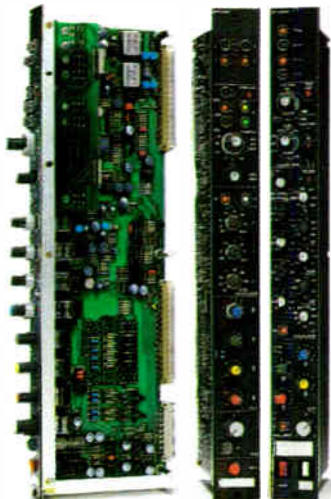
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STUDER REVOX

Circle #010 on Reader Service Card

DEALING WITH PHONE LINES

PART • ONE

The broadcaster's deepest fear—all that finely crafted audio goes into those terminals on the wall. . . Will it or anything like it ever come out at the other end?!

by Skip Pizzi

From the earliest days of broadcasting, "The Telephone Company" has been deeply involved with the daily technical operations of radio and television. In fact, much of the audio business' terminology and technological foundations are based on the pioneering work of "TELCO." The love/hate relationship that has developed between broadcasters and the telephone company through those years continues to grow and change. But for better or for worse, for richer or for poorer, Telco and broadcasters will be working together, forever and ever, period.

Telco lines are used in most remote broadcasts and as STL's (studio-transmitter links) for many radio and television stations, and for the interconnection of many radio and television networks, so it is clear why they are such an indispensable part of broadcasting as we know it. This heavy reliance by broadcasters on telephone company services can cause catastrophic results when something goes amiss at Telco, and every broadcast engineer has his or her share of horror stories to tell on that topic. Nevertheless, if the truth be

TABLE I. Classes of Service of Audio Program Lines

Class of Service	Old Class Name	Approximate Bandwidth	Full or Part-time
Type 6002	D or "non-eq"	200-3,500 Hz	PT
Type 6003	C or "non-eq"	200-3,500 Hz	FT
Type 6004	B	100-5,000 Hz	PT
Type 6005	A	100-5,000 Hz	FT
Type 6006	BB	50-8,000 Hz	PT
Type 6007	AA	50-8,000 Hz	FT
Type 6008	BBB	50-15,000 Hz	PT
Type 6009	AAA	50-15,000 Hz	FT
Type 6010*	---	Dual 50-15,000 Hz	PT
Type 6030*	---	Dual 50-15,000 Hz	FT, via satellite

* Interexchange (long distance) service only uses this classification (see text).

told, the majority of the time service is rendered promptly, and Telco installation staff are often quite helpful and reasonable in most broadcast-service divisions.

Dealing With The Phone Company

The best way to minimize problems with your telephone company is to establish a good working relationship with the appropriate personnel, and to understand as much as possible about their operation. If your people come across as friendly and knowledgeable, but also professionally firm and businesslike, things should go well.

Obtaining & Testing Your Lines

Type 6010 and 6030 are only for "interexchange" services, i.e. "long-distance" lines. For a local, stereo pair, order two type 6008 or 6009 lines, specifying "stereo conditioning." This incurs a one-time additional charge on each stereo pair, which can be hefty (around \$300 or more in most places, currently), but without this, there is no guarantee that the two lines will travel similar

routes, and if they are sufficiently different in path length, significant phase errors can occur, wreaking havoc on your stereo image and mono compatibility. Some broadcasters always order *three* lines and have them all stereo-conditioned, so there is always one backup. Others forego the extra charge and try conditioning themselves with a very high resolution DDL or similar device at the receive end. (Approximately five ohms sec of time difference occurs for every mile of path length difference.) Although *linear* distances between ends of the circuits might be short, actual circuit routing may be much longer, and these miles of path length difference may mount up quickly in an unconditioned pair. Nevertheless, even with conditioned pairs, it seems that about half the time, the polarity between lines is inverted as installed. This is of course a simple matter for the broadcaster to fix, but it is one of the first things to be checked after stereo lines are installed. Other items to be checked, for *all* lines, are frequency response (should be well within ± 3 dB of ordered response), phase response, S/N ratio, distortion, and headroom. (When spare lines are ordered, all should be measured, and the poorest delegated for "backup.") Regarding flat response, check well outside the cutoff frequencies, because it is not always safe to assume that response *rolls off* beyond them. Occasionally in order to get a line to pass spec, Telco equalizers are

NPR's John Kean offers some additional tips on optimal interfacing with telco lines at the remote site, for insuring proper levels and flat frequency response, in Figures 1, 2 and 3 that follow.

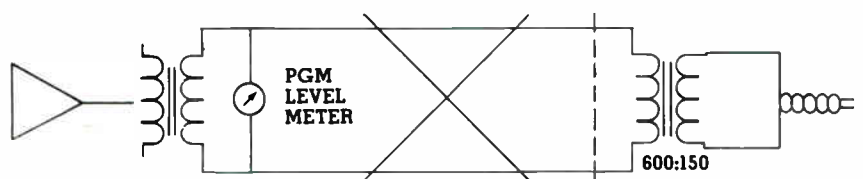


Figure 1: DON'T meter the signal across the input to the repeat coil (transformer at left); and DON'T feed

the repeat coil directly from another transformer, if possible.

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Ian Hunter	John Sebastian
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used to boost the extreme frequencies, and if this is not done properly, the response may indeed be flat up to the specified frequency, and then

rise for another octave or two before finally rolling off. Obviously, this reduces headroom and alters frequency response, and is also a particular

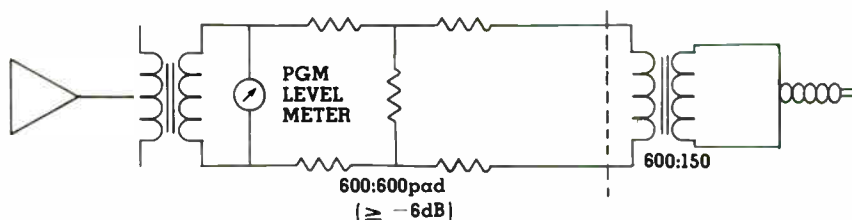


Figure 2: DO place a pad between the output device's transformer and the repeat coil; and DO place a level meter before the pad as isolation, cal-

ibrated for the voltage across the pad's output when terminated with a 600 ohm resistor.

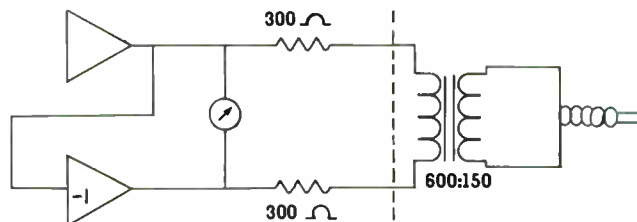


Figure 3: DO feed low-impedance sources (e.g. op-amps) through a 600 ohm differential balanced pad; and

DO place the level meter before the pad, calibrated as above.

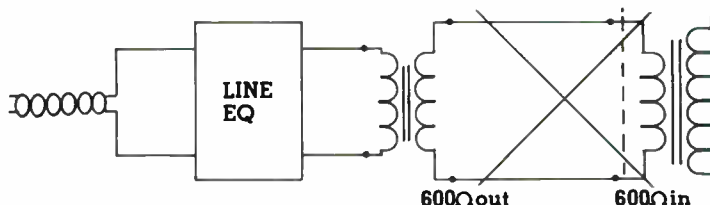


Figure 4: DON'T terminate the receive-end repeat coil (transformer at right) with another transformer, if possible; its loading may vary with

frequency from the true 600 ohm resistive termination used in line-up causing level and frequency response variations.

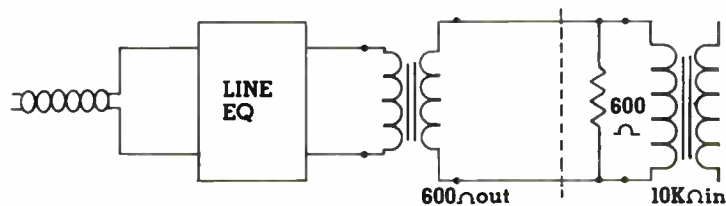


Figure 5: DO terminate the receive-end of a program circuit with a 600 ohm resistive load, and bridge the load with a high-impedance transformer or active balanced input. Note: Common mode rejection of the transformer or active input must be considered if the distance from the repeat coil is great or is near other lines which induce cross-talk. Ideally, the secondary of the repeat coil should be resistively terminated. An active, balanced input circuit does this nicely, provided any RF is bypassed be-

fore the first stage of amplification. An alternative is the use of an input transformer with a high-impedance, bridging input. This allows the 600 ohm resistor, as shown in figure 5 to match the repeat coil. Another version, often seen on the input of broadcast line amps and modulation limiters is a 600 ohm H-pad; effectively the reverse of figure 2. Following the above steps at both ends usually insures that transmission loss and frequency response closely match those of the phone company set up.

problem when lines are being fed with noise-reduction-encoded (i.e. HF pre-emphasized) audio.

Proper Interfacing

For testing circuits, sine-wave frequencies of 400Hz and lower may be fed at Telco "P.O.L." (program operating level) of +8dBm, but frequencies above 400Hz must be fed at "Telco test" level of 0dBm. Recording type consoles whose reference levels (O VU) are +4dBm can operate well into these circuits, and gain an additional 4dB of headroom while losing 4dB of S/N. However, it is essential that any mixer/console used to feed a Telco line directly is capable of driving a 600 ohms balanced load, the standard impedance of all Telco lines (150 ohms lines are available upon request in most areas). Many consoles—even expensive ones—cannot do this, in which case a distribution amplifier is the best solution. Often, a variety of tape recorders, IFB, mults, etc. are also being fed by the mixer/console at the remote site, so a D.A. is essential in providing isolation between all these (usually Hi-Z) inputs, as well as proper drive for the 600 ohms phone line. When this is the case, always try to have the phone line driven by its own D.A. output, with no other (even bridging) inputs attached.

Remember that DC voltages may appear across the phone line, and the isolation that the D.A. provides is useful in protecting the inputs to all the other devices as well. For this reason it is also wise to *not* use transformerless D.A.'s in this application. A good transformer can be your friend on remotes, especially when interfacing with Telco. Nowadays, a good installation will commonly be provided by Telco with repeat coils, however, which serve this purpose well, so an active-balanced Lo-Z output capable of driving at least +18dBm (preferably higher) into 600 ohms would work well in that sort of application.

The Specs

In terms of S/N ratios, the telephone company uses a peculiar sort of measurement. They declare a noise level of -90dBm as "absolute quiet" and measure a noise *up* from there, using the unit dBrn. Therefore a circuit with a Telco noise spec of 40dBrn would have a noise level of -50dBm which, if the Telco reference level of +8dBm is used as P.O.L., gives the user a 58dB S/N ratio on the line. The longer a line travels, the noisier it gets, of course. Telco specs for local circuits (varies with location/local operating company) usually call for a S/N ratio of

65dB or better (33 dBrn) for 15kHz lines. "Interexchange service" (IXC), to use prevestiture terminology, which entails the inclusion of AT&T Long Lines' (generally microwave) service, had a S/N spec of 57dB or better (41 dBrn) for 15kHz lines. The local 5kHz spec was 52dB S/N, Long distance 5kHz was 42dB.

Another option offered by many telephone companies is the so-called "loss-less" or "zero-loss" line, where the Telco line acts as a unity gain device. Normally, signal provided to the customer on the receive end may fall to as low as -30dBm when 0 (zero) dBm is being fed from the transmit site. (Audio signals in copper cable lose about 1dB/mile). A line amp on the receive end can

bring the signal up to house P.O.L. If the customer so desires, however, Telco will provide (at an additional cost) a loss-less line, so that +8 in gives +8 out. This is achieved by the insertion of additional Telco amplifiers along the route, and is not always desirable, since these amps are of unknown quality and reliability, and your line amp is a single, known, and easily accessible unit. Nevertheless, if the line is long, and the Telco amps are OK, a loss-less line may give you a few dB quieter performance, although with perhaps a slightly higher distortion spec. This may be advisable in places like New York City where crosstalk and impulse noise from old, waterlogged and densely trafficked lines is quite common. In most cases,

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however, fewer amplifiers used in regular lines (there may indeed be none at all in short hops within one exchange or service area) provide better overall sound. In cases where both regular and loss-less lines were ordered from the same site, in my experience, the regular lines are almost always chosen.

Gaussian or random noise is of course far less objectionable than the coherent noises sometimes found on Telco lines, such as the abovementioned crosstalk, impulse noise (clicking from dial pulses and other switching), and the so-called "sings" or tones caused by carrier beating and other nefarious sources. For this reason, lines should be listened to on the receive end for a good while after they are installed without any audio being fed from the remote site. They should also be turned up and auditioned as early as possible before their on-air use. Call Telco at the earliest sign of trouble.

Although there are no published Telco specs to be met for distortion or phase response, distortion should be 0.25% THD or better for 15kHz lines. For stereo pairs, relative phase response should be within 30° across the passband. Widely divergent frequency response across the stereo pair is a tip-off to check phase response carefully. When spare lines are ordered, the two closest to each other in frequency and phase response should be made the main pair, assuming all other specs are equivalent.

The published headroom spec is only 10dB on most lines (+18dBm maximum). Using a P.O.L. of +4dBm instead of Telco's +8 will give you 14dB of headroom, at the expense of S/N, which is a more prudent approach in most cases.

Communication Lines

Whenever ordering program circuits for live remotes, always order an "MB" or "PL" to the site as well. This is a standard dial-up telephone line for use in voice communication between the studio and the site. Stations equipped with RF communication systems may want to use these instead if they are within range, but these may leak into the program audio, prohibiting communication while the site is on the air. This "MB" service is relatively inexpensive, and usually well worth the costs. A way to save, however, is to provide your own telephone instruments (with visual ring/bell cut-off if desired), and just order the line from Telco. Normally this will be a regular seven digit telephone number, but other variations such as dedicated "PL" (private line, also known as "ringdown") or

OPX (off-premises extension) services are possible. PL is a non-eq line with dialless instruments at each end; one end rings whenever the other end is picked up (also called "PLAR" —private line with automatic ring-down in some areas). OPX is an extension of a customer's PBX system placed at a permanent remote site. The terms "MB" and "PL" are often used in the broadcast industry to indiscriminately refer to any sort of regular telephone at the remote site for communications purposes. This is all well and good until actual Telco

become commonplace in recent years. For network distribution, it is a particularly cost-effective method (especially in the long term), but it is also a useful and high-quality method for remote feeds ("backhauls") to a station or network hub as well. Various broadcast organizations now have satellite networks in place, and most offer their excess space on these to outside customers. These networks have leased their satellite space from the satellite owners, the "common carriers" such as Comsat, AT&T, Western Union, RCA and others. In-

TABLE II. A Partial List of Satellite Vendors

Company	Type of Operation	Location, Telephone
AT&T Skynet	Common Carrier	NYC or LA (800) 221-8294 or (800) 221-7680
A.P./Satnet	Radio news network	NYC (212) 621-1755
Comsat	Common Carrier	Suburban Washington, D.C. (301) 863-3000
IDB	Satellite comm. contractor	LA (213) 870-9000
Learfield Communications	Satellite comm. contractor	St. Louis, MO (314) 533-7141
National Public Radio	Radio network	Washington, D.C. (202) 822-2600
Western Union	Common Carrier	NJ (201) 828-5000
Wold Communications	Satellite comm. contractor	LA (213) 474-3500

(Note: Most will also handle first and last mile hookups for the customer, at an additional fee.)

orders are being placed; then exact terminology becomes important. Telco lives by abbreviations, and a single misplaced letter could cost you a lot of time, hassle and money. Additionally, these sorts of services are ordered from a different office and are installed by a different crew than the broadcast program lines, so careful coordination on your part is required. This is the area where most problems occur, in my experience, since these folks are not just dealing with broadcasters, but are usually the regular telephone service office and installation staff, so they are dealing with you as just another regular customer. It may be advisable to order this service earlier, and request it to be in place sooner, than your program lines. Since it is generally a much cheaper service than the program lines, the extra cost isn't very much, and no matter how well the program circuits are functioning, lack of communications can seriously compromise a remote broadcast's quality.

The Final Frontier

For longer-haul circuits or networking, satellite hook-ups have

dividuals can also lease satellite space from the common carriers, but for one-time, point-to-point needs, it is usually better to go to one of the networks, since the common carriers generally prefer dealing with the big, full-time, mass users, and their sales offices will often freely admit to prospective customers that price and service might be better from one of the smaller, more broadcast-oriented companies as the excess-capacity-selling networks. Among these, an example with which I am familiar is National Public Radio. NPR leases a full video "transponder" (satellite channel) on Western Union's Westar-IV satellite, and uses the rather wide spectrum provided therein for dozens of frequency-modulated analog audio channels of various bandwidths. This so-called "multi-casting" approach (which NPR pioneered, I am compelled to add, only because others have erroneously claimed this distinction in the past) allows a network to offer several choices of programming to its stations simultaneously (in mono or in stereo pairs of channels, without the need for "stereo conditioning" since all satellite path-lengths among the audio channels



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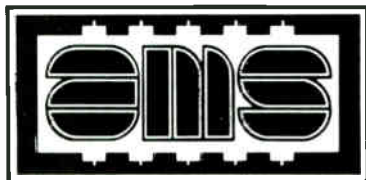
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are identical), and have excess space left over which it may sell to other customers. Regional "uplinks" (satellite earth stations with transmit and receive capability—also called "RTs") can feed to these several channels, while "downlinks" (receive-only earth stations—"ROs") at each of the network's stations can be tuned to the channels desired at the time. Since noise is a big problem in satellite transmission (40dB is considered good in many cases), most analog satellite systems use some sort of companding to achieve reasonable S/N (65dB or higher) for wideband audio. Some systems use the video transponder for a smaller number of digital audio channels. Even with all this variation, there are some reasonably priced, off-the-shelf "fully-agile downconverters" which can handle most of the analog frequencies and companding systems in use, when hooked up to a dish pointed at the right bird, equipped with sufficient LNA's (low-noise amplifiers). The digital systems are still a bit more proprietary, but probably not for too much longer.

A third more recent option is to obtain the services of a satellite communications contractor, such as Learfield Communications of St. Louis, or IDB in Los Angeles. These companies have as their sole function the selling of satellite hook-ups for point-to-point or network use, one-shot or permanent. They utilize both existing earth stations and "portable uplinks" (mobile satellite transmitters), and provide customized service to the individual customer's request, using their own or subcontracted facilities.

For live remote transmissions on satellite circuits, terrestrial Telco lines, microwave or VHF-band RPU's (remote pick-ups) are usually employed to get audio to the nearest uplink (except when a portable uplink is used), and again, if necessary, from the nearest downlink to the end-user (so-called "handoff" service). These "first-mile" and "last-mile" hookups are often on Telco program lines, so although satellite technology is well in place in the broadcast audio world, until the portable uplink becomes as commonplace as the telephone, Telco lines will be a part of the typical live remote.

One other thing to remember about satellite service that differs from the terrestrial, is the element of time delay. Because geostationary satellites are used, the distance from earth to satellite is over 23,000 miles. Signals travelling up and back from that satellite take about ¼ second. (Terrestrial line delays rarely exceed 100 ms, except on long network lines). If satellite backhaul *and* satellite net-

—PAGE V149

Circle #014 on Reader Service Card

Radio Recorders' Harry Bryant



PHOTO: MR. BONZAI

LUNCHING WITH BONZAI

by Mr. Borzai

Harry Bryant is a living archetype of a 20th Century phenomenon: the audio engineer. There may have been a few dabblers in the last century, but they were just the mutants that would evolve into that strange breed of studio species that we know today.

Harry's story is particularly significant because he was one of the key men at Radio Recorders, a studio of legendary proportions that survived and prospered for almost 50 years. As VP and head of engineering at the studio, he guided it through the technical upheavals of the '40s and '50s. It was the world's largest independent recording studio, and its clients included just about every

name in the entertainment business, from Louis Armstrong, Spike Jones and Nelson Riddle to Elvis. Today, those celebrity-haunted chambers at 7000 Santa Monica Boulevard in Hollywood are inhabited by a modern multi-media enterprise, Audio-Video Craft.

We lunched at Harry's modest suburban estate in the rolling foothills of La Canada. He and his wife, Alice, pulled out the scrapbooks and we reminisced down memorex lane.

Bonzai: How did you get into the recording business?

Bryant: I started out working for the South Carolina telephone company in the early '30s and graduated from the RCA Institute through a correspondence course. I then made my way to California and started working as a mixer in nightclubs. My first love was working with the big bands. The networks and the larger local radio stations always had telephone lines to the nightclubs and I landed a job with KHJ early in 1937. I started working part time for Radio Recorders in 1936, just about the time they got started.

Top: Harry Bryant at the old control panel in Studio B, 1947; Above: Bryant today.

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PHOTO: MICHAEL MENDELSON



PHOTO: MICHAEL MENDELSON

...YOU'RE IN THE **Mix**

THE RECORDING INDUSTRY MAGAZINE

Bonzai: Who was there at that time?

Bryant: There were four owner-partners and the sales manager, Joe Sameth. The partners were Shang Winters, manager; Darell Minkler, engineer; Erny Dummel, mixer, and a musician; Jack Brundage, machinist. All of the partners would double in mixing live sessions, disk recording and creating sound effects. They also built most of the electronic equipment they used. Radio Recorder's major business at that time was recording phonograph sessions, live dramatic or comedy shows and radio commercial spot announcements. Most of these sessions were recorded on wax disks. These masters were processed to form stampers for making 12 inch phono records at 78 RPM, or 16 inch records at 33½ RPM for radio stations. A smaller segment of the business was recording air checks on the recent developed acetate disk. The 12 or 16 inch disks were ordered by advertising agencies or radio artists.

My part time work consisted mostly of recording air check radio programs and electronic equipment maintenance. I continued working full time at KHJ and part time at Radio Recorders until April, 1941 when I was hired by James A. Miller to set up a recording facility in Hollywood at 7000 Santa Monica Blvd. Mr. Miller was president of Miller Broadcasting System, a very successful New York recording studio, that used his invention—the Miller-Phillips optical recording system. This system had an electro-mechanical recording head with a V shaped sapphire stylus that would cut a variable area groove on a chemically-treated, thin strip of plastic tape. Playback was by a motion picture type optical light and photocell. The studio was in the early stages of operation at 7000 Santa Monica when war was declared. Miller left to join the Signal Corps. I was asked to dispose of the business, so I arranged for Radio Recorders to take over the building and equipment.

Bonzai: Was that when you joined them?

Bryant: No, I was hired by NBC as a mixer and ended up mixing radio shows for people like Jack Benny, Bob Hope, Amos 'n' Andy, Kay Kayser. This was in 1942, '43, '44—the big days of radio, and because it was wartime, we were out on the road a lot broadcasting from military bases. We had big bands, sound effects and lots of action. You really had to know what you were doing, and you had to be alert and aggressive. Working with the Jack Benny show was great. Because there were so many sound cues, the mixer had to be a real part of the team. I spent many hilarious times in hotel rooms



At Radio Recorders' Annex Studio, Irene Dunne and Fred MacMurray confer, circa 1949.

PHOTO: SID AVERY



Tyrone Power (center) and others during a session in 1948.

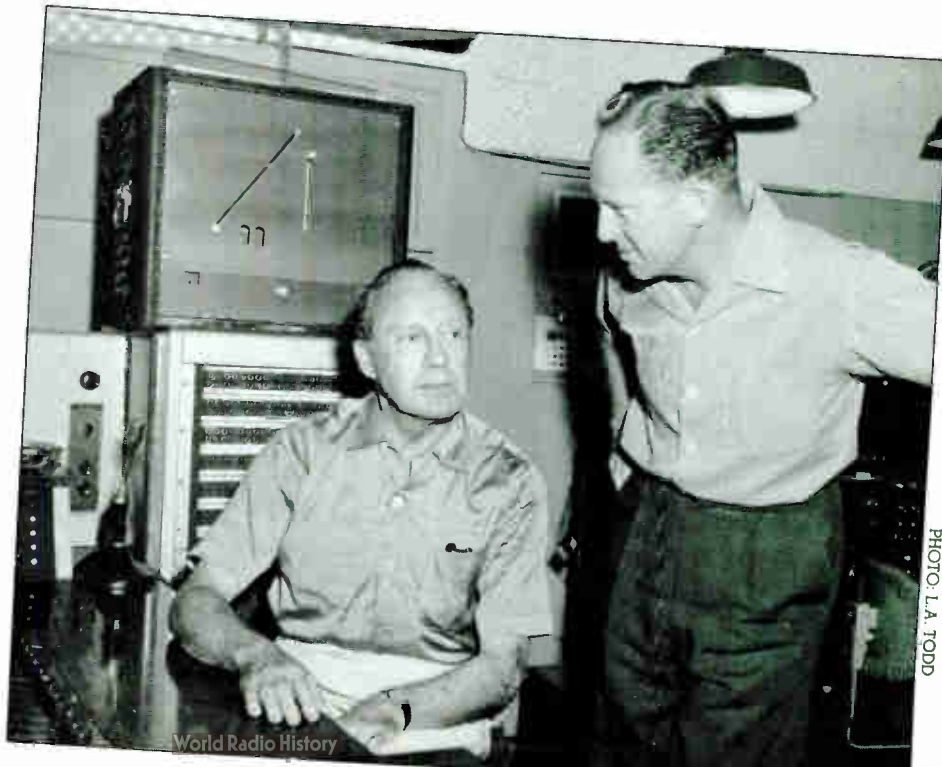


PHOTO: L.A. TODD

(Right) Bryant with comedian Jack Benny, circa 1960.

HORN SECTION

Tony Mitchell talks to Trevor Horn.



We asked Tony Mitchell, deputy editor of one Britain's foremost music papers, *Sounds*, to interview Trevor Horn about the Synclavier.

MITCHELL: The name of Trevor Horn is synonymous with state-of-the-art record production on both sides of the Atlantic. From his early ventures with Buggles (remember 'Video killed the Radio Star?') to his association with megastars Yes, from ABC to current chart favourites Frankie Goes To Hollywood, the story of Trevor Horn has been one of unrivalled success.

And yet, far from wrapping himself in the aura of smug confidence that often accompanies such achievement – far from being satisfied that he's found a formula that'll enable him to sit on a set of solid gold laurels for years to come, he continues to pursue a particular vision with quietly hermetic determination. His vision is of a totally new kind of music, and it takes him on dangerous and exciting journeys into the unknown, where lesser mortals still fear to tread.

Needless to say, technology has played a vital role in the realisation of his ideas. But one aspect of technology in particular lays claim to a very special relationship with Mr Horn. It's called the Synclavier.

“I analyse what somebody's dream is then make it come true”

On the surface, the Synclavier, bristling with banks of red LEDs, looks like a keyboard synth that's been designed by the people who put up the backpool illuminations. Well, it is a synthesiser, but it's also much, much more. It is, among other things, a very sophisticated sequencer and digital sampler, courtesy of the powerful computer which is its unseen brain.

Digital sampling is, of course, becoming ever more popular as a way of creating or recreating both natural and synthetic sounds, and the Synclavier is not the only device offering this facility. So the first question in my mind as I sat with Trevor Horn in his eirie of an office, high above the arctic bustle of Sarm West Studios – headquarters of his ZTT label – was:

“Why did you choose the Synclavier rather than any other supposedly comparable system?” His answer was devastatingly direct.

HORN: “I chose the Synclavier basically because I had no choice.

There was nothing else to choose. The thing that interested me most about it was not the synthesiser side but its ability to sample sounds, and sample them to a much higher quality than any other machine available in the whole world. It was the only machine that could do what it can do.

I found myself quickly becoming dissatisfied with the kind of records that are being made using synthesisers, and really felt for a long time that the idea of taking sound and manipulating it in the way that you manipulate film or visuals was a much more exciting direction. A real sound is much more detailed than a synthesised sound and so with such a device you can make much more interesting records that have much more detail in their sound.”

MITCHELL: “But why did you feel the Synclavier was so good?”

HORN: “The Synclavier, being able to sequence real sounds, gives me complete control. I can take any element and put it anywhere I want it, arrange things and control it. I can't deny that the way I produce things, I like to have total control of the sound.”

MITCHELL: “You're talking about audio fidelity, I presume?”

HORN: “Yes, I am. I find it lacking a lot of the time and I love making records using a total manipulation of sound. I'm concerned about the quality of records at the moment in general. It's way down on what it used to be back in the 60's and 70's. I find audio fidelity lacking a lot of the time.

Other people make different kinds of records, you know, Mark Knopfler makes really nice records with Dire Straits and they play... that's one thing. I don't do those kind of things. It doesn't suit me – unless I have people that play like that. I do a different kind of thing. I analyse what somebody's dream is, and then I make it come true – it's a different philosophy and I need control of the sound. And the Synclavier is the only thing that can do it at the moment.”

MITCHELL: “Do you regard it then as primarily a producer's tool?”

HORN: “Yes – for me it is. I mean – you could take it on stage, and I hear it stands up very well, but I'm not even talking about the synthesiser side, even though it's quite incredible. They're doing something now with the synthesiser side that's going to be amazing – you're actually going to be able to recreate real sounds using the synthesiser. I think it would be quite an incredible stage instrument for anyone who could afford it.”

“It's a different philosophy which requires control of the sound and the Synclavier is the only thing that can do it at the moment”

MITCHELL: “And it certainly looks as if it's designed to appeal to the non-computer literate person – the regular musicians.”

HORN: “Well I never have anything to do with that side. Even though I own one and I know what it can do, I don't always push the buttons.

I just sort of sit there and dream the thing and I have people that work it. But it's possible to get a helluva lot of expression out of the Synclavier – it's possible to do lots of things where people would never dream that there wasn't somebody playing the thing.

It's also possible with the Synclavier to actually play the real sounds. In fact, it's really light years ahead of anything around because the sound quality is so different.

And it goes really well with digital. I'm working towards trying to do a new kind of record and

with the quality of it and everything, I'm getting there gradually. I kind of make a step forward every time.”

MITCHELL: “But the question that surely begs to be asked is: which really came first the chicken or the egg? Were you really simply waiting for something such as the Synclavier to do your bidding, or was it the power the device put at your disposal which led you to do things you wouldn't otherwise have thought of?”

HORN: “Well of course, this whole idea dates back to the Mellotron, using tapes of string sections and the like. But when I met Malcolm McLaren and he played me this thing where the guy was scratching the record, I mean, I love it! I thought – what a great idea! And then I thought, well, with the Synclavier we could do exactly what they're doing – taking bits of junk and making them into something else.”

“Records'll still be about music, and that's really all that bothers or interests me in the end”

MITCHELL: “What about the machine's other facilities – the integral 16-track digital recorder for example?”

HORN: “It's an amazing thing for people who are doing demos or whatever but I'm not into that really. Of course, I don't need it – I'm lucky enough to have my own recording studio.”

MITCHELL: “But it would be useful if you happen to have a Synclavier in your upstairs front room?”

HORN: “Yeah, but you see, I have very strong feelings about getting into that area. The way musicians are being alienated from each other because everyone's disappearing into the cupboard with their own instruments, they're not interacting with each other and forming groups and listening to really good music and developing.”

MITCHELL: “So you don't see yourself using the modem and sending your Synclavier stuff off to distant parts down the phone lines?”

HORN: “No, not yet. People tell me it will all happen but when they start talking about that – when people give me the old blag about what it's going to turn into – I always get kind of glassy-eyed about it. People say we won't be having records soon, we'll just send a bunch of numbers down the phone.

Well that doesn't interest me because records'll still be the same and they'll still be about the same thing, and they'll still be about music, and that's really all that bothers or interests me in the end.”

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Vol. VIII No. 2

Edited by FELIX ADAMS (On and Off) and ARNOLD DALY (Universalites)

JULY, 1960

UNIVERSAL RECORDERS AND RADIO RECORDERS COMBINE

Merger Opens Largest Independent Recording Studio Facility in U. S.

The stockholders of Radio Recorders, Radio Recorders Equipment Company, MPTV Services, Inc., and Universal Recorders, Inc., all located in Hollywood, California, have formulated a plan for the formation of a new holding company, to be known as Radio-Universal Recorders, Inc., which plan will bring together the extensive facilities of each company and thereby constitute the largest independent recording studio in America with more than half a century of recording experience.

The announcement was made jointly by H. DeVoe Rea, Chairman of the Board, and G. Howard Hutchins, President, of Radio Recorders, and Martin Hersh, President of Universal Recorders. Under the enlarged operations there will be available for the Photographic Recording Industry, Advertising Agencies, Motion Picture, Television and Slide Film Producers, the finest facilities for all phases of recording tape and disc, both Stereo and Monaural, editing and mastering, pressing, Magnetics Film Recording, dubbing, slide films, and complete sound on film service.

This announcement was made in conjunction with another of great interest to the Recording Industry—namely, the unveiling of the large new studio at Sunset and Highland, in Hollywood. This studio is reported to be the largest and most modernly equipped available. Built at a cost of more than a million dollars, the new facility is especially designed

PRESLEY PRESSINGS AGAIN "MASTERED" AT RR



Elvis is back and we're on him! Thorn Norgar (left), RR engineer, renewed acquaintance with a talented friend when author-transmuting Elvis Presley returned to our studio after a long absence.

for Film Scoring and for 4 track Stereo Recording. It presents many new innovations in recording techniques, and contemplates development of expanded facilities now available in this one operation.

In addition, the plan will also enable clients to obtain, at the same location, and on one order, complete facilities for all sound recording work including film and 2, 3, or 4 track Stereo.

SINGER-IDOL AND ENGINEER TEAM UP AFTER ARMY STINT

Just out of uniform and eager to pick up more millions, both of listeners and dollars, Elvis Presley raised RR's prestige with the screaming teenagers by paying us a recent visit. He recorded an album of songs from his new Paramount picture.

This wasn't his first call on us, but it was one of the happiest, as the lad was never in better voice—sideburns or no. Nothing in this uncertain business could be more certain than that Elvis is scheduled for a whole slew of BIG HITS in his next efforts for RCA.

In the above photo you see the army's most famous sergeant with RR's own Thorn Norgar. It was Thorn who engineered his popular album before Elvis was inducted into military service. Whatever these gentlemen produce together now will get billing in the record world—and is sure to richly deserve same.

"C" STANDS FOR "CAN DO" IN RR STUDIO

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C stands for Continuous—our 'round the clock service.
C stands for Capable—the kind of people we are.

C stands for Comfort—what you can relax in while we do your job.
C stands for Customers—what we like better than anything.
C stands for Capable—what you are about us.
C stands for Come in and "C" us!
Here's one example of the Capable, Complete Continuous service Studio C offers.
On a Friday afternoon last month, Warner Brothers needed 300 instantaneous dubs immediately for shipment to disc jockeys all over the country, plugging the picture "Tall Story," starring Jane Fonda (daughter of a famous father). What seemed an insurmountable
(Continued on page 2)

"On and Off the Record" was a regular newsletter put out by Radio Recorders in the '50s and early '60s.

going through script readings with Jack Benny and cast members Mel Blanc, Don Wilson, Dennis Day, and the guest stars.

It was during one of Jack Benny's shows that I thought of the idea for one of my first gadgets—a foot switch gain control for reducing the P.A. sound volume to prevent feedback. This control was used every time I wanted to greatly increase the audience reaction microphone sound level without danger of feedback. Since this procedure was not authorized, I had to keep it a secret and be very cautious. People would ask me how I was getting such good audience reaction and I would just tell them it was a gift and brushed it off. It backfired on me once in Vancouver when Jack spoke a line and couldn't hear himself on the P.A. He had to repeat himself but it worked out all right.

Another device that I used on remote broadcasts was a simple equalizer that reduced feedback, and permitted a much louder sound level from the P.A. system in the auditorium. This unit had no relation to the foot switch.

An enjoyable part of broadcasting from large auditoriums was hearing the echo that enhanced the orchestra sound. At the NBC studios we had echo chambers but could patch up echo on only one microphone at a time or patch up the console for overall echo with no way to vary the echo from individual microphones. This system was inadequate for a recording studio so I decided to devise a better system, which I did after I returned to Radio Recorders.

Bonzai: So how did you finally end up at Radio Recorders?

Bryant: Well, business at Radio Record-

ers had steadily increased after they moved to Santa Monica Blvd. In September 1944 they made me an offer to become a partner. I accepted the offer and resigned from NBC.

Shortly after joining Radio Recorders we built an echo chamber and incorporated my new idea for echo send. We modified the 12 position mixer console in Studio B by installing additional jacks wired to hybrid coils and a simple, external, six position mixer. This mixer was placed over the patch bay. The output of any six microphone preamps could be patched in the new mixer. Direct sound and echo sound was balanced individually by the faders in the new mixer and sent to the echo chamber. This new installation was a great success. We soon found it necessary to build additional echo chambers and modify our other studios for the same system. Eventually people figured it out and used it in their operations. However, we were the first ones to have a console with separate echo sends.

Another project was the development of a simple 600 ohm, low loss, 16 dB equalizer. This was needed on all of our 30 disk turntables. These tables were used constantly during the editing and re-recording of more than eighty hours of recorded shows for Armed Forces Radio. We also used this equalizer with individual microphone circuits in all subsequently built studio consoles.

Bonzai: You must have built most of the equipment in those days?

Bryant: Oh, yes. Today you can shop around and buy almost any equipment you need, but in those days you had to build it. There were some stock consoles built by people like Gates Radio, Langevin and Altec—small mixers primarily used for broadcasting or P.A. systems. And there were a few manufacturers, like RCA and Western Electric that made motion picture type equipment, but outside of that we didn't have much for recording studios.

Bonzai: When did tape recording come in?

Bryant: After the war, and we were one of the first studios to jump on the bandwagon. We had quite a few different models: Rangertone, Magnacord, and Presto, but Ampex made the only one that was 100% professional. It was the Cadillac of the industry and cost about \$4,000. We worked very closely with Ampex and had about 20 of their machines by 1960. Through a series of trades we even ended up with the recorder that had serial number 1. We were the largest user of Ampex in the city.

Bonzai: What changes in the business did tape make?

Bryant: Well, for the first time it was easy

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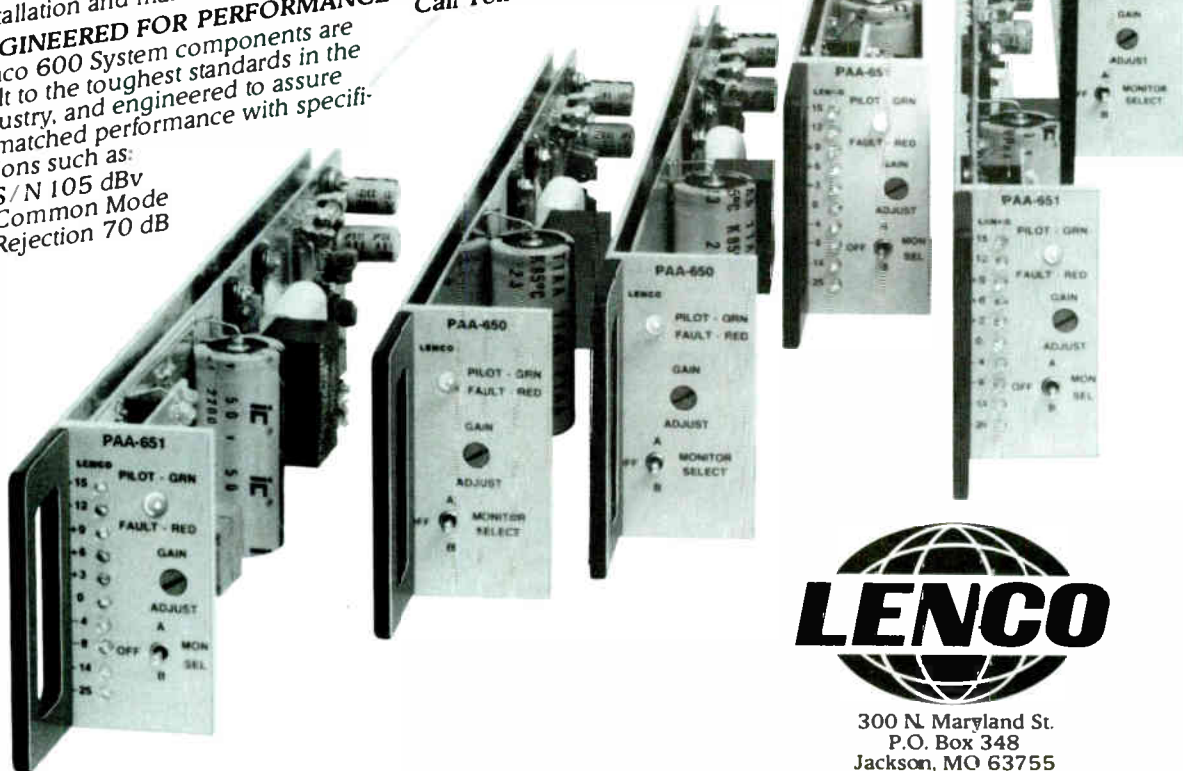
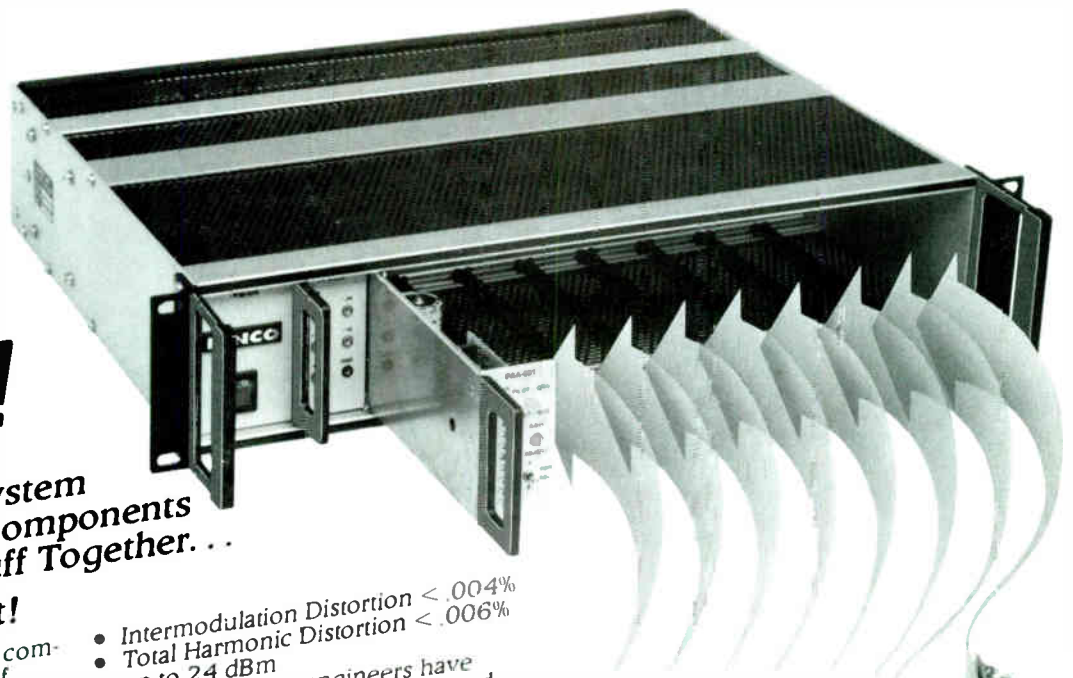
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STUDIO E - small - Approx. size 15 1/2' x 15', about 230 sq. ft. Rental Rate per hour - \$12.50 (one engineer only)

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RENTAL CHARGES IN STUDIOS 1, B and A includes: Hammond Organ, Leslie Speaker, One Mixer, Sound Jeep, Stairway B Plans, Two recording channels, Caliste, Use of Recorded Sound Effects Library, Playback Equipment for Tape and/or Disc

TO RENTAL CHARGES ADD COSTS OF DISCS AND/OR TAPE

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ADDITIONAL ENGINEERS: \$4.00 per hour each

ANY MIXER SPECIFICALLY REQUESTED by a client leveling time beyond his regular hours. \$5.00 per extra hour

TABLE 2 - ASSEMBLY & EDITING (tape and/or disc)

Studios D, F, 2, 3 and 5

ASSEMBLY:

All dubbing from film, tape or disc, involving editing, cutting or other technical processing - \$18.00 per hour (includes 2 recording channels and 2 recording engineers)

TAPE EDITING ONLY -

Includes use of one tape machine and one Operator. Rate per hour - \$12.50.

ADDITIONAL TAPE MACHINE - \$5.00 per hour

TABLE 3 - DISC & TAPE COSTS

Discs used in Studios will be charged for as follows:

Table with 3 columns: Instantaneous, Processing, Discs. Rows for 10", 12", 16" sizes.

Tape used in Studios will be charged for as follows:

Table with 2 columns: Tape type, Price. Rows for 150', 400', 1200', 2400', 4800' with various materials.

NOTE: NO REFUND ON TAPE.

TABLE 4 - AIR OR LINE CHECKS (Radio and Television)

Table with 3 columns: Instantaneous, Disc Price, Tape Price, Footage Req'd. Rows for 15, 30, 45, 60 minutes.

TRACKS - OFF-LINE

Are based on STANDBY TIME at \$12.00 per hour plus cost of materials used.

TABLE 5 - STRAIGHT DUBBING

Table with 3 columns: Size, S/F, D/F. Rows for 10", 12", 16" sizes.

TABLE 6 - MASTERS FOR PROCESSING (per side)

Table with 3 columns: Size, Speed, Price. Rows for 10", 12", 16" sizes.

TERMS & CONDITIONS:

All Prices Are Net. No Agency or Time Discounts. Prices on request for Processing, Pressing and Remake recordings. Prices subject to change without notice.

OVERTIME

Charged on Sundays, Holidays, after midnight, and after 6 p.m. on Saturdays.

CANCELLATIONS

On less than 24 hours notice charged for full air.

DELIVERIES

All prices are f.o.b. our studios. Customer extra. Price claims must be made by customer direct.

STORAGE

All properties of customer left on our premises. Free storage thereon is provided if months, but without any responsibility on our part.

CONDITIONS BEYOND CONTROL

We shall not be responsible if we are hampered by the conduct of our business by acts of God or public enemy, war, riot, earthquake, fire, strike, labor disputes, or any similar causes beyond our control.

to edit. People could make mistakes and you could stop without wasting a disk. We were doing a lot of music recording as well as drama and comedy for radio—shows like Red Rider and Fibber McGee and Molly. Also music for several TV shows.

Above: Radio Recorders 1950 rate card. Right: Bryant makes a pitch for his studio's recorders in 1954.

Bonzai: When would you say that Radio Recorders was most successful?

Bryant: Oh, all through the '40s, '50s, and early '60s. By the early '60s many changes in ownership had occurred. Brundage left around 1950. Dummel and I purchased his stock and we became a corporation. Four years later Minkler and Winters sold their stock to Devoe Rea and Howard Hutchins. Universal Recorders and Radio Recorders merged in 1960. The EMC Corporation purchased the controlling stock interest. Dummell and I retained our stock in the company. I left in six months, Dummel remained for several years. We were both minority stockholder victims.

Bonzai: Didn't Bones Howe work for you?

Bryant: Yes, Bones must have been in his early twenties when he started at Radio Recorders. He was a happy-go-lucky, eager beaver type of guy and very diligent. He also had musical knowledge and he loved recording. Eventually, he ended up doing production work and made quite a name for himself. People like Bones don't stay with you forever.

Bonzai: Why do you think the studio lost its prominence?

Bryant: There were many factors that led to the decline of the studio. We had

overexpanded with studios in several locations, thus tying up a tremendous amount of capital. At this time the music industry began to change. Multitrack recording became popular. Our large studios were not needed as more small groups were recording. Big band music was no longer in. We also lost several major accounts in 1962 because they opened their own facilities. At its peak, Radio Recorders' strength was in its equipment, its personnel, and the service we provided. We really went overboard giving good service and had a very personal rapport with our clients.

Bonzai: What do you think your biggest contribution was?

Bryant: I guess I was an innovator. I did what was needed to help us survive the best studio in the world.

Bonzai: When you look back, are you happy with your career?

Bryant: Hell, yes. And I'm not finished yet. I still do a fair amount of consulting, and I manufacture some useful little gadgets. My first love was mixing, though, and I have to admit I miss working with those big bands.



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Harry L. Bryant Vice President

Harry Bryant was elected president of the AES in 1959 and is one of many audio pioneers whose names have drifted into the obscurity of a rather poorly documented industry. As I was leaving, he asked that I mention some of his old friends and associates: Harland Harker, Charles Lowry, Dick Rittick, Bill Beall, Molly Slobe, Lowell Frank, Ben Jordan, Thorn Nogar, Artie Becker, Art Partridge, Ralph and Val Valentine, Walter White, Gene Brown, Warren Dace, Rose and Johnny Pallandio, Evelyn Blanchard, and Josephine Bevalaque. Also Dick Sexty and Jack Chapman.

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COMPACT POWER



by George Petersen

Like every other link in the audio chain, power amplifier technology has shown significant improvements over the years. Today, with distortion specifications of both consumer-type and professional units approaching a level of unmeasurability, and long-term reliability at an all-time high, users are able to focus their selection of a power amplifier on the sound of that particular device, and how it meets their needs. One strong trend which has surfaced among manufacturers is a virtual race towards designing higher-powered units in increasingly smaller packages. As an example, several models with power outputs in the one-kilowatt range that are packaged in chassis weighing under 25 pounds are currently available.

In achieving this goal, a variety of approaches have been taken. Some manufacturers have embraced the more radical technology of digital amplification and switching systems in their designs; others have worked with some of the newer output devices on the market; while others have chosen to refine more conventional designs. We talked to a number of amplifier manufacturers about their design philosophies and how these are affected by the trend towards compactness.

Carver Corporation, a well-known name in the field of compact, high

power amplifiers for the hi-fi industry, introduced the PM 1.5 model designed for the professional user a year ago. Since then, the 3½-inch high, 21 pound unit, which is rated at 450 watts per channel into eight ohms, has proven itself on the rigorous touring schedules of the likes of The Jacksons and Bruce Springsteen. Clair Brothers, the sound company that did both tours, worked closely with the amp's designer and company president Bob Carver with prototype testing and assisting with their advice based on years of practical knowledge of what they wanted to see in a power amplifier.

Bob Carver actually began thinking about the concept of an ultra-compact amplifier years ago, when he was with Phase Linear, a company he founded. "I remember seeing these big amplifiers coming down the assembly line," Bob recalls. "The old Phase Linear amplifiers had the power transformer mounted on the left side and if you picked one up by the front handles, it

would tend to twist out of your hands, being very side-heavy. I wondered if there was a way to lighten them up, and I wanted to design an amplifier that a normal human being could lift. I thought it would be a successful product, but it took several years before I was able to solve the problem related to the weight of the power supply.

"Most of the weight in the old technology amplifiers is in the heavy power transformers. I felt there had to be a way to make the power transformer smaller, which could be done by making it operate at higher frequencies, but I wanted to make it operate at 60 Hz. That would keep the cost down and make the circuit simple. This is where the magnetic field power supply comes in—it operates with a very small power transformer at 60 Hz, and the power is controlled on an as-needed basis."

Carver sees the future of the amplifier industry as a changing, constantly evolving field: "Within the next two years, I guarantee there's going to be an eight-pound, 1000 watt amplifier. Somebody's going to do it. It'll have so much power in such a small package that professional users won't even consider the weight and bulk any longer. As the weight and bulk comes down, implicit in that is an increase in efficiency and a simplification of the circuits themselves—not in terms of complexity, but a simplification in terms of exotic-ness. With modern integrated circuits, complexity comes almost for free: the work is up-front, generating the first circuits, but after that you can punch them out like cookie cutters. But exotic-ness is expensive—lots of metal, lots of steel, lots of copper, lots of moldings, lots of expensive big power transistors—and things like that will become a thing of the past. Amplifiers are going to be almost like giant integrated circuits: extremely efficient, and very, very smart, with a lot of intelligence inside the amplifier."

"There's no mystery in building a reliable amplifier these days—every amp on the market is reliable—but I question those who are jumping into switching technology just for the sake of saving some pounds," comments Wayne Freeman, of Soundcraft, who introduced their first line of power amplifiers at last fall's AES Show. The amplifiers utilize a combination of MOSFET and bipolar devices in the output stage and can respond to short peaks at five to seven times



Carver PM-1.5



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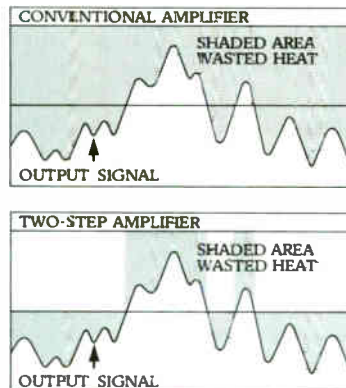
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of our commitment to design excellence. Its three-stage signal path optimizes the sonic advantages of traditional push-pull amplifier circuits. By combining a multiple level DC power supply with conventional power transformers and rectifiers, we’ve improved on previous efforts at increasing heat efficiency—anticipating the benefits of “Class D” and “smart power supply” amplifiers, without relying on unproven technology. This has enabled us to build a power amp that is more



compact and reliable, and which delivers unmatched audio performance. The diligent research that went into our Series Three paid extra dividends in the development of our economical Series One amplifiers. Both series feature our patented Output Averaging™ short circuit protection, dual isolated power supplies, calibrated gain controls, premium components throughout, and complete rear panel connection facilities that include balanced XLR and 1/4" jacks, octal sockets for active and passive input modules and a full selection of output connectors. Our dedication to design excellence goes hand-in-hand with our commitment to providing full-service support on all our products. When you put it all together, QSC amplifiers reflect the commitment to leadership, service and design innovation that has guided us since we were established in 1968. For more information contact: QSC Audio Products, 1926 Placentia Avenue, Costa Mesa, CA 92627, (714) 645-2540.



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their rated power.

"We have gone with what we call 'pulse power' design," explains Freeman, "which is the ability of a physically small amplifier to respond like a much bigger amplifier for a short period. For example, our SA150, a single rack space amplifier, is rated at 85 watts per channel, yet for a 5ms duration it will deliver 450 watts. This is due to our power supply design, the large filter capacitors, and the fact that we use a feed-forward, rather than feedback design. This allows a real time, self-adjusting output stage that reacts in real time to something that's happening, rather than things that have already happened.

"We have chosen to stay with a conventional approach in power supply design because of the difficulties encountered with these new high-speed switching supplies which switch in excess of 100,000 times a second and can cause pulses, RF radiation, and RF distribution through the system. Ten years from now, I think a kilowatt amplifier will fit in a cigar box-sized package," Freeman predicts, "and at that point, switching amplifiers will be reliable and free of the external radiation difficulties today's switching amplifiers have. There's no question that it will happen."

Peavey Electronics offer their customers a choice of both conventional (their CS-series of Class AB amps) as well as digital amplification (their Digital Energy Conversion Amplification, DECA series). Peavey's DECA line currently consists of the DECA 700 and 1200 amps, with 350 and 600 watts per channel, respectively. One interesting note is that the 1200 model, to be released this year, incorporates a digital power supply and weighs seven pounds less than the 700, while both are built in the same size package.

Design engineer Skip Taylor

explained the workings of the DECA design theory: "Basically the DECA is a digital power amplifier. We take the analog input signal and convert it into a digital representation. Amplification is done digitally, with saturation devices that are full-on or full-off, and control the current of the load. Then we change the digital representation back into an analog representation. It's a variation of the switchmode theme in that the devices are either full-on or full-off, but the similarity ends there. We tried the standard Class D switchmode approach in its purest form several years ago, but couldn't get the performance we wanted out of it, so we came up with a slightly different approach."

When asked about the chances of digital power amplifiers eventually gaining a strong foothold in the industry, Taylor replied, "I think so. It's headed in that direction, but the current state-of-the-art does not let you get those esoteric audiophile specifications in digital that you can in analog, but that is technology-bound right now. Better technology and better devices will allow better perfor-

Peavey DECA 1200 Digital Energy Conversion Amplifier



mances in digital amplifiers in the future. But digital amplifiers today have better audio performances in terms of listening—they have several characteristics that are not present in a Class AB design: bet-

ter transient response, better low-end response, and very good open loop characteristics with no feedback."

Another company that is extensively involved in the design of ultra-compact amplifiers is Power U.S.A., whose switchmode Mach 205 delivers 500 watts per channel from a single rack space cabinet weighing only 15 pounds. Company president Frank Dinges explains some of the problems inherent in traditional designs: "The technology of classic amplifier designs, whether you use vacuum tubes, transistors, or MOSFETs, is limited to an efficiency of 40-50 percent at best. The technology of our switchmode amplifier is theoretically 99 percent efficient. The prototype unit we showed at last fall's AES Show was 90 percent and the production models will be 95 percent efficient."

According to Dinges, the switchmode design, which he designates as Class As, operates by converting amplitude into time, and time into power. "It's essentially similar to a digital delay system, when it tracks an incoming sine wave and digitizes it by applying a value to it. However, the amplifier converts not into memory, but into a unit of time power and provides a pulse of DC—appropriate to the polarity—to the load relative to the amplitude of the sine wave.

"What we have," he continues, "is an amplifier which can deliver massive amounts of power in very little space, that overcomes all of the hinderances of classic amplifiers. Things such as TIM (transient intermodular distortion), which occurs when a very slow output stage tries to follow a relatively fast input stage, do not exist in the amplifier. In the case of the 205, the output stage switches at 10,000 volts per microsecond—it's impossible to even read the TIM content of it."

One more interesting aspect of Power's switchmode design is the use of their proprietary "ultra-linear modulation" which maintains the amplifier's dis-



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tortion characteristics in a linear fashion that doesn't change with frequency or power. "The result," Dinges notes, "is that we get the sound quality of a Class A tube amplifier. Actually ours is a pulse width modulation amplifier and that technology has been around for about 20 years, but the componentry to do it has not. We first showed our amplifier in Paris in 1980, and it would have cost about \$15,000 to produce then, but now the projected price is about \$2,000."

Like most designs, the switch-mode concept has both advantages and disadvantages. An obvious plus is the weight savings: twelve Mach 205s in a 36-inch roadcase provide 24 channels

Crown Micro-Tech 1000

project involved creating "a physically small amplifier that had 200 watts per channel and was capable of continuously supplying full amounts of power for extended periods of time. One of the problems in designing a power supply for such an amplifier, is that when you reduce the load, the voltage goes up on

power from the power line, and consequently controls the voltage of the power supply at a constant value.

"In order to keep size and weight down, we wound the transformer as a Class B insulation transformer, which allows it to run safely at temperatures as high as 140 degrees Centigrade.



of 500 watt amplification, which would weigh under 225 pounds including the case. An equal amount of power based on conventional amplifiers could easily approach a ton or more, an important consideration in touring sound applications. However, Dinges is quick to admit that the switchmode technology is not ideally suited for every situation: "The problem with switchmode technology at present is that it is not economical in low power applications: to make a dual 75 watt amplifier in switchmode is not an economic reality—bipolar technology still prevails in the low power areas."

The Soundcraftsmen PCR 800X2 is a unique entry in the field of high power, compact amplification, since it is a 5¼" rack unit housing two separate stereo amplifiers which can be used as four 205 watt amps or as a dual 600 watt amp in the bridged mono mode. The amplifiers can be removed from the rack face and used separately, forming two PCR 800 units.

Company VP/design engineer Paul Rolfes said the design goals for the

the power supply which causes problems with higher voltage stress in output devices. The solution we chose was what we call 'Phase Control Regulation'. We are constantly monitoring both the positive and negative power supplies to determine how much power we need to take from the power line at each half-cycle of AC. As the amplifier goes towards lighter loads, it demands less

Then we built a thermal sensor into the windings of the transformer, so if it begins to approach that temperature, we reduce the supply voltage and gradually retard the amp's power handling capability to keep it within the safe range of the transformer. Having a two-speed fan in there also helps to get the heat out and helps keep the amplifier's size down."

"We're not really concerned

"The ability to dissipate heat is predominantly the limiting factor in amplifier design."

about this trend toward more and more compact power amplifiers," says Bryston chief engineer Chris Russell. "From our experimentation and understanding of the laws of physics, we've found that there's no such thing as a 'free lunch'. We haven't gone in that direction for a couple of reasons—one is simply the audibility of the artifacts that can occur when you go into that packaging and power supply concept. There are methods of deriving greater thermal and packaging efficiency while still generating a large amount of measured power, but we have always found that those have a listening price tag that you can hear."



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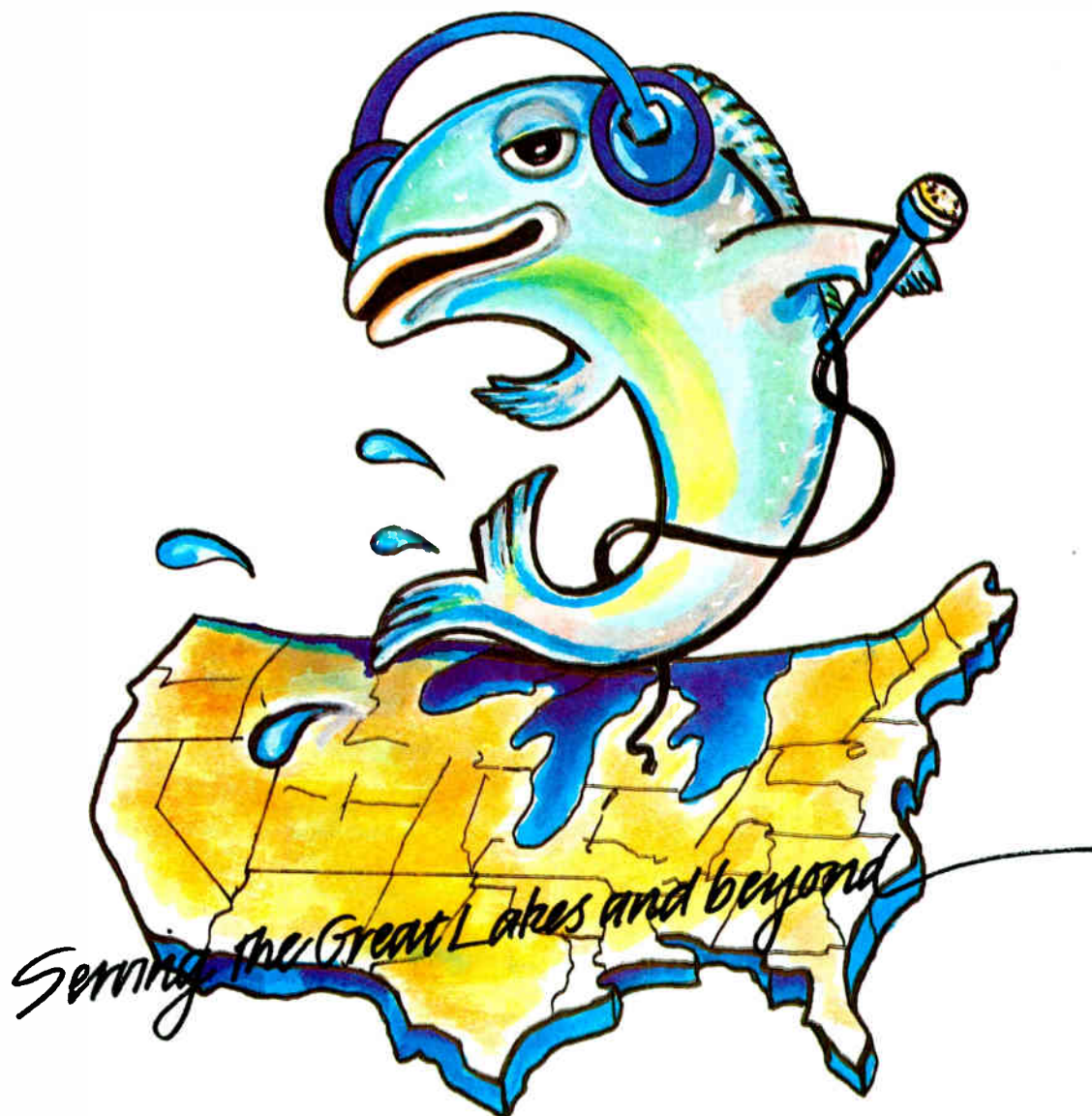
Bryston's top model, the 4B, offers 250 watts per side into eight ohms (800 watts bridged into eight ohms) and is housed in a $5\frac{1}{4}$ " rack mount chassis, hardly what anyone would describe as oversized. Yet the race towards compactness has never really been one of the company's main objectives. "We have moved in some small directions towards reducing the physical size of our amplifiers, in terms of eliminating useless air-spaces and such," Russell notes, "and there are obvious advantages to the lightweight designs from a utility point of view, but we aren't in that market. We want to make amps that are musically accurate first, with a mind toward utility admittedly second."

The "000" Series from British manufacturer Hill Audio represents that company's entry into the field of compact, yet high-powered amplifiers. The top model in the series, the dx3000, packs 550 watts per channel at eight ohms (stereo) or 3000 watts at four ohms in the bridged mono mode, into a three unit ($5\frac{1}{4}$ " high cabinet. Dave Ash, president of the company's U.S. branch, feels that particular model aptly demonstrates how the basic limitations of amplifier design apply in a practical sense: "The ability to dissipate heat is predominately the limiting factor in amplifier design. Now we can get over 5000 watts out of our dx3000, but we can't cool it such that we could market it as a 5000 watt unit, because it would thermally shut down at that level. At 3000 watts, we can run it day and night without any problems, so the amplifier's thermal dissipation is the limiting factor."

Ash says the amplifier's combination of both new and older design ideas makes the series fairly unique. "We've converted tube technology and utilized it in the transistor field. We put a transformer-coupled driver stage in the amplifier which gives a more linear response and keeps the negative feedback down around 20 dB. The other major advantage of using transformer coupling on the driver stage," Ash continues, "is that it interrupts the DC voltage chain. At that point you actually eliminate the circumstances by which you can dump DC onto a speaker—the amplifier can run safely without the need for protection devices in the audio path."

Eventually, Ash sees manufacturers going in the direction of building switching-type power supplies, but doesn't feel this will occur in the near future. "At this point in time, the component side of the technology doesn't really exist to do it efficiently in a small package yet. Once very high-capacitance, yet small-packaged capacitors become available and other components come down in price, then switching power supplies may become the norm and we might start seeing 2,000 watt, single rack

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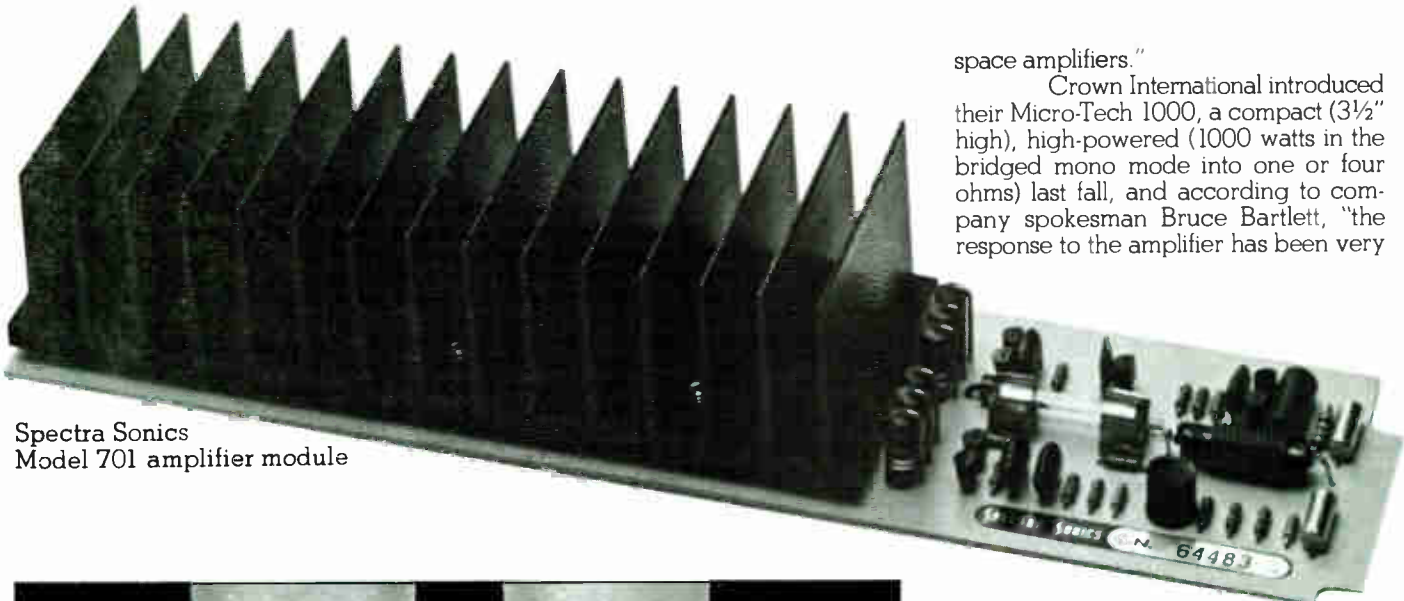
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space amplifiers."

Crown International introduced their Micro-Tech 1000, a compact (3½" high), high-powered (1000 watts in the bridged mono mode into one or four ohms) last fall, and according to company spokesman Bruce Bartlett, "the response to the amplifier has been very



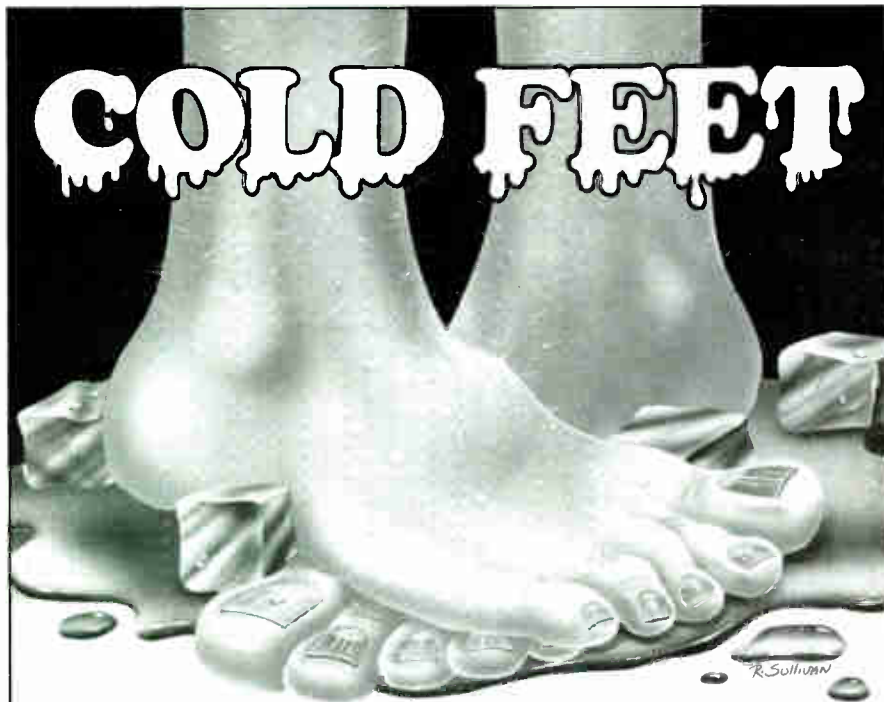
Spectra Sonics
Model 701 amplifier module

good so far. It seems to be what everybody wants: an easily portable amp that doesn't take up a lot of rack space, yet is powerful and is able to drive low impedance loads."

The Micro-Tech uses a patented grounded bridge design, which allows extreme voltage swings without putting the output transistors in series, resulting in low distortion and greater reliability. Heat dissipation can be a problem in such ultra-compact units, and Bartlett added that "extra attention must be paid to heat sinking and air cooling systems. The Micro-Tech 1000 also uses our ODEP (Output Device Emulator Protection) circuit which analyzes the temperatures and performance of the output devices, and prevents overheating by reducing the output until the temperature is corrected. Another unique temperature compensation feature is the reversible airflow fan, so the forced air direction can be changed to work with existing fans that many people build into their racks."

While Spectra Sonics have maintained their philosophy of modular power amplification over the years, their approach fits in well with current standards of compact, yet high powered amplifiers. The company's system is based on the Model 701, an 80 watt amplifier card (which puts out 160 watts when used in the bridged mode with another 701) which is inserted in a card frame that holds up to eight modules. The system's power supply is contained in a separate 5¼" rack unit that can power up to 32 modules. Spectra Sonics also makes crossover modules that fit into the system, for bi- and tri-amplified applications.

Company spokesman Bill Cheney says the Spectra Sonics philosophy is "having compact power with temperature stability, extremely low-noise, and good performance in a system where you can increase the configuration and



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QSC Series Three, Model 3800

power by plugging in another module and bridging it. Several kilowatts can be fitted into less than 18-inches of rack space, and in one system we set up, we got 11 kilowatts in a 48-inch rack, which included the amplifiers and power supplies."

QSC Audio products, of Costa

Mesa, CA, is an amplifier manufacturer which has channeled its resources in the direction of refining conventional designs. QSC's top model, the 3800, delivers 360 watts per channel into eight ohms, or 1700 watts bridged into four ohms. The 75-pound amp is built into a

5¼" chassis and uses a total of 40 output devices.

"I don't think anyone could disagree with the desirability of lighter weight, higher output amplifier products," comments QSC's Greg Hockman. "We've gone about as far as one could go with a conventional design. Our 3800 amplifier is very popular with touring companies and there are 80 of them on tour with Iron Maiden now, in a system with 96 Turbosound TMS-3s and 48 of their 24" subwoofers."

"We're quite successful with our amplifiers, but we're also looking at MOSFET designs, switching supplies—we're constantly in R&D. But right now, we feel the conventional Toshiba devices we're using have some advantages over MOSFETs. I don't think anybody expects amplifiers to be analog ten years from now: we're heading towards the digital age, and once the digital consoles become more common, then the rest of us in the audio chain will have to follow suit. Ultimately, it's more bang for the buck in a smaller box." ■

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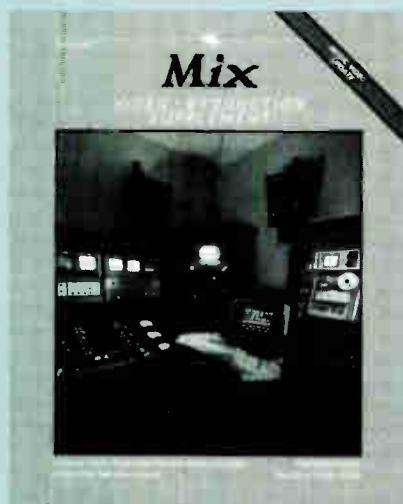
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VIDEO PRODUCTION SUPPLEMENT



Editor Eric Santacroce at work in edit suite A at Atlanta, Georgia's Crawford Post Production. Screen left: Ampex AVC-33 digital switcher; Right of Eric's face is Ampex ACE Touch Screen edit controller; Audio console, Logex-8; (through window) Ampex VPR-3s.

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VIDEO NEWS



by Mia Amato

VIDEO "SYNTHESIZER" FROM FAIRLIGHT

Looking at what's new in video "special effects" is a big treat each year at the *NAB* (National Association of Broadcasters) show. This year *Fairlight*, makers of the renowned CMI audio synthesizer, have entered the realm of video with a digital effects product.

Fairlight's Computer Video Instrument, or CVI, is a real-time video "synthesizer" combining a paint system with digital effects in a small and economically-priced package. Designed around a frame store, this modest console has ten faders to control hue, saturation, color value, pans, zooms, and blow-ups of an input video image in real time, plus a drawing tablet. A variety of paint and draw menus control brush width, texture, and color. No computer programming is necessary—the user can both select a menu, a color, or draw directly onto the tablet using an electronic stylus or even a fingernail.

Price for the CVI, with both

RGB and composite video outputs, is \$6,500. According to *Joe Newman*, director of operations for Fairlight, a video product is not unusual from a company known for its audio gear. "Actually, the company actually started in Australia doing research and development for video equipment fifteen years ago," he points out.

"A lot of software is still to be written," he adds. "Everybody who buys one will be given software upgrades for up to a year."

Some several dozen units have been ordered by both audio and video studios since the CVI's debut at the AES show last fall. Demonstration units have been installed at Fairlight's New York and Los Angeles offices; it is also available in LA through "sister company" *Village Recorder*.

The company has also loaned a CVI to video artist *Kit Fitzgerald*, whose rock clip work includes a conceptual video done to the *Doors'* "Strange Days" for MCA. "She's helping us with some of the applications for special effects," Newman explained.

Tour support company *TASCO* received their CVI in January, and plans to use it for production of in-house pro-

mo tapes and will take it, case-mounted, on tour. "We're still learning it," commented *Jay Gedankin*, who handles video and special effects for *TASCO*. "I'm very happy with the unit. For what it cost, it's a very powerful unit." Gedankin said the CVI will go on the road in combination with two Hitachi SK-91 cameras, Grass Valley switcher, CEL digital effects unit, and GE 15' x 20' projection system. He will also be "utilizing the paint capability for things like flow charts" on videotapes produced for other music industry clients.

Although the device handles pixellation, digitization, and other often-used video effects, image resolution is not as high as with the more pricey digital devices offered by competitors. Newman says an upgrade to higher resolution for graphics and titling will be available soon, as will an interface so the unit may be externally programmed by a personal computer.

PROFILE: JUANITA DIANA

The production was "I Got Lucky," a \$120,000 clip shot in 35mm for *EMI* and the *Greg Kihn band*. Director *Joe Dea's* fourth epic fantasy in the life of Citizen Kihn is storyboarded to include a giant gorilla, Kihn's manager *Matthew Kaufman* as the "evil submarine captain," and numerous Ultimatte and Quantel Paintbox special effects. In jeans, carrying a can of cola, producer *Juanita Diana* walked calmly through the now-routine series of small disasters that make the life of a video clip producer so . . . well, interesting.

"There are a lot of elements but Joe's been real good at prioritizing the shooting schedule," Diana noted. "We were on location yesterday with wires on the street and boards covering the wires; we did okay until a lowrider came by and caught his muffler in the boards, tearing up the boards, so we had to wait for a tow truck and pay for that," she added wryly.

Her company, *Video Caroline*, has gained a national reputation for its smooth handling of quirky, fantasy-concept promo clips—rounding up 50 Devo outfits for *Shooting Star* in Lawrence, Kansas, coming up with real and fictional celebrities for crowd scenes as in *Jefferson Starship's* "Layin' It On The Line," or duplicating the Land of Oz, complete with Dorothy, for Greg Kihn.

Juanita Diana grew up in a suburb south of Chicago. Video literacy was acquired at *Videowest*, when it was still an all-volunteer San Francisco production company.

"I was working nine to five at KPIX-TV as secretary to the general sales manager," she recalled, "and from six in the evening until two in the morning I learned how to edit, how to produce."



(L to R): Juanita Diana, producer; Mari Winsor, choreographer; Joe Dea, director.

She left her day job when MTV contracted with Videowest to supply weekly "music news" segments, and went on to produce Videowest series *Take Off* for USA Network and *Test Tube*, which aired on San Francisco PBS affiliate KQED-TV.

With *Take Off* co-producer **Mike Feeney**, she started Videoc Caroline "on the strength of one \$15,000 video" for The Call. She's now working on budgets in the six-figure range with directors such as **Ed Griles**, **Pat Kriwanek**, and **Joe Dea**.

"As a producer, if anything goes wrong, it's your fault, you have to pay for it," she explained. "I try to evaluate each job in terms of not only the budget—does the money cover the costs of the concept—but also in terms of risk for loss of reputation, risk in terms of pushing your crew too hard." She has turned down jobs when she feels a concept may wind up beyond its budget.

"One really good thing is this **Music Video Producers Association** that's come along," she added. "Their handbook is very useful in contracting and covers a lot of the pitfalls in this business." Her own advice for other producers: "Make sure you've got a nice fat contingency in the budget because you never know what's going to happen."

She also advises, "Be absolutely straight with your crew. Of course, they don't need to know all the politics... if something goes wrong, I'd rather just deal with it myself and not upset the crew, because it will cost me in down time if the crew gets upset."

Her own goals include getting into commercials. The company recently completed its first spot "with little alien

creatures and a space ship" for a local Datsun dealer.

"We got into rock videos because it was the most accessible thing; we'd been doing music programming at Videowest, not hanging out with the J. Walter Thompson crowd," she said. "Rock video was a wide open field. It still is; I mean, The Bangles' mother directed The Bangles' video. I really like this business. No matter what happens on a shoot, it's hard for me to ever be in a bad mood."

STUDIOS: NEW IDEAS IN POST

New York's **Sync Sound** has something special to offer producers who are mixing audio-for-video: a room with nothing in it. Owners **Ken Hahn** and **Bill Morino** have designed their control room with just an SSL-6000 series console and lots of cushy seating. Everything else—Otari 2, 4, 8, 16 and 24 track recorders, one-inch VTR for layback, Sony digital recorder—resides in a nearby "equipment room," and is rented, per job, as needed by the client.

The marketing strategy here is modular. Producers can book hourly time on just those bits of equipment they require, without paying a "room rate." The facility itself saves time and money because technicians can prepare tapes for other sessions, strip sound effects or make dubs, without bothering the current client. As an added bonus, the control room is spacious by New York standards and extremely quiet.

Frame from "Cats" music video, "Rum Tum Tugger" created by Creative Concepts, New York.

Astute readers will note that this is similar to the way most video post studios are laid out, with tape and maintenance in a separate room. That was the intention of Bill Morino, chief engineer of Regent Recording for seven years. (Hahn and several other staffers are also Regent alumni.) Audio-for-video work done recently here include remixing for Lincoln Center's 25th Anniversary show on PBS, a Kool & The Gang special and a digitally-recorded video project for Peggy Lee. Additionally, the shop is posting 130 episodes of the TV series **Animal Express** and spends a lot of time preparing four tracks and final one-inch video laybacks for promo clip producers.

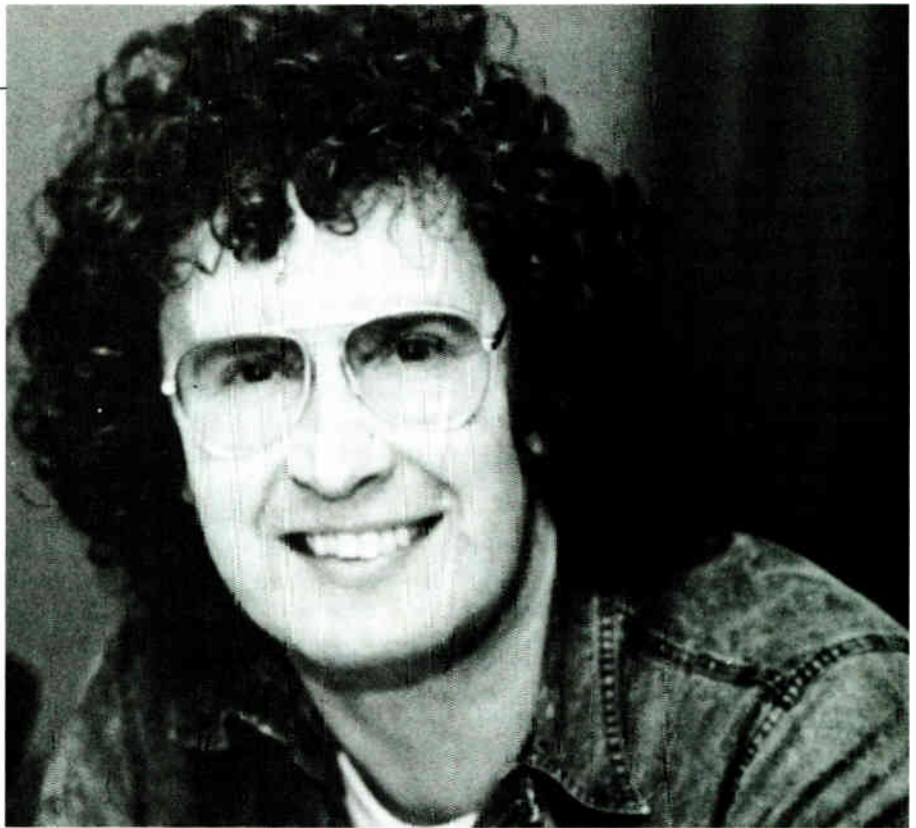
There's a lot more than meets the eye at Sync Sound—like Morino's proprietary time-code-based editing system, built around an Adams-Smith synchronizer, a new studio to accommodate budget productions. If you're in the city, it's definitely worth a visit.

San Francisco Film-Tape Center recently opened a 100' x 145' x 22' feature-style soundstage. The former warehouse space had been converted by **Carson Productions** to handle interiors for the TV series "Partners In Crime," with catwalks, partial grid lighting and numerous flats and sets, including the interior of a two-story mansion. The new owners are Hollywood film veteran **Don Brown** and set designer **Jim Shumaker**.

The pair have been collecting film sets for years, and can offer clients



Malcolm Gerrie, executive producer of "The Tube"



everything from nightclub sets and said mansion to an authentic Braniff airliner interior which breaks away into four-foot sections for shooting, plus a full scene shop. Other amenities include a 50' x 50' insert stage, offices, drive-in access, and acoustically-engineered hard cyc.

If your video project is non-commercial in content you may qualify for the **Media Alliance On-Line** program, which can get you into top New York editing facilities such as **Reeves Teletape**, **Broadway Video**, and **LRP Video** at 50 percent to 90 percent off rate card.

Robin White of the Media Alliance stressed that the program is open only to media artists and independents with non-commercial projects; a peer panel reviews each application, which takes about three weeks. By special arrangement with video studios in New York, time is made available night and weekends for one-inch or interformat (3/4-inch to one-inch) editing, Quantel special effects, titling, audio mixing and layback, and film-to-tape transfers—all on state-of-the-art equipment and at really cheap rates.

The Media Alliance and its access program are funded in part by New York State Council on the Arts (NYSCA) and NEA. Joining the organization costs \$20, but you don't have to be a state resident. In fact, White encourages media artists from other states to apply and said she'd love to talk to anyone interested in setting up a similar editing access program in other cities. For info and/or applications, contact her at WNET, 356 West 58th Street, New York, NY 10019.

Also in the News . . . credit **Lou** and **Richie Vetter** of NY's **Blank Tapes Studios** for the \$250,000 promo clip for the Broadway musical **Cats**, commissioned by the **Shubert Organization** to promote a national tour and original cast album.

Richie V. said the five-minute song segment, "Rum Tum Tugger" was recorded digitally on the studio's new Sony PCM 3324. "The original cast recording features a large orchestra," he explained, "but we felt that a cleaner, more open sound would work better for the video." After filming, actor **Terry Mann's** vocals were re-recorded in the studio with synthesizers and a drum machine, then guitar and horn tracks were added in the final 24 track mix. Lou Vetter credits **Willie Austin** of **Glen Glenn Sound** (LA), **David Smith** of **Editel** (NY) and **Sid Zimet** of **Audio Force** (NY) for their good advice during post: "It was very helpful to have experts

available to answer questions based on their hands-on experience." **David Seeger** of **Today Video** edited the clip on tape; **Mike Negrin** did the filming.

HOME VIDEO: SOFTWARE NOTES

The words "Video 45" are now a registered trademark of **Sony**, by decree of the U.S. patent office. Other folks in the business are now calling their lower-priced, video music cassette compilations "video EPs," borrowing the extended-play concept for homevid programs featuring several clips of a particular act. . . . **RCA Video** has released a concert and clip hour of **Krokus** for cassette and disk. "Sing Blue Silver" is the latest homevid title for **Duran Duran**, released through **Thorn/EMI Video**. The "Secrets" of guitar wizard **Rick Derringer** are revealed on an instructional tape which incorporates concert footage and Dubner special effects. Produced by **Marc Sayous** of **Video Syndications** (SF), this homevid project contains three new tunes by Derringer; one segment aired on MTV last fall.

MTV BUYS BRITISH

Britain doesn't have MTV but it does have **The Tube**. Now MTV has **The Tube**—the **Fourth Channel's** rock concert series that's a hit with the Brits the way **Saturday Night Live** was here.

The format includes live performances by four bands in each one-hour

show; where else might one find Tina Turner jamming with Heaven 17? Executive producer **Malcolm Gerrie** even includes unsigned acts. Last year, **Tyne Tees Studio** tried to syndicate **The Tube** to U.S. TV stations and even pitched PBS affiliates. Currently, MTV will be running the show on the first Sunday of each month, through the rest of the year, at 11PM EST. Could this be the **Masterpiece Theatre** of rock video?

VIDEO PEOPLE

Fusion Film's **David Naylor** knows how to draw a crowd: the throngs of folks appearing in the clip for **General Public's** "All The Rage" were lured to the Hollywood offices of **I.R.S. Records** for a promotional giveaway of 1,000 copies of the band's debut album. Sorry to say there are no real celebrities in the clip for "Lay Your Hands On Me" besides the **Thompson Twins**. The 80 or so extras are all look-alikes hired for the London shoot by director **Dee Trattmann** and producer **Frank Hilton**.

NY subway artist **Keith Haring** and Talking Heads' **Tina Weymouth** co-star with **Fred Schneider** of the **B-52's** in the clip for Fred's solo single, "Monster." This fun clip, with clay-animation creatures, was directed by **Mary Lambert** for Warner.

After a five-year absence, **Ruth Scovill** is back at **One Pass Video** (SF) as director of operations for the studio and mobile facilities. She was with

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World Radio History



PHOTO: DAVID FINEMAN

Chris Bearde

A Top TV Producer Keeps Pumping Out Hits

by David Schwartz

"I was born in England, in 1936. World War II started when I was three and my dad went off to fight for six years. My mom and sister and I went to bed every night with bombs falling outside," recounts prolific television writer/producer Chris Bearde. "I became a competitor. Hollywood was easy after that."

Before Hollywood, though, Chris spent ten years growing up in Australia and making a name for himself in children's programming. In 1963 MCA gave Bearde an offer to write for

Canadian television, "where I stayed for 7½ years and had a number one rated show called *Nitecap*. I wrote the whole hour of late night TV by myself and appeared in it . . . it was a great training ground."

Bearde sights another of his Toronto-based shows, *The Rock Scene: Like It Is* as a turning point for him. It was in the style of Canadian Broadcasting, an erudite semi-documentary which featured The Doors, The Jefferson Airplane, Eric Anderson, Dionne Warwick and a few others in concert and off stage. The host was to be The Beatles' manager, Brian Epstein. "But then Brian Epstein died—with my script on his bed. And I got swept into the investigation of his death. Two days after he died I got a letter from him. That letter proved to everybody that his death was an accident."

At the height of Bearde's Toron-

to production endeavors, he met with *Laugh-In* producer, George Schlatter, who convinced him to move to the States and contribute material like his "dirty little old man on the parkbench" routine to Schlatter's high flying comedy series. *Laugh-In* led to the *Andy Williams Show*, which Bearde produced for three years.

"We created things that made Andy a little hipper," says Bearde. "We brought in a lot of good bands: Blood Sweat & Tears, the Jacksons." The Williams show also showcased its All-American house band, the young Osmond Brothers, a group for which Chris continued to script as they developed into nightclub and solo television artists.

While developing musical show material for other artists including The Supremes, Elvis and Michael Jackson's first television special, Bearde created

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World Radio History



“**T**he show’s not aimed at the program buyers. It’s aimed at all these kids who’ve been watching music videos.”

the *Sonny & Cher Show*, a tightly edited weekly series that ran with critical and popular acceptance for four and a half years. Next, he put together “a little show that put me over the top and allowed me a few years rest: *The Gong Show*.”

While little more remains to be said about *The Gong Show*, it established Bearde as one of the elite variety show producers able to get around the networks’ rules and accepted formats. “My shows are always counter to the network philosophy of what should be a hit. I am a writer who found a way to get my own material done the way I wanted.”

What Bearde really likes to do is format. He prefers “an ironclad killer format, like *Family Feud* or *The Gong Show*, so I can bring in four or five writers who I’ve cultivated over the years and who I trust to write it just the way I would. The message has already been established in the format: have fun, relax, have good entertainment. That’s it. It’s just what’s on the screen and nothing more. I don’t have anything deep to tell them. But I’m a great believer in total scripting of material. I’m also a great believer in being able to direct it so that it looks like it’s totally natural and relaxed. And I try to make an atmosphere in the studio where people will just sort of flow and have fun.”

Bearde considers his latest television project, FTV, an ‘80s version of all

of his other shows. The MCA-backed half-hour weekly series is being promoted to independent and network affiliate programming buyers for the ‘85 Fall Season. Observes Bearde, “When some of the older guys in suits, who buy for the stations, first look at it they can’t quite work it out because most of them don’t know anything about Prince or ‘Purple Rain’ or whatever the kids are into. But then they see George Burns and they feel comfortable.

“But the show’s not aimed at the program buyers. It’s aimed at all these kids who’ve been watching music videos. And when that audience sees this show they go, ‘Oh, God!’ They can’t believe what they’re seeing. It’s like the Cheech & Chong syndrome. The kids will go to their moms and dads and say, ‘We’re going to watch FTV.’ And they know their parents think it stands for Funny TV or Free TV but the kids know it stands for Fuck you TV, or something like that. The MCA ad says “FTV” and then under that it says, ‘Don’t Ask.’ I told them it was great they’d even go that far.

Stephen Bishop (“On and On,” Theme from “Tootsie”) will host FTV, with regulars including Tony Basil and Don Felder of the Eagles. “I saw Stephen in *Puttin’ on the Hits* (another Bearde creation) for about two seconds and asked him to get back on the stage and do a few one liners, which I put in the can.”

While music will have a high profile on FTV, songs will run no longer than about 45 seconds. “Because we’re in the ‘80s, it will be a fast paced show. Once the joke is over, we’re out of the song.”

Whether or not FTV tops the charts, Bearde is already putting together the financing for his next outing, a political satire. “I think Americans are ready in the ‘80s to laugh, not so much at themselves, but at their politics. It’s become so ridiculous having an actor in the White House. I’m a director and producer and I know about actors.

“It’s great having a relationship with the general public,” says Bearde. “People don’t know me like Johnny Carson or David Letterman or people who’ve been on for all those years, but my life is a series of events that gets through to millions of people. These shows are my personal things. I’m an entertainer, an individual showman.”

Being an individual is what scares Bearde about committing any more than one show to a big company like MCA. “Everything is so corporate today and I’ve always been this individual guy fighting not to be annexed. I really don’t care if my name is stenciled on some parking space for 30 years. Some people think I’m crazy because of the way that I work, because I don’t do it like everybody else. But you see the results. For the way that I work, these are the results.” ■

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MUSIC VIDEO PRODUCTION'S MOST VALUABLE PLAYERS

by Lou CasaBianca

The Mix-MVP Awards were created as a form of acknowledgement of the combined talents of the creative artists, technical craftspeople, writers, directors and producers who create Video Music. So here are the MOST VALUABLE PLAYERS—the team behind the scenes and the backstage stars of MUSIC VIDEO PRODUCTION, as voted by Mix readers.

1985 MIX MVP AWARDS™

AUDIO SWEETENING		
■ Nile Rodgers	Duran Duran	"The Reflex"
CINEMATOGRAPHY		
■ Daniel Pearl	Duran Duran	"The Reflex"
COMPUTER ANIMATION/GRAPHICS		
■ Peter Conn & Brian Samuels	Al DiMeola	"Sequencer"
■ Charlex & Bob Ryzner	The Cars	"You Might Think"
CONCERT PERFORMANCE		
■ Jon Roseman & Dave Stewart	Eurythmics	"Right By Your Side"
■ Brian DePalma	Bruce Springsteen	"Dancing In The Dark"
DIRECTOR		
■ Charlex & Jeff Stein	The Cars	"You Might Think"
EDITING		
■ Bill Weber & Danny Rosenberg	The Cars	"You Might Think"
FILM ANIMATION/GRAPHICS		
■ Jerry Kramer, Wayne Isham & Bill Morgan	Rod Stewart	"Some Guys Have All The Luck"
HOME VIDEOGRAM		
■ Vestron Video	Michael Jackson	"Thriller"
■ Warner Home Video	The Cars	"Heartbeat City"
■ Sony Video Software	David Bowie	"Video 45"
INNOVATION		
■ Charlex & Jeff Stein	The Cars	"You Might Think"
LIGHTING		
■ Daniel Pearl	Duran Duran	"The Reflex"
LONG FORM VIDEO		
■ Kate & Derek Burbidge	The Police	Police Around The World
MOVIE SOUNDTRACK		
■ Albert Magnoli Cavallo, Ruffalo & Fargnoli, Steve Panama	Prince	Purple Rain
PRODUCER		
■ Ken Walz	Huey Lewis & The News	"Heart of Rock 'N' Roll"
■ Lexi Godfrey	Frankie Goes To Hollywood	"Two Tribes"
SCREENPLAY		
■ Charlex & Jeff Stein	The Cars	"You Might Think"
SET DESIGN		
■ Henry Selick	Rick Springfield	"Bop Till You Drop"
SPECIAL EFFECTS		
■ Joseph Vogt	Rick Springfield	"Bop Till You Drop"
MVP TECHNOLOGY HALL OF FAME		
■ Computer Image	Analog/Digital Real-time Video Animation	
■ Ampex Corp	Ampex Digital Optics (ADO)	
■ Quantel	Digital Graphic System (Paint Box)	
■ Sony Corp	U-Matic Cassette (Helical Scan)	
MVP HALL OF FAME PIONEERS		
■ Group	The Beatles	
■ Solo Artist	David Bowie	
■ Director	Richard Lester	
■ Producer	Jon Roseman	
■ Music Video Label	Pacific Arts Video	
	Mike Nesmith & David Bean	
MVP VIDEO OF THE YEAR: Mix Reader's Choice		
■ Charlex & Jeff Stein	The Cars	"You Might Think"

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World Radio History

—FROM PAGE 58, VIDEO NEWS
 Reeves Teletape, in charge of that company's three large soundstages and remote trucks. **Sue Steinberg** has been named director of program production for **RCA Video** and will be developing long-form product there; **Claude Borenzweig** is now manager of video production for **Polygram Music Video**.

Donna McLaughlin of **Crescendo Productions** (NY) wrote and scored Cable News Network's current promo theme. "Experience Life" is running on radio as well as CNN and WTBS broadcast schedules.

Video People: VCA Teletronics editor **Bob Mowen**, who edited the **Bruce Springsteen** clip, "Dancing in the

Dark," posted a half-hour MTV special on The Boss, wrought from 16mm concert footage from the Meadowlands Arena and earlier E Street Band material. Mowen's also been cutting the MTV "Liner Notes" interviews, including a segment providing **Madonna** with animated sunglasses, created with ADO and Quantel Paint Box by UA art director **Maureen Nappi**.

ONO DOCUMENTARY

An hour-long documentary on **Yoko Ono** produced by **Barbara Graustark** for Polygram Music Video recently emerged from a month's work on sound sweetening at **Editel/NY**. "We

had to retrack every piece of music and most of the important interviews," reports sound editor **Jonathan Porath**, who said the job required re-synching a dozen songs and home movies dating back to 1937.

VIDEO ROYALTY AGREEMENTS: YOUR PIECE OF THE PIE

When it comes to negotiating music video royalties, "music industry people don't understand the film side, and film people don't understand the music side; they have different vocabularies."

Los Angeles entertainment attorney **Evanne L. Levin** found that to be true when she made a recent informal survey of record company and film company legal departments on the issue of video royalty agreements for performers and media artists.

Fortunately for her clients, Levin knows the contracting process from *both* sides. After working in the legal departments of ABC TV and Paramount Pictures, she "crossed over" into the record business. She became a pioneer in the wilderness of music video law while "working on the day-to-day negotiations" for **Olivia Newton-John's** successful long form video, **Physical**.

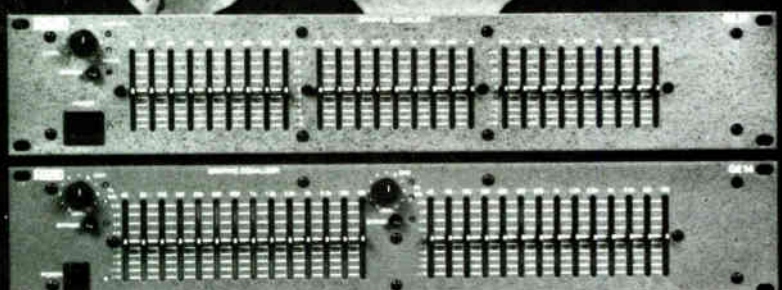
According to Levin, most major record labels have developed standard contracts for clips and for long-form video and film projects. She advises producers, directors and artists not to try to tackle record company legal departments head-on with their own contracts. Instead, they should take the label's standard contract and get their own lawyer—one who specializes in entertainment law—to look over the contract and negotiate with the label to add, delete, or change certain clauses.

Performer Royalties


Recording artists cutting a video deal should ask for many of the same considerations found in record company contracts when negotiating for a royalty, Levin says, "for example how royalties would be calculated on free goods, premium sales, discounted or foreign sales. And the royalty should be calculated on 100 percent of sales. There are still some dinosaur companies who'll try to put in a 90 percent of sales figure in the first draft."

Royalty rates for artists depend on how big the act is, whether the talent is contributing financially to the venture, and whether the video company will distribute the project itself or through a sub-distributor. About four percent of the unit sales price, twelve percent if distributed by another company, is standard, according to Levin, who recommends "trying to get more," particularly if the act is established.

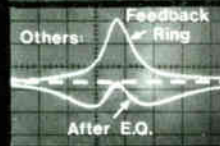
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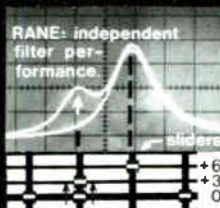

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Producer/Director Royalties

Despite much interest by promo clip directors and producers in receiving a royalty from a record label if a video clip they produce is "exploited" for cash, sold to a TV outlet or made into part of a video program, Levin says few major labels are willing to add such a clause to a promo clip contract.

"CBS, for example, is one company that has a policy of offering producers and directors only a flat rate for production, no matter what happens to the clip after it's produced," she says. "Other companies like MCA may do what's called a 'buy-out.' A buy-out is a one-time additional payment for the right to exploit the video for another use, a payment beyond the production fee," Levin explains. While a record company may wish to postpone payment of a buy-out fee until a distribution deal is made, she suggests that producers and directors ask for their buy-out money up front. They may also try to negotiate for a larger flat fee that takes potential sales into account when they are contracting for production services.

"The third position a record company may take is a royalty structure and so far that is only being done at Capitol/EMI, through Picture Music International." The PMI contracts only cover

producers and directors working on clips for Capitol/EMI artists, according to Levin, and the royalty rate is a standard one percent of the distribution price, or five percent of the company's net receipts when the program is distributed by some other company. The royalty is payable after the video project has recouped its costs, and after taxes and distributor surcharges have been subtracted.

"A distributor surcharge is when the label pays itself for distributing your project, even if they have a sub-distributor," Levin explains. This cut may be as high as 35-40 percent of incoming receipts, a significant bite out of money royalties that would be paid on. "Try to get that out of your contract," Levin advises. "If that's impossible, ask for a 'favored nation treatment,' which would mean the company would agree to lower its distributor fee for you if it had lowered it on a contract for somebody else."

Creative Control

Artists should retain right of approval over storyboard and concept, said Levin, but the video producer should pick the director.

"The director really is the main creative element involved," she points out, "What we're really talking about

here is a motion picture. In film, the actor doesn't choose the director."

It's up to the producer to negotiate separate contracts with director and crew, although the artist can have input. "For *Physical*, Olivia wanted her own hairdresser, who was hired for \$850 a day," says Levin. "She also picked the choreographer she wanted to work with."

Levin thinks that on-set representation by the record company, proposed by the Music Video Producers Association, "makes a lot of sense," as does including a clause to ensure the producer is not liable for charges caused by the artist showing up on the set drunk, late, or not at all.

"If it wasn't so prevalent we wouldn't be talking about it," she adds. "and on the other side of the coin, how else is the record company going to know if half the production budget is being wasted?"

Levin also warns producers to negotiate for a delivery standard of "technically acceptable," not "commercially acceptable." As in many record deals, she explains, a company may decide not to release a film or video project for some time, and if a final payment schedule is tied into acceptance, the producer may wind up waiting years for the rest of the money. ■

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International Sales, New Networks, and Sponsorship



no home broadcast base). Coming up fast, though, are two new sorts of markets, one domestic, the other foreign.

The domestic first: station groups. For the last few years independent stations or groups of both indies and network-affiliates with common ownership have been buying more and more programming. At the most recent National Association of TV Programming Executives (NATPE) show in January, buying by independents finally out-dollared affiliate buying, 60/40. But the common-ownership group is an uncounted, far more powerfully growing force to be reckoned with. Up until last year, the FCC limited station ownership to seven FM, seven AM and seven TV broadcasting licenses per owner. Now the limit has been raised to 12 of each, and more if the majority of TV stations are UHF. While this may seem to be a move limiting competitiveness in television broadcasting, actually it is a very positive step for independent producers. With 12 stations to program, owners of the group are likely to feel secure enough to back many of new production — instead of merely purchasing reruns. Post-Newsweek stations, The Tribune Co., RKO Broadcasting, Westinghouse, Times-Mirror, and a few other station groups will soon likely emerge as important program purchasers.

Considering that 12/12/12 owners are even more in need of radio programming than TV, they just may like the idea of projects with radio tie-ins. Music

ple of the first of these three. Long form videos bought for "special event" broadcasting—on MTV or elsewhere—are a typical example of the second. This column will chiefly concern itself with the last and most often overlooked category. Eventually, there may be more bucks there than in the rest of the ball of wax.

Of course, the three categories mix and match. Say you're selling a long form "special." MTV may run more of these than anybody else you're familiar with, but they're far from the only possible customer. NBC, ABC and CBS are only the most obvious of other possibilities, so jump not to conclusions. Many a cable or satellite network has been in and out of the market for this sort of programming. (Most recently, Ted Turner's competition with MTV seems to have incontrovertably bitten video dust.) Right now, the most interesting opportunities for programming sales continue to be other American cable channels, such as pay channels Showtime/The Movie Channel, HBO, Bravo, etc.; and superstations (WTBS, WPIX, WGN, WOR, and may as well include USA Network—which behaves like a superstation with

by Neal Weinstock

There will always be one overpoweringly good reason to give away music videos: they are made to be commercials for records. Most commercials on television are paid for, after all, so record companies are indeed fortunate to get airplay gratis. Anyplace where owners of rights to music videos can sell some of those rights, and not hurt the black vinyl's publicity or profits, must be: a) in a medium that competes with the record, and may even take sales away from it; or, b) within the media one might normally use to advertise the record, but in a form that is different from what consumers are used to getting for free, so that they don't mind paying for it; or, c) outside the media that one might normally want to use to advertise the record.

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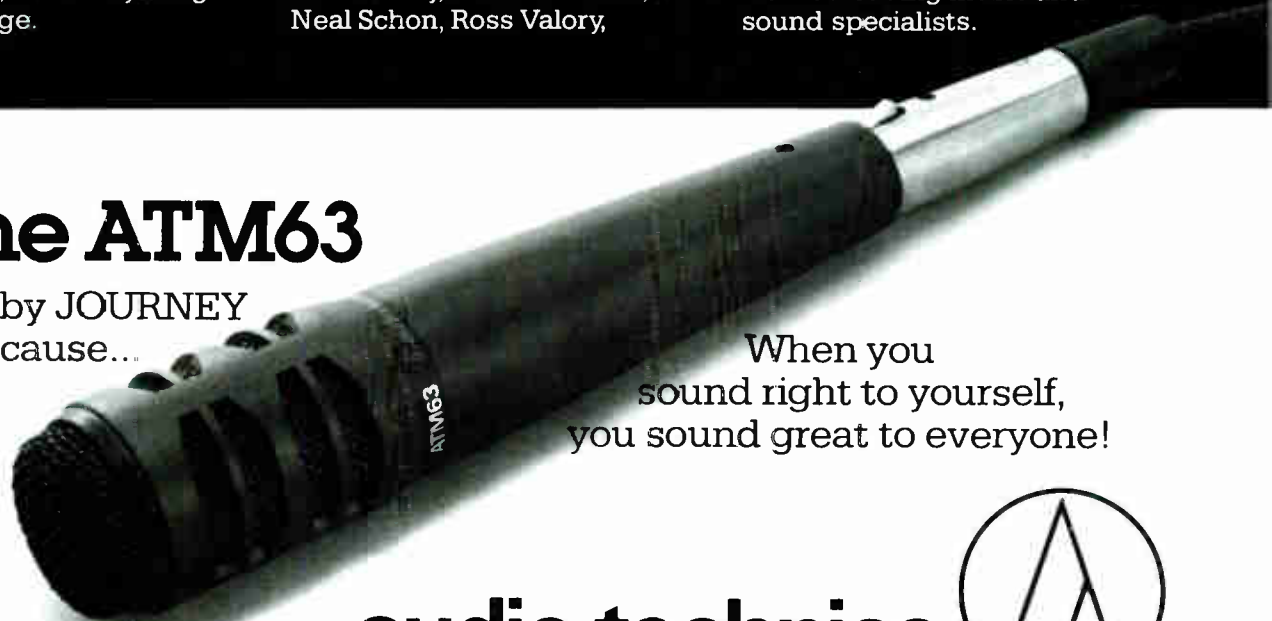
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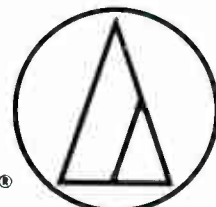
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World Radio History

Foreign broadcast possibilities are quite clearly blooming, blossoming, limitless and, for the time being, not worth much because of the inflated value of the U.S. dollar.

video may be commonly assumed to have some tie-in with radio.

As for the foreign broadcast possibilities: they are quite clearly blooming, blossoming, limitless, and for the time being not worth much because of the inflated value of the U.S. dollar. While there is no sign the dollar is going to shrink much in the near future, the good news is there is every sign that foreign sale possibilities will grow so much as to be worth pursuing despite the high greenback. To wit: in the last couple of years, a music video channel (Music Box), a direct broadcast service with a fair amount of music programming (Sky

Channel), and new privately owned national broadcast networks in Britain, Italy, and France have all come into being. Also, new stations and more networks are coming in those and other West European countries, Latin America and Israel. (There's no big money to be made in the latter two areas, but that has to change someday, too.)

In the above discussion of domestic station groups we spoke of selling long form programs, because clips, though some few will be sold, will always function as promotions for the disk. Thus they will always be a give-away for all but the most successful acts or for limited

exclusivity on first-run showings. In Europe, strong broadcasting dominance by quite socialistically-inclined governments has led to a strong union presence, which in turn seems to be leading toward pay-per-clip. In France, the new and privately owned Canal Plus pays \$100 per play, while the three state-run channels have been boycotted by the French record industry association (SNEP) to achieve similar payment; SNEP may have already won by the time you read this.

Music Box (based, as is Sky Channel, in London) now airs in a million cable homes across Europe and the U.K., for 18 hours a day. It is not expected to be in the black until at least 1987, so don't expect purchase prices to go high. On the other hand, its playlist, according to programmer Jane Kelly, is "far less restrictive than MTV's."

Where the channel's playlist does tend to get a bit restrictive is to our benefit, too. They play mostly American or British mainstream pop: how nice not to have to compete with French, Dutch or German rockers. To keep this playlist in perspective, it should be noted that annual video clip production was recently estimated (at February's Midem conference) at 2,500, with 1,500 made in U.S.A. and 800 from Britain. That doesn't leave much from everywhere else.

Sky Channel is generally conceded to program itself much like a U.S. superstation—lots of old movies, sports, and reruns. Still, they show a few hours a week of clips, and have shown several hours of long-form. Sky Channel's music programming is even more mainstream Anglo-American than Music Box's, understandable considering the station is owned by conservative Australian presslord Rupert Murdoch.

MTV has also moved into European and Japanese licensing agreements, to be taken into account in any agreement one may sign with the company that may quickly become to music video what IBM is to computers.

Other foreign networks, notably in Italy and Germany, are buying and showing long and short-form videos. The German government-owned networks have long been a source of production funds for artsy feature films—to Americans as well as German filmmakers. The current conservative government there favors funding more commercial programming, so presales of long-form music video programs are a distinct item to check out in your next meeting with ARD or ZDF.

The Cannon Group, mentioned last year by this writer as friendly to music video in feature film form, is shaping up as likely owner of a new Israeli broadcaster. They aren't buying programming yet for TV, but they do own theater chains in Italy, Holland, and Bri-



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tain. Theaters in Europe quite commonly show music videos before the feature, along with 60 second commercials. There is solid, if not spectacular money in theatrical showings—at least it may be enough to help get the video made in the first place. Try approaching one of the British theater chains first.

Several companies have long been attempting to establish an American theatrical circuit for videos as pre-feature short subjects. Ed Steinberg of Rockamerica, the club distributor, would seem to have the best shot at setting up such a network, and we wish him well, but feel pessimistic about chances of success—as he seems to in a recent interview. There's not much in any such scheme for theater owners who incur extra handling costs and scheduling problems, even if the public like it . . .

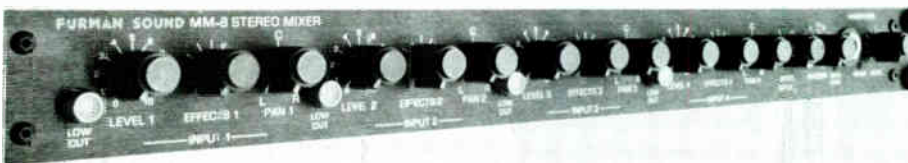
Finally, a couple of interesting sponsorship schemes have recently come to our attention; each ought to help many more mu-vids get made. However, each incurs risks of audience displeasure, and so must be experimented with carefully. Mersh Greenberg of Silvercup Studios reports that he has signed a contract with licensing specialist Lenard Jacobs (the man who licensed James Bond's gun and the Dukes of Hazard's car, among other "things that are cuddly or things that go bang," as Jacobs analyzes that business) to arrange a new service for mu-vid producers shooting at the New York studio. Silvercup will subsidize a production for a few thousand dollars in return for rights to sell product exposures in the video to corporate America. In other words, anytime your artist sips a cola, it's **their** cola.

Jacobs says the name brand usage will never be allowed to become obtrusive. "That would be destructive to everybody's interests." Pizzas, cola, cars and clothing must be used in videos, and product labels do have a habit of showing. The label-owners may as well pay for the privilege.

In a similar vein, people have long toyed with the idea of selling commercials on home video. The first experiments in this area are now being made; the very first, arguably, is Kartes Video's "Eat to Win," a non-mu-video directed by that very-mu-video-maker Bob Giraldi. If "Eat to Win's" spots for Red Lobster's restaurants don't prove too intrusive for the consuming public (and the spots are only at the beginning and end of the tape), is this a preview of long form home music videos to come? Says Giraldi's producer, Antony Payne, "It's a very good idea, now that you mention it." . . .

Finally, it seems elementary, but the Delite/Polygram audio release of Kool and the Gang's **Tonight** includes a blurb for RCA/Columbia's video release of the same title. Shouldn't such cross-merchandising be in everybody's contract? ■

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PRODUCERS-DESK

by N. Pasquariello

He has composed music for some 33 projects in the last four years, including major corporate radio and TV commercials, travelogues, fashion videos, international theatrical films and documentaries for TV, cable, and theatrical release, as well as corporate industrial shows.

Gary Remal currently heads his full service Remal Music Design company from offices within easy earshot of the San Francisco Bay fog horns. He also maintains a Southern California business run by multi-talented and fre-

quent collaborator—musician, composer, arranger and producer Michael Boyd.

The operative adjective thus far in Remal's career has been "diversity." He strives to meet new challenges by taking on composing work for virtually every form of media. Remal acknowledges that some media—e.g. theatrical feature films—cause him to do far more "dredging" into his creative well than others; the reason he believes that many film composers become married for life to a single medium of expression.

Remal's theatrical film credits in-

clude **Breakin'** (1984), **Maria's Lovers** (1984), **Wild Rose** (1984), **Dark Circle** (1983). Television credits: "Missing Persons: Four True Stories" (1984) (for HBO), "Vanished, Missing Children" (1983) (for HBO), "Five American Guns" (1983) (for HBO), "The UFO Experience" (1983) (for KP1X-TV, San Francisco), "Back in the Mainstream" (1982) (for KRON-TV, San Francisco), "The Sporting Life" (1982) (Viacom). His major corporate clients have included Avon, Atari, Bank of America, Chevron, Crown Zellerbach, Macy's, Safeway and Sprint Communications, to name a few.

An Interview with Gary Remal



Mix: You've been quoted as saying that your three favorite composers are Stravinsky, Copland and Bartok, and you come out of a strong classical music background. Yet most of the music I've heard by you has a pop music beat more suggestive of modern dance than any classical tradition. In a recent interview you said that you feel the music you compose must be rooted in your own life. How do you reconcile these two things?

Remal: When I was studying classical music I was always extemporizing and improvising. I was an off-the-wall or unusual student of classical music. I went to college and studied serious composition and theory and wrote avant garde music; however what I really loved was being able to be diverse. That's changing now. I'm coming more, right now, to a need to look for what it is I want to say.

The reason the music I compose today doesn't sound overtly like it has a connection to classical music is probably because I've used the facilities or crafts of classical music but not necessarily the sounds or the form. I use the methods and ways of looking at or approaching the writing of music from a certain kind of perspective that comes from conservatory training.

But, you know, a lot of that is also a "ball and chain." A lot of people that study classically and traditionally are imprisoned by a way of looking at creating music, rather than letting things evolve organically. Over the last years, as I've been recording a lot, I've found that the most magic happens when you aren't just writing it all down like I'm Beethoven (and writing all the notes down on the score); but when

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you let things evolve spontaneously in the studio and you get a sound that's totally something you didn't expect. Things start to be created that way. For me to blend the two approaches is a real asset.

Mix: How do things evolve in the studio?

Remal: The key is, first of all, getting the appropriate concepts together in advance of the studio sessions. Say I'm working on a film. I hear in my head the adjective or the color that I want to create: the net result. I see something and I say: "I want to support this quality in the film." For example . . . if it's very active and I want to do counterpoint to that, I can feel a soft image. Musically, I can feel something that isn't what I'm seeing. There's a lot of action and I can aim to produce a cushioning effect.

Now, this is describing the process of not having it all written down in classical fashion, in a score. What we're talking about now is using the studio as an environment in which to find magic and unexpected things.

The first things that I would probably do is make sure that the ideas I have going in to the session are solid enough, but not so air-tight that it will prevent new ideas from coming into the studio. For example, when I did the score to **Breakin'**—at the time I was with Michael Boyd, he's a good friend of mine and a creative partner, at times—he and I sat down and looked at the footage. For the tango sequence, they had this Guy Lombardo-type, ridiculous, piece of music. That's what they felt they wanted. I looked at it and I said: "I keep on seeing a 1985 Ravel 'Bolero', a totally modern synthesized 'Bolero'. So, I went to the piano and played [Remal goes to his office piano and plays the melody from **Breakin'**, very slowly]. We did that. And we had a drum machine and we set up the right beats. So it was very, very simple: we had a melody and a harmony, a drum and a rhythm. And that's all we had going in. It was all blocked and the timings were right. So, everything was essentially structural and the bottom line was handled.

When we go into the studio what we leave up to the magic is: what timbres, what instruments do we use to play those melodies and harmonies? That gets into a lot of production creativity. And the key to that is getting the right people involved, so that you can make the soup together. For example, while working in a recent all night session we found that the score was missing something, some crucial element. I said: "I keep on hearing this shaker." And we didn't have a percus-

sion shaker at the time. So my assistant went up and got some Rice-A-Roni that was in the kitchen and put it in a bottle and went to the microphone and went: "Chi, chi, chi, chi." That was it. It was finished.

Well, there's no way to know that until you're there and you have all these sounds. That's what I mean by the magic: you leave open the possibility just to come up with something you'd never think of. That's happening more and more these days with all kinds of music: contemporary, as well as minimalist music in the classical concert field with Philip Glass, et al.

Mix: You have worked in quite a variety of media from fashion videos, features, films and commercials for TV and radio. Is there a minimum and common set of materials or elements you find that you always must have when you begin a piece or show?

Remal: Yes. Well, the first thing that comes to mind when you ask that is: the best way for me to insure success—success in any project where I'm a part of the whole, where I'm supporting a picture or commercial, anything where the music is supposed to satisfy or potentiate a whole—is to talk with the creators of the concept; the people who have come to me and who have the vision of what they want. These are jobs where they come in with a set of restrictions and demands.

I will approach those meetings as if the person I'm talking to is a film without a score. I have success when meeting with the people and having this dialogue, where, through abstractions we get a sense of what quality we are trying to produce. I always tell people that I err on the side of asking too much. There are people that just write music for film, and maybe at some point in my life I'll go through a period where I'll just write film music. I have a feeling that won't happen because I love doing a lot of different things: I'd like to write a ballet and a musical and a symphony someday.

There are two types of composers: the ones that give people exactly what they ask for, which doesn't come at all from who they are as an artist. They may say "Oh, you want a bell or a chime." And they put it all in and it's a bunch of crap. It's pea soup.

The other way is to take what the person is saying, what the product is, and satisfy those requirements but completely surprise that person at the same time. And that's my goal all the time. I don't always succeed, but that's what I work on all the time: getting those requirements, satisfying them and totally blowing their minds, totally surprising them. If I don't do that then I don't think I've succeeded. ■

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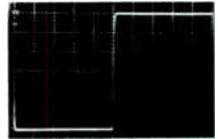
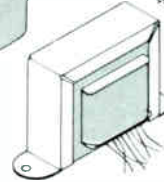
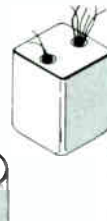
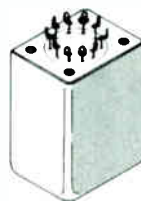
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2 kHz Square Wave

INPUT TRANSFORMERS AND SPECIAL TYPES

Model	Application	Impedance Ratio Pri:Sec	Turns Ratio Pri:Sec	20Hz Max Input Level ¹	Typical THD Below Saturation (%) 20 Hz / 1 kHz	Frequency Response (dB ref. 1 kHz) 20 Hz / 20 kHz	Band-Width ² -3 dB @ (kHz)	20 kHz Phase Response (degrees)	Over-Shoot (%)	Noise Figure (dB)	Magnetic Shield ⁴ (dB)	Number of Faraday ⁴ Shields	Package ⁵	PRICES		
														1-19	100-249	1000

MICROPHONE INPUT

† JE-16-A	Mic in for 990 opamp	150-600	1:2	+8	0.036 / 0.003	-0.08 / -0.05	200	-8	<1	1.7	-30	1	A=1 B=2	64.21 68.86	42.89 45.99	29.60 31.74	
† JE-13K7-A JE-13K7-B	Mic in for 990 or I.C.	150-3750	1:5	+8	0.036 / 0.003	-0.09 / -0.21	85	-19	<2	2.3	-30	1	A=1 B=2	64.21 68.86	42.89 45.99	29.60 31.74	
† JE-115K-E	Mic in for I.C. opamp	150-15K	1:10	-6	0.170 / 0.010	-0.50 / +0.10	115	-5	<7	1.5	-30	1	3		42.03	28.07	21.92

LINE INPUT

† JE-11P-9	Line in	15K-15K	1:1	+26	0.025 / 0.003	-0.03 / -0.30	52	-28	<3		-30	1	1		103.47	69.13	47.69
† JE-11P-1	Line in	15K-15K	1:1	+17	0.045 / 0.003	-0.03 / -0.25	85	-23	<1		-30	1	3		40.05	26.76	20.90
† JE-6110K-B JE-6110K-BB	Line in bridging	36K-2200 (10K-600)	4:1	+24	0.005 / 0.002	-0.02 / -0.09	125	-12	<1		-30	1	B=1 BB=2	62.86 71.52	42.01 47.79	30.83 32.97	
* JE-10KB-C	Line in bridging	30K-1800 (10K-600)	4:1	+19	0.033 / 0.003	-0.11 / -0.08	160	-9	<2		-30	1	3		41.56	27.76	19.16
† JE-11SSP-8M	Line in repeat coil	600 / 150-600 / 150	1:1 split	+22	0.035 / 0.003	-0.03 / -0.00	120	-9	<3.5		-30	1	4		151.90	101.47	70.01
† JE-11SSP-6M	Line in repeat coil	600 / 150-600 / 150	1:1 split	+17	0.035 / 0.003	-0.25 / -0.00	160	-5	<3		-30	1	5		79.22	52.91	36.51

SPECIAL TYPES

† JE-MB-C	2-way ³ mic split	150-150	1:1	+1	0.050 / 0.003	-0.16 / -0.13	100	-12	<1		-30	2	3		34.60	23.13	18.06
† JE-MB-D	3-way ³ mic split	150-150-150	1:1:1	+2	0.044 / 0.003	-0.14 / -0.16	100	-12	<1		-30	3	3		60.09	40.15	31.35
† JE-MB-E	4-way ³ mic split	150-150-150-150	1:1:1:1	+10	0.050 / 0.002	-0.10 / -1.00	40	-18	<1		-30	4	1		96.90	64.73	44.66
† JE-DB-E	Direct box for guitar	20K-150	12:1	+19	0.096 / 0.005	-0.20 / -0.20	80	-18	<1		-30	2	6		43.57	29.11	22.73

- (dBu) Max input level = 1% THD; dBu = dBv ref. 0.775 V
- With recommended secondary termination
- Specifications shown are for max. number of secondaries terminated in 1000 ohm (typical mic preamp)
- Separate lead supplied for case and for each faraday shield
- Except as noted, above transformers are cased in 80% nickel mu-metal cans with wire leads.

PACKAGE DIMENSIONS:

	W	L	H
1	1 1/16" Diam.		1 1/16"
2	1 3/16" x 1 3/16"		1 5/8"
3	1 1/8" Diam.		1 1/16"
4	1 1/2" x 1 3/4"		2 1/2" w / solder terminals
5	1 1/8" Diam.		1 3/4"
6	1 1/8" Diam.		1 5/16"

NICKEL CORE OUTPUT TRANSFORMERS⁶

Model	Construction	Nominal Impedance Ratio Pri:Sec	Turns Ratio Pri:Sec	20 Hz Max Output Level ⁷ across (n) windings (dBu)	600 Ω Load Loss (dB)	DC Resistance per Winding	Typical THD Below Saturation (%) 20 Hz / 1 kHz	Frequency Response (dB ref. 1 kHz) 20 Hz / 20 kHz	Band-Width ² -3 dB @ (kHz)	20 kHz Phase Response (degrees)	Over-Shoot ⁸ (%)	Package ⁹	PRICES			
													1-19	100-249	1000	
* JE-123-BMCF	Quadfilair 80% nickel	600-600 150-600	1:1 1:2	+28	2	-1.1	20 Ω	0.002 / 0.002	-0.02 / -0.02	>450 160	-2.1 -4.1	<1	7	87.41	44.17	30.47
* JE-123-DMCF	Quadfilair 80% nickel	600-600 150-600	1:1 1:2	+21	2	-1.0	19 Ω	0.004 / 0.002	-0.02 / -0.00	>450 230	-1.2 -2.5	<1	8	50.71	33.88	23.38
† JE-123-BLCF	Quadfilair	600-600 150-600	1:1 1:2	+32	2	-1.1	20 Ω	0.041 / 0.003	-0.02 / -0.01	>450 170	-1.9 -4.0	<1	7	61.30	35.79	24.70
* JE-123-DLCF	Quadfilair	600-600 150-600	1:1 1:2	+27	2	-1.0	19 Ω	0.065 / 0.003	-0.02 / -0.01	>450 245	-1.2 -2.5	<1	8	39.61	26.45	19.42
† JE-123-SLCF	Quadfilair	600-600 150-600	1:1 1:2	+23.5	2	-1.1	20 Ω	0.088 / 0.003	-0.03 / -0.01	>450 245	-1.2 -2.8	<1	9	33.48	22.35	15.43
† JE-112-LCF	Quadfilair	600-600 150-600	1:1 1:2	+20.4	2	-1.6	29 Ω	0.114 / 0.003	-0.03 / -0.01	>450 205	-1.2 -3.2	<1	10	25.48	17.01	12.49
† JE-123-ALCF	Quadfilair	66.7-600	1:3	+26.5	3	-1.3	8 Ω	0.125 / 0.003	-0.04 / +0.06	190	-4.6	<6	8	42.14	28.15	19.42
† JE-11S-LCF	Bifilar w / split pri.	600-600 150-600	1:1 1:2	+30	1 (sec)	-1.7	63 Ω	0.058 / 0.002	-0.02 / +0.01 -0.02 / -0.05	>10MHz 155	+1.1 -4.1	<1	8	42.14	28.15	19.42

- Multifilar construction has no faraday shield; cannot be used as input transformer. All specifications are for 0 Ω source, 600 Ω load.
- Max output level = 1% THD; dBu = dBv ref. 0.775 V
- Source amplifier -3dB @ 100 kHz
- Output transformers are horizontal channel frame type with wire leads, vertical channel frames available.

PACKAGE DIMENSIONS:

	W	L	H	Mounting Centers
7	1 1/2" x 2 5/16"		1 5/16"	2 3/16"
8	1 5/16" x 1 5/16"		1 5/8"	2 3/8"
9	1 1/8" x 1 1/16"		1 3/8"	2"
10	1 1/16" x 1 7/16"		1 3/16"	1 3/4"

Prices shown are effective 6/1/84 and are subject to change without notice. Packing, shipping, and applicable sales taxes additional.

These charts include the most popular types which are usually available from stock. Many other types are available from stock or custom designs for OEM orders of 100 pieces or more can be made to order. Certified computer testing is available for OEM orders. Call or write for applications assistance and/or detailed data sheets on individual models.

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DBS: Don't Look Up, Yet

by Ken Pohlmann

The DBS (Direct Broadcast Satellite) system promises to add new dimensions to the dissemination of video and audio programming in the United States. Satellites in geostationary orbit receive transmissions from ground stations and relay them directly to households equipped with a small parabolic antenna and tuner. Everyone in that transmission coverage area would receive high quality video and audio without the need for cable hook-up or ground links. The DBS system is elegant, economical—and floundering. To understand each of those aspects, let's take a look at some nifty satellite physics, the excellent systems specifications, and the cruel marketplace.

Far above the drag of earth's atmosphere, artificial satellites may follow equatorial, polar, or inclined orbits, as shown in figure 1. As the orbit altitude increases, the required satellite velocity decreases, and the orbit period increases. If a satellite in an equatorial orbit orbits the earth at exactly the same angular velocity as the earth's rotation, it will appear as a fixed point when viewed from earth. It has achieved synchronous, or geostationary orbit. The time to complete the orbit must equal one sidereal day of 23 hours, 56 minutes, and 4

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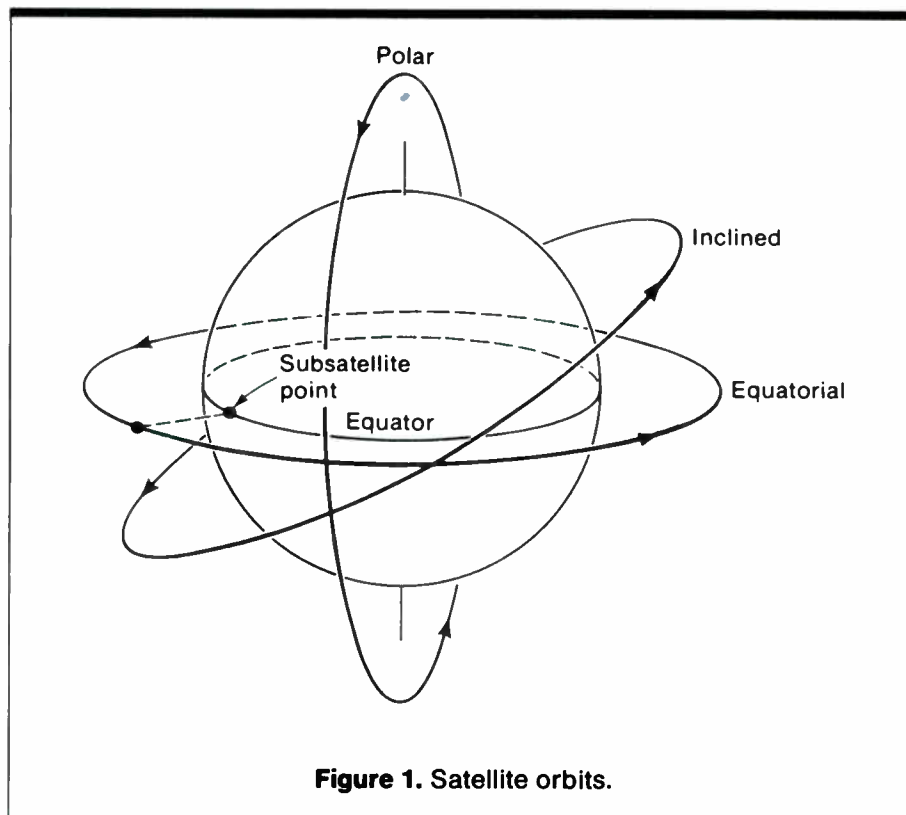
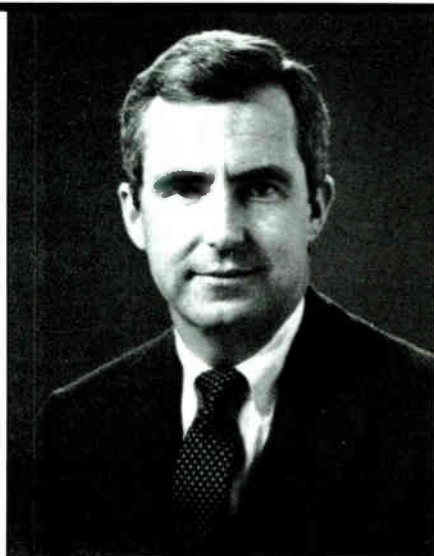


Figure 1. Satellite orbits.

Interview with John Egan, DBS Association

One of the professional associations at the forefront of the development of this global technology is the Direct Broadcast Satellite Association. It began in 1982 when a loosely associated group of American telecommunications companies asked Coopers and Lybrand—one of the leading American accounting firms in the aerospace business—to organize a professional association of satellite users, programmers and earth station builders. Coopers and Lybrand placed at its head their most



John J. Egan

experienced engineer/businessman in the field, John J. Egan. Egan had considerable experience dealing with the financial portion of Federal Communication Commission filings for such major firms as: Ford Aerospace, Martin Marietta and General Dynamics Corporation. (Currently, Coopers and Lybrand holds a major NASA contract to develop commercial users for the Space Shuttle.) Since its inception, then, John Egan has been acting administrator of the DBS Association.

This interview took place in San Francisco at the annual meeting of NATPE (the National Association of Television Program Executives). It was the largest regular gathering of buyers as well as sellers of commercial American

—PAGE V80

The Orban 424A Gated Compressor/Limiter/De-Esser.

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GAIN REDUCTION: Shows gain of the VCA (0 to -25db). Shows the effect of any control but OUTPUT TRIM and DE-ESSER.

INPUT ATTENUATOR: Adjusts drive to compressor/limiter, determining amount of G/R.

ATTACK TIME: Adjusts speed of response to input level increase. Fast: Peak limiter & compressor. Slow: Compressor only.

GATE THRESHOLD: Determines the input level that causes "gating"; VCA gain then moves slowly to IDLE GAIN setting.

OUTPUT TRIM: Adjusts VCA gain to control or prevent clipping as required. Effect is seen on VCA LEVEL meter. Not an Output Attenuator (Output Attenuator is located on rear of unit).

DE-ESSER OPERATE/DEFEAT: Activates or defeats de-esser control circuitry.

COUPLED/INDEPENDENT: Couples A and B gain and gating circuits for accurate stereo tracking.

COMPRESSION RATIO: Adjusts compressor from "looser" (2:1) to "tighter" (∞ :1).

RELEASE SHAPE: Linear: Compressor releases at constant rate. Exponential: Release starts slower, then accelerates.

VCA LEVEL: Shows peak operating level of VCA. Clipping occurs above approximately +2.

IDLE GAIN: Presets VCA gain when in gated condition or anytime unit is DEFEATED. Used for smoothing out transitions and for decreasing audible action of compressor.

OPERATE/DEFEAT: Activates or defeats gain control circuitry. Does not bypass any circuitry.

DE-ESSER SENSITIVITY: Adjusts threshold of de-essing. De-essing increases as control is turned clockwise.

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"In addition to the measured performance being very good the subjective impressions of the unit were excellent. This product has many novel and highly practical features all of which are quite simple to use but need not be used if simplified operation is required. Overall a very good compressor/limiter, well made and easy to service."

Hugh Ford, *Studio Sound*
November, 1983

"Overall, the 422A/424A should prove to be a system of diverse capabilities, able to tackle the widest variety of material—once the user masters its operation. In addition, its solid construction and excellent service documentation should insure years of reliable operation. Such qualities are typical of timeless designs that tend to retain their value long after the accountants have depreciated them away."

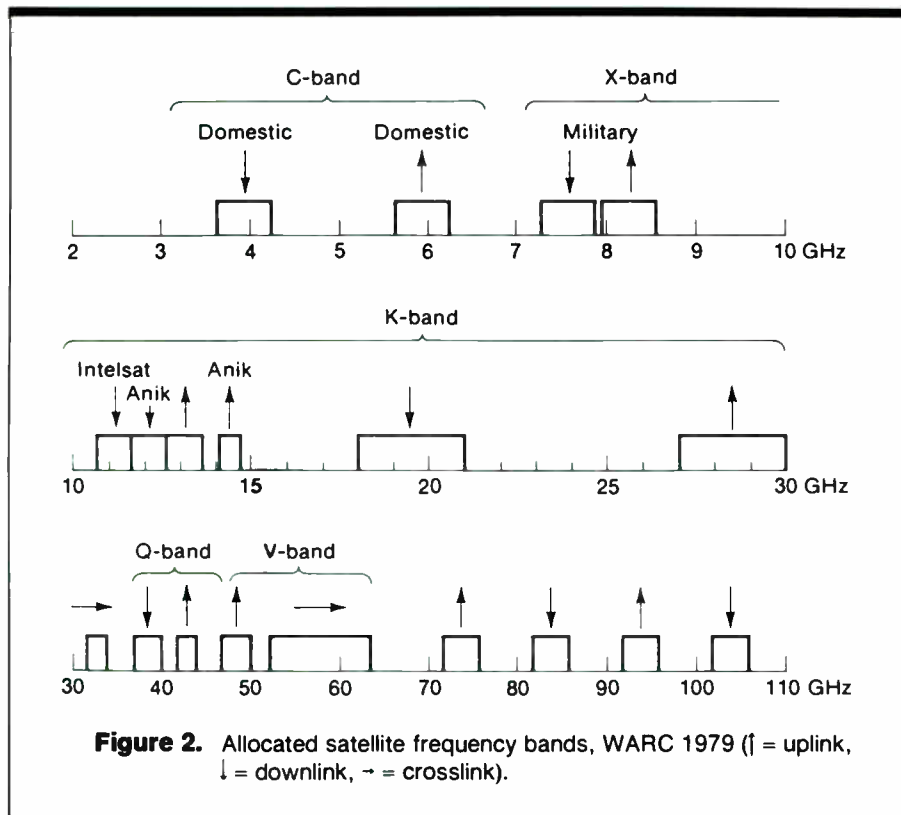
John Monforte, *db Magazine*
July-August 1983

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seconds. This period occurs at an altitude of 35,784 kilometers above the earth's surface.

Because of gravitational tugs from the sun and moon, the orbit will drift, inclining a few degrees to produce a figure eight pattern; periodic position control is used for orbit correction. Even so, a variation of ± 0.1 degree is typical, resulting in a ± 40 kilometer position variation in a geostationary satellite's placement. The coverage area, or footprint of a satellite, is the area of earth's surface which may receive transmissions from a satellite. As the line-of-sight distance from the satellite to an earth point increases, propagation loss increases. From the point of view of an earth station, the received signal from a satellite near the horizon might be unuseable. Specifically, earth points above 80 degrees latitude cannot be serviced by the line-of-sight transmissions of a geostationary satellite. All the more reason to move to south Florida.

Since the position of a geostationary satellite remains approximately fixed, the earth station's task is greatly simplified because no tracking is required. A one-time alignment completes the job. To broadcast to more extreme latitudes, satellites with inclined or polar orbits would be required, however continual tracking is required. Also, multiple satellites would have to be placed along the same orbit, sequentially passing over a particular ground station, to maintain constant contact.

Satellite frequency bands are

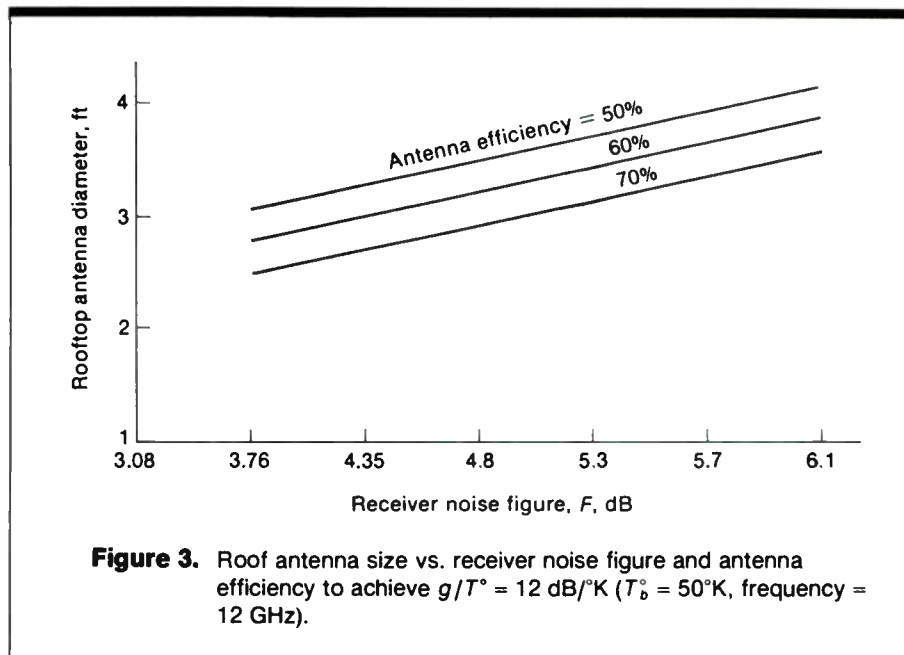
selected for favorable power efficiencies, minimal propagation distortions, and minimal interference and noise disturbances. In addition, the optimal orbit is a function of the frequency band. Specific frequency bands have been allocated for different types of satellite services, as shown in figure 2. Military, nonmilitary, fixed point, broadcast, mobile, and intersatellite frequencies have all been specified. The earliest bands, UHF and C, are now heavily congested, as are the optimal orbits for those

bands. The higher K and V bands are now being developed. With higher carrier frequencies and their wider bandwidths, more information may be carried on a particular channel.

The Direct Broadcast Satellite system accomplishes a downlink directly to the home, from a transmitting ground station via the geostationary satellite. Both video and PCM audio channels may be programmed. The requirement for small diameter receiving antennas, large RF bandwidths, and high demodulated S/N ratio for high quality reception dictate considerable complexity. The AM specifications of commercial terrestrial television must be matched to the FM specifications of the satellite the FM to AM carrier waveform conversion must be accomplished at the home station. Improved AM carrier-to-noise specifications after retransmission may be obtained by increasing the FM deviation in the video uplink. A practical benefit is a reduction in required FM carrier-to-noise ratio at the home antenna; this trade-off is best accomplished at a higher carrier frequency. Thus the K band is designed for direct broadcasting. The wavelength used for DBS is known as Super High Frequency (SHF) and is higher in frequency than the VHF or UHF channels used for conventional television broadcasting.

Once the DBS satellite is parked in orbit, and transmissions are received and rebroadcast, the final link in the chain is the home receiving station. Although designs differ, it is commonly comprised of an offset parabolic antenna and electric wave collector to catch the microwave signals sent by the satellite, and a converter mounted at the antenna's focal point to convert the microwave

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—FROM PAGE V76, EGAN

and international broadcast television programs. In some ways, DBSA's presence at NATPE was an historic occasion, for it was the first time the Association had been represented at this marketplace. DBSA's appearance here may reflect a growing awareness of the relationship between the satellite and television programming businesses. At present, it is probably not stretching the truth to say that DBS has more to gain by this interaction than does programming.

Mix: What are your best estimates about the size of the audience presently watching on the satellite?

Egan: There's no one now. There are no DBS satellites now.

Mix: But there are a lot of people out there with dishes.

Egan: They're not DBS. Let me explain the difference. The FCC, in its wisdom, has decided that there are two groups of satellites: one is called "fixed service" satellites and one is called "direct broadcast" satellites.

Fixed service satellites are designed to be point to point satellites. Direct broadcast satellites—which there aren't any of yet—are designed to be point to multi-point. The people who own dishes out there are, in effect, pirating signals. They are not the

intended receiver or were not when the FCC set up that band, it was, for example, for distribution of NBC signals to NBC affiliates and distribution to cable head ends. I'm not saying they're right or wrong. That's irrelevant. They are taking a signal which—at least, originally—was not intended for their use.

Mix: But they're not violating any laws.

Egan: In fact, yes, they are, though that's beside the point. They're violating a regulation, if you will, not a law—FCC directives as to how fixed service satellites are supposed to be used. Technically, they are not authorized to own and operate those earth stations because they are not a licensed fixed service satellite receiving station, which they should be. It's the same as CB [Citizen Band] radios. You were supposed to have a license to operate a CB radio. How many people—out of the millions of CB's that there were when they were hot items—had licenses? One in a hundred? I'm not condemning anyone. That's a fact of life.

Now, that's the difference. But the lines over the last several years have become blurred because a company called USCI decided to distribute to homes using fixed service satellites. And the commission allowed them to do that. They're doing it at a lower power.

Mix: So, there is a DBS up there?

Egan: In effect, yes. The company started marketing in Indianapolis a year or so ago. But it's not high-powered DBS. It's 25 watts.

Unfortunately, they have had a certain amount of financial problems. They have only attracted about 11,000 subscribers. They have five channels of movies and sports.

Mix: Is it scrambled?

Egan: No.

Mix: But your association has, as its focus, these high powered satellites.
Egan: We are not exclusively high-powered satellite oriented but the majority of our membership tends to be high-powered oriented. We have offered membership to USCI on several occasions. And they have decided not to join, I think, primarily because of financial problems.

Mix: The superstations such as WTBS (Atlanta) and WTTW (Chicago) love this growth in the dish business.

Egan: It's clearly the pay services that don't [like the proliferation of backyard earth stations]. That's an issue for them [the superstations and

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the pay-per-view providers] to resolve. In my opinion, it has nothing to do with the direct broadcast satellite business *per se* because the direct broadcast satellite business will determine how they're going to distribute their signal when they go on line [in 2 to 3 years].

Mix: So the DBS Association wouldn't put pressure on the FCC to, for example, have people fined for using backyard dishes?

Egan: There is no reason for us to do that. None whatsoever. Actually, I would think that people who have enough interest in satellite related television to go out and spend the kind of money they're spending for earth stations would probably be among the first people to buy DBS dishes, too, because they're obviously involved in that and interested in that and find that intriguing. So, we would not at all discourage that.

That's an issue between the people who do paid distribution and the HBOs and Showtimes and folks like that.

Mix: Does HBO belong to the DBS Association?

Egan: It did in the past.

Mix: Do many pay services belong?

Egan: Oak Communications, CBS as well as the National Christian Network. It will be up to which ever companies go into operation to decide if they choose to use a scrambled format to preclude unauthorized receipt of their signal. That's a business decision on their part [whether or not the earth stations are going to be "addressable"].

If they choose to do an advertiser supported thing, then it will come over in the clear [unscrambled]; or, I'm sure, some of the religiously oriented companies will certainly not want to scramble. It's not an issue for the Association. We assume the standards [currently being prepared by DBS Association] will provide the capability whichever way the operator wishes to go.

Mix: Would you describe the standards of addressability and security that the DBS Association is currently preparing for recommendation to the industry?

Egan: Basically, we're trying to build into the standards the capability—whether it's exercised or not—to make sure that individual earth stations are addressable from the satel-

lite and that the possibility exists to provide a secured, scrambled signal. Whether or not the operator chooses to do that is entirely up to them. But we feel the standards should allow for the broadest range of operations.

The opportunity to speak here has allowed me to put much of the recent sensationalistic news surrounding DBS in perspective. Meeting with some of the people involved in programming—who are interested in DBS as an eventual medium to distribute their programming—has been of some value. Satellite technology is way ahead and the earth station technology. We are developing better earth stations, getting the prices down to very acceptable levels through mass production; and achieving very, very good quality reception. The programming will come. The problem is the programmer asks, as he asks on the floor here: "How many earth stations do you have?" "How much audience can you draw?" And right now because there are no systems in place, the answer to that is "none." When the answer to that is "some," the programming will fall in line, in my opinion.

—N. Pasquariello

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—FROM PAGE V78, DBS

signal to a lower frequency FM signal. A DBS system might use a 12 gigaHertz carrier with an RF bandwidth of 36 megaHertz; an AMCNR of 40 dB can be obtained. To achieve this with a small diameter antenna, low noise front-end electronics are required. For example, for AMCNR of 40 dB with a 1 meter dish antenna with 60% efficiency, a receiver noise figure of 4.5 dB is required. Figure 3 shows the relationships of dish diameter and noise ratio.

Because of the sensitivity of the collector, and success of the front-end electronics, the parabolic antenna may be as small as a half meter in diameter. The units are mounted outside the home, and can be manually aligned with a diagnostic display showing received signal strength. Inside the home, the third component of the receiving system, a phase lock loop tuner, demodulates the FM signal from the converter into video and audio signals suitable for home television or stereo. For areas not centrally located in the satellite's footprint broadcast area, larger antennas of a meter or more in diameter may be used for favorable reception.

In other countries, DBS has al-

ready met with considerable success. The Japanese broadcasting network, the NHK, currently has a DBS satellite, the BS-IIa, at 110 degrees east, broadcasting a 12 gigaHertz microwave signal over Japan. The BS-IIa has a transmission power of 100 watts for its two channels, a transmission bandwidth of 27 megaHertz, video bandwidth of 4.5 megaHertz, video S/N ratio with a 75 centimeter antenna in Tokyo is 43 dB, and an audio subcarrier is located at 5.73 megaHertz. Its broadcast specifications are shown in figure 4. In addition to video, two PCM audio channels are broadcast. The DBS INSAT system in India promises to transform that country's social structure. In what might be the largest social experiment ever undertaken, remote villages now have direct access to the satellite channels and hence to the rest of the world's telecommunications systems.

In the United States, DBS has not fared so well. (See sidebar). Although DBS may one day broadcast stereo CD-quality digital audio into our homes, it is the video channels which will determine the system's fate, as it competes with existing broadcast and cable systems, as well as the VCR. Satellite-delivered pay channels such as HBO gained wide ac-

ceptance initially, however have increasingly felt the ire of subscribers concerning the number of reruns, and poor programs. Also, the proliferation of VCRs and earlier availability of titles has thrown a chill on pay TV. It is against this backdrop that DBS must attempt to introduce yet another pay TV format. In ironic tribute to the DBS idea, HBO is reportedly ready to begin scrambling its signal, and begin selling decoders to the estimated 600,000 dish-owning pirates.

The first commercial DBS endeavor in the United States was United Satellite Communications Inc. (USCI) which began operation in Indianapolis in 1983, and later spread across the midwest and east. After a year of operation, bankruptcy threatened and only a merger with Satellite Television Corporation (STC) kept the system on air. Perhaps one of the problems with the USCI-STC system is the requirement for a four-foot diameter dish. Manufacturing and installation costs are reportedly so high that a dish must be in operation for over 18 months before the subscription begins to turn a profit.

There are, however, plans afoot to realize the potential of the DBS system. More powerful satellites are being constructed; they will require a home antenna perhaps as small as 10 inches in diameter. With manufacturing and installation costs in hand, DBS would indeed be a highly cost-effective system. Two 200 watt satellites are being constructed for USCI-STC by RCA Astro-Electronics; the first is scheduled for a 1986 launch. Another entry in the market is United States Satellite Broadcasting (USSB) in Minneapolis. Two 240 watt RCA satellites are scheduled for 1986 or 1988. Both STC and USSB would charge a monthly subscribers fee, and sell advertising time. A third contender will take a different course; Dominion Video Satellite in Naples, Florida has contracted two 230 watt satellites from Hughes Aerospace. It intends to lease out the channels at cost, and make its profit by selling earth stations.

In its many dimensions, there is probably no market more potentially lucrative than video. And probably none more unpredictable. While it seems certain that some incarnation of DBS will become available in the near future, there is no way to determine its precise application. The shifting sands of influences such as stereo broadcast television, the unreadiness of cable for stereo, and ever-growing VCR sales make forecasting virtually impossible. Only one thing is for sure: if the household of the future has a UHF/VHF antenna, a DBS dish, and a cable hook-up, we won't have to worry about missing our favorite movies. You know, the ones that are so poor they were never released in the theaters. ■

- | | |
|-----------------------------|--|
| 1. Transmission Power | 100w (2 channels) |
| 2. Transmission Band Width | 27 MHz |
| 3. Video Signal Band Width | 4.5 MHz |
| 4. Video S/N | 43 dB (75cm antenna at Tokyo) |
| 5. Sound Sub-Carrier | 5.73 MHz |
| 6. Number of Sound Channels | A Mode: 4 channels
B Mode: 2 channels |

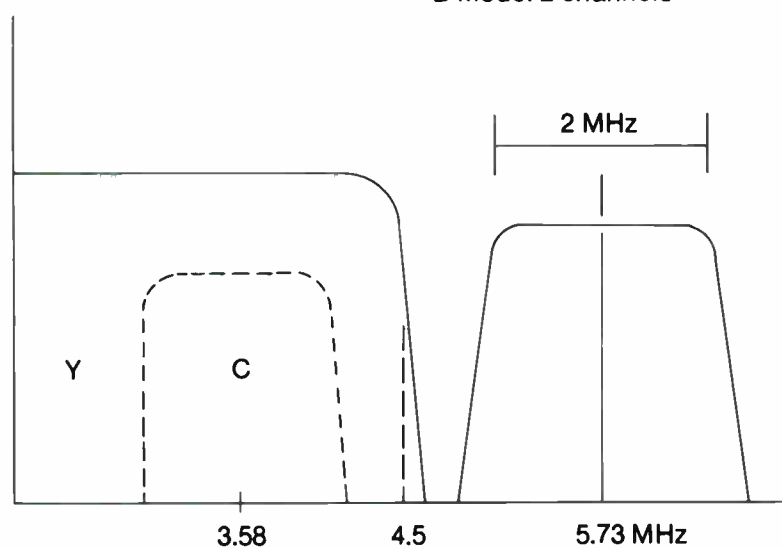
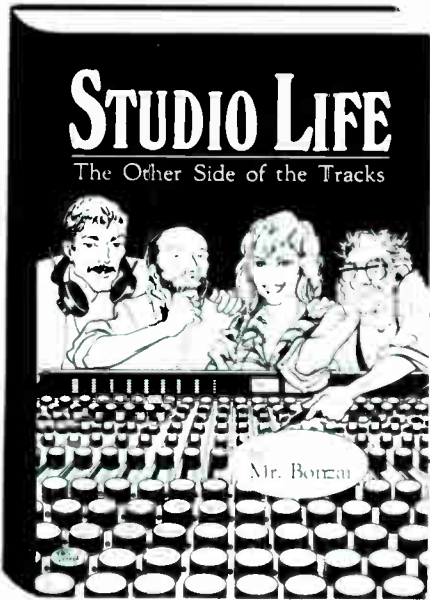
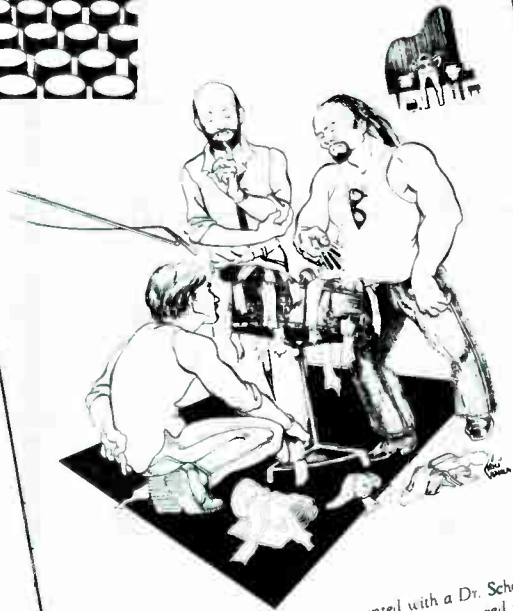


Figure 4. Specifications for NHK BS-IIa DBS Satellite



STUDIO LIFE: The Other Side of the Tracks

by Mr. Bonzai



We finally got the sound we wanted with a Dr. Scholl innersole, a dried sausage and a rabbit's foot, secured to the drum head with a few feet of gaffer's tape.

Homemade electronics are the curse of studios. At my urgent request, Smilin' Deaf Eddie came slumping drowsily into the studio in his customary bathrobe and furry blue slippers, armed with a soldering iron. He went right to work wiring Cannon connectors into Eric's bizarre array of phone plugs, RCA plugs, German U-plugs, and copper deadholts. While Eric supervised the work and Jon began unloading his horns and warring his reeds, I returned to the control room to check on Cart.

"We're picking up some radio interference on the monitors when the volume is low," he informed me gravely. "I thought it was just temporary CB, but I can't filter it out."

"It sounds like a ball game through a tin-can-telephone," I added. "Where could it be coming from?"

"It's a total mystery. Maybe Eddie can trace it."

"Keep the monitors loud," I suggested. "Maybe they won't hear it..."

As usual, we were barely one step ahead of the game. I used to think that one day the sessions would smooth out, but they never do. A good studio just has less downtime than a crummy one. As Eddie rewired Eric's synthesizer and Cart tried desperately to trace the elusive interference, I tried to scope out what we would need to record Jon Morgana's instruments.

We've all seen the usual clarinets, saxes and flutes ranging from tenor to bass. Jon had some of the rarest and most extreme members of these familiar musical families. The "hairpin piccolo," less than two inches long, was originally designed for a performance of Erik Satie's "Waltz of the Tsetse Fly" and was played with jeweler's tongs. I chose a tiny lavalier mike which we could clip to Jon's moustache to pick up the miniscule sound.

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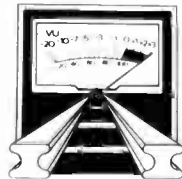
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▶ REEL ▶ MAGIC ENTERS THE VIDEO JUNGLE

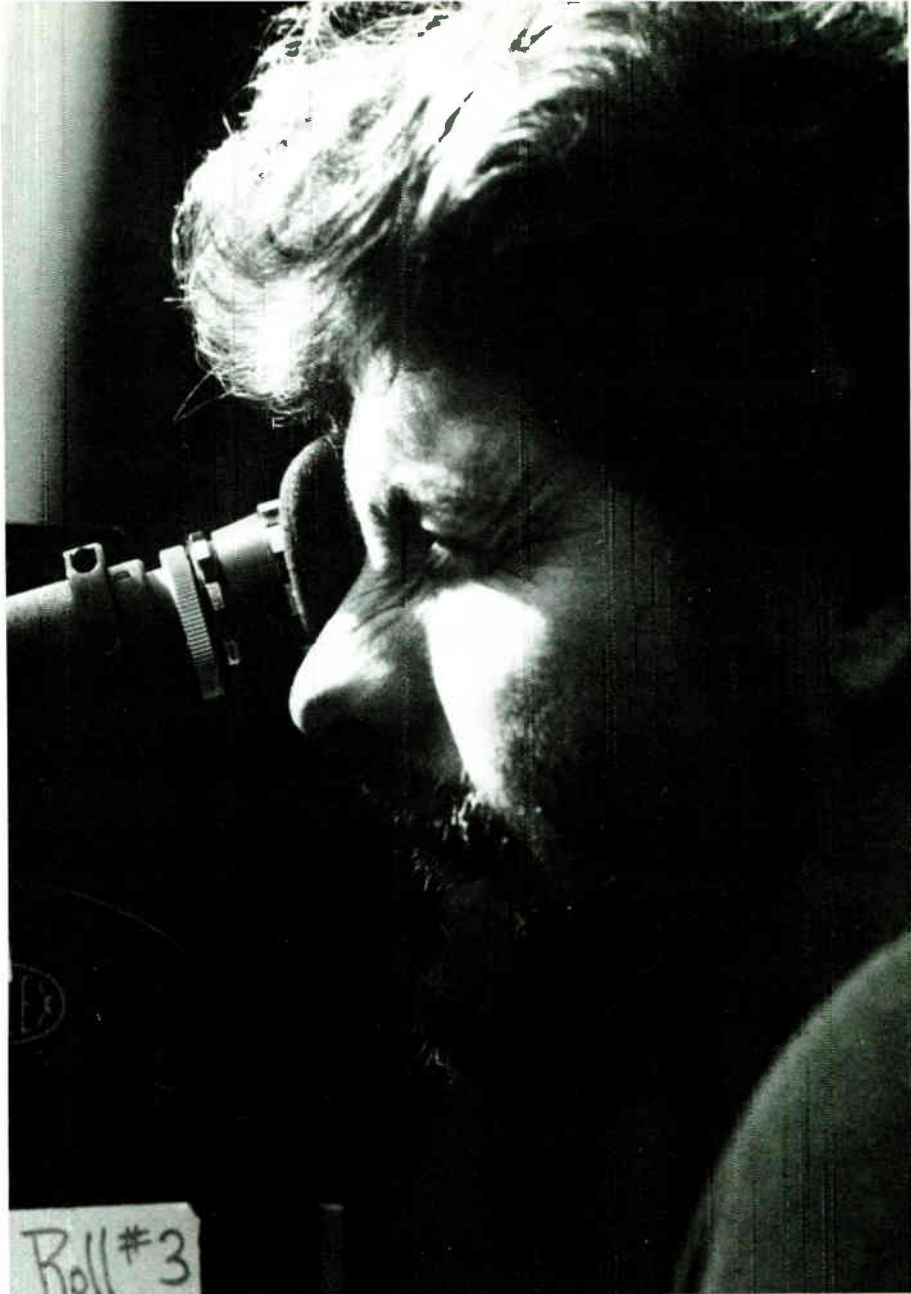
by Jane Greenstein

When Kort Falkenberg III joined the staff of Chrysalis Records in 1981 he vowed to be out of the mailroom in six months. The combination of his own drive and the record company's shake-up led Falkenberg to take a substantial leap, two years later, from Chrysalis Records mail boy to partner and director at his own independent video and film production firm, Reel Magic, located in Woodland Hills, California.

Falkenberg, 32, attended PCPA (Pacific Conservatory of the Performing Arts) in Santa Maria and California State University, Northridge, where he acted, directed and produced college stage productions and edited student films. He joined Chrysalis Records in hopes of breaking into the then-newly developing world of rock video. There, he was given the chance to work on videotape duplication and soon bought an in-house editing and video duplication system for the record company. He also dabbled in A&R, publishing and audiotape duplication.

While the in-house video department at Chrysalis was "falling apart" toward the end of 1982, Falkenberg was editing and submitting video proposals. Chrysalis' art director Roland Young liked Falkenberg's ideas and gave him the chance he'd been waiting for. Falkenberg went on to direct two Fabulous Thunderbirds videos, a never-released version of Billy Idol's "Hot in the City" and commercials for Pat Benatar, Toni Basil, and the soundtrack to the series *Brideshead Revisited* before he and Chrysalis parted ways.

He and another former Chrysalis



Kort Falkenberg III

staffer, Kimberly Bellman, formed Reel Magic in 1983 and have since worked on John Waite videos, such as "Missing You" and "Tears," as well as videos for Kick Axe and Queensryche, and a commercial for Ultravox. Falkenberg also directed Shannon's "Give Me Tonight" and Streets' "Everything is Changing" for Keefco.

Reel Magic producer Bellman was formerly traffic manager at L.A.'s Record Plant and an A&R administrator at Chrysalis. George T. Mitchell is Reel Magic's production designer, and Stephen Angus is associate director.

Surprisingly, "Missing You" did not catapult Reel Magic into the big leagues. Despite the song's chart and the video success, offers have not come rolling in by the truckload.

"If you do a good, successful video like 'Missing You' and then if you do one or two things that aren't quite so

good, they look at your worst," Falkenberg says. "They say, 'that was just his lucky shot.' It's difficult doing videos because we have three bosses—the record company, the artist and the manager. If the manager absolutely hates the piece then he can sway the artist to feel the same way and we end up screwed.

"I had a problem with a manager who wasn't on the set at all and he hated a piece, partially because he got what he paid for. Managers sometimes don't know what they're doing in this area. They know audio upside down, backwards and forwards, but they don't know film. They have to start learning!"

With most video projects, Reel Magic is paid 50% up front and 50% on completion. Falkenberg says sometimes they do not receive the money until two days before the shoot. Occa-

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sionally, the record company will not pay the remaining 50% if they are not pleased with the video, leaving the production company, as well as the crew and vendors they hired, little recourse.

"A lot of people think there is a lot of money in rock videos, but they're wrong," Falkenberg says. "What the record companies want us to do for the budgets they give you is very difficult. A company profit margin is almost non-existent; it's very slim unless we're doing five or six at a time. We make it by the skin of our teeth."

Falkenberg's ambition is to direct full-length features. He describes his video directing as filmic, incorporating a linear structure rather than an "off-the-wall" or abstract format.

"I like music that evokes something of a storyline," he says. "I like well put together music that has a beginning, middle and an end. I tend to write more in the traditional means. Maybe that limits me; I don't feel comfortable doing things that are asymmetrical, that don't make sense. I need to have order or I freak out."

"I try to stick as close to the lyrics of the songs as possible. I try to talk to the artist or writers and find out what they intended, but that rarely happens. Usually I'm handed the song

and the record company says 'write!' They're usually not sure what they want, but they know it's got to be within a certain budget. That limits it a lot. For \$40,000 we can do a piece without lip-synching that's conceptually slim, maybe shot in two locations, or an all-performance piece."

"I also try to adhere to the feel and sound of the song as much as possible. My biggest concern is to affect the emotions. In 'Missing You' I tried to do that by creating tension when he takes off the headphones and she's outside his door. People react and think 'No!No! Quick, she's outside the door! Go get her.' With 'Change' I tried to play with emotions through humor. He is thinking that she jumped out the window and it turns out that it's all just a story. We were thumbing our noses at people."

"Sometimes I feel like I'm a robber, like I'm stealing or cheating someone else out of their imagination," Falkenberg continues. "This isn't a weakness of video, it's just the business. It's the same thing with books and movies. Where do you get your information? A video can never really come up to a person's expectation if they have a definite image of a song."

Falkenberg believes rock videos

are mini-musicals which work best when used in the context of a larger piece: "I think video is fun if the song's used as a soundtrack, like the David Bowie long format video. The action of that song promoted the story line, like the songs did in '40s musicals."

Since Falkenberg began making videos, he's seen such advances in film and video technology as better film-to-tape transferring, XY zoom lenses, and the mirage and paint box techniques. His cameramen generally use Arriflex cameras for 16mm projects, and Panavision or Arri cameras for 35mm.

Artistically, Falkenberg does not like to use a lot of effects. He feels they take away from his straight filmic style.

"We haven't made a large investment in special effects," he says. "We put together a cloud tank, but that's it. We're not a special effects house. I might be doing more of them if I had a bigger budget."

The real changes in video production, Falkenberg thinks, will not result from new technology but from unionization. He believes that within the next year, the unions will be putting pressure on the record companies, particularly those who have film and television affiliates, to hire union crews and actors to work on videos.

"Union people are being used all over the place, and the unions are tired of their people being used and not making money off them," Falkenberg said.

"Unionization is going to hurt the small bands because they're not going to be able to do a video for \$40,000 anymore. The price will be two or three times that. The only way that they will be able to do a video is if they go outside the U.S., or go to a right-to-work state, such as Florida or Tennessee and film out of reach of the unions. The record companies will probably make sure that some of the new artists will not be union."

Falkenberg and producer Bellman's experience in the record industry made them savvy to its politics and quirks, as well as giving them contacts. Falkenberg believes the association has helped, but due to the competition, he is constantly "renewing acquaintances and letting them know I'm still alive."

"There are other areas I'd like to explore other than rock and roll," Falkenberg says. Reel Magic is currently developing a short rotoscope space adventure, as well as making a commercial about PMS (pre-menstrual syndrome). "It keeps me sane. Sometimes rock and roll can make you crazy because of all the goings-on. You have politics in other areas, but it's different politics. Each thing has its little quirks. But then it's nice when I come back to rock and roll. It's easier to handle." ■

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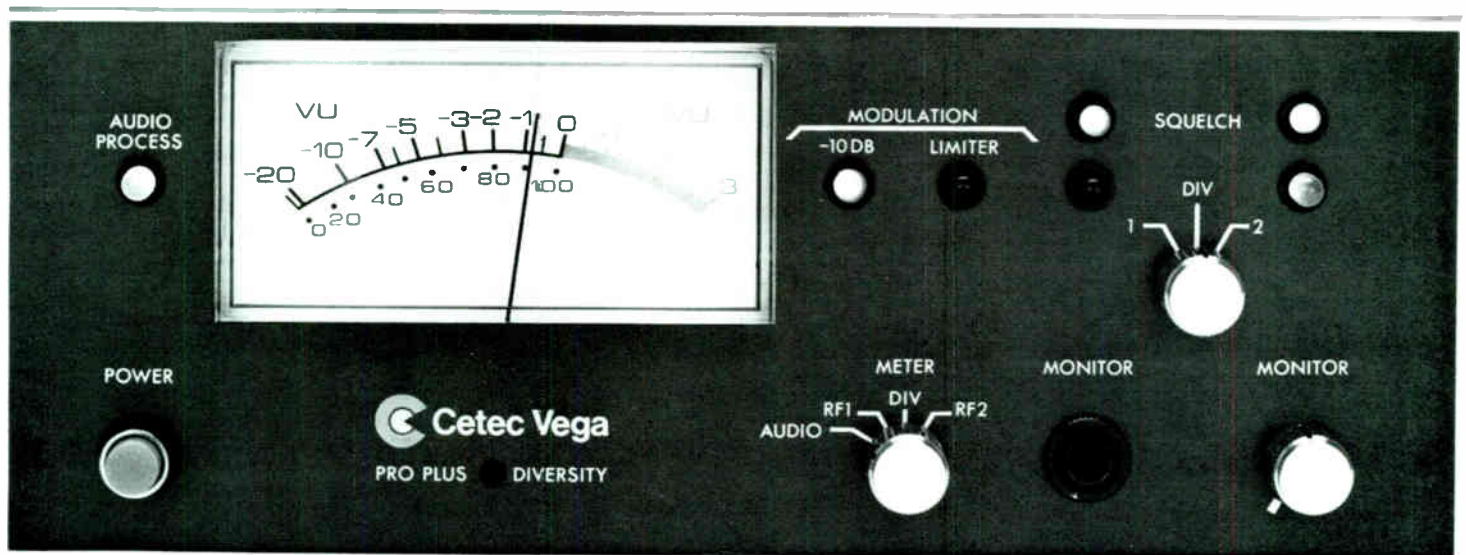
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INTERACTIVE



Richard Haukom, President of The International Interactive Communication Society, holds the "share disk."

The International Interactive Communication Society

by Elizabeth Rollins

For those of us who are shuffling bewildered into the era of the LaserDisc, there is help. The International Interactive Communication Society (IICS) is an organization designed to provide information and hands-on experience for companies and individuals who want or need to know how to use interactive video technology most successfully.

Not surprisingly, the group was started a year ago in one of the true international R&D hot spots, the San Francisco Bay Area. Official chapters have since become active in Los Angeles and New York City, with sparks of interest kindling in several other cities such as Boston and Washington, D.C.

IICS president Richard Haukom (who runs his own interactive software design company in San Francisco, InterAct) explains that the group is responding to the needs of a young, but rapidly growing industry: "It's an attempt to get information from various components of interactive video—it's such an information intensive industry. Essentially, we're constructing a network so the dumb questions don't have to be asked

again and again. But it's also a professional organization trying to improve the medium by setting standards and providing communication between end-users and manufacturers; in addition to software, there are so many hardware components."

IICS offers many ways to answer the "dumb questions." Monthly meetings feature lectures on topics as diverse as international videotex, level four software programming, and how to use the new Sony BVH-2500 video tape recorder to get the cleanest still-frame video on disk. Many members feel the most important reason to go to the meetings is to make connections and to find out what people in their area are doing in the field. The monthly IICS Newsletter keeps members current, as well as giving them background on some of the more complex aspects of putting a disk together.

Perhaps the most practical resource the IICS can offer a serious member is the opportunity to learn by doing. Making mistakes when creating an interactive LaserDisc can cost thousands of dollars—but for \$600, an IICS member can buy five minutes and do whatever he wants on a "share disk." The first IICS-

sponsored share disk was completed last November. Four companies bought programming time on the single-sided disk: Whitney Educational Services, Lockheed, Media Videotex, and Television Associates, a Mountainview, CA video production company who pre-mastered the material for disk. At the end of the disk is an experiment showing the differences in how various video tape formats such as VHS, Beta, ¾", and one-inch translate to disk. The programming itself varies from straight linear industrial patter to promote the companies who bought the time, to lush still-frames of Tahiti, the National Parks, and the San Francisco Bay Area. Television Associates general manager Jim Taylor says that although it's somewhat of a jumble, the disk can really be very useful, and has sold 90 copies: "It contains over 4,000 still-frames, and you can really play around with the computer programming aspect of it—it's a great chance to experiment with data base management." Taylor says Television Associates is marketing the disk for \$100 to the general public, and \$50 to IICS members. Both Taylor and president Richard Haukom vow continued experimentation with the low-cost share disks.

Bridging the gap between end-users and manufacturers is a stated IICS goal. To that end, Haukom is intent on getting all the majors actively involved as corporate sponsors. Sony has already put out the \$500 sponsorship fee, and has donated a computer system and a software program for a computerized "billboard" network which Bay Area members can tap into for many kinds of information. In '85, Haukom hopes to expand the billboard services nationally. (Actually, it was Sony employee Vicki Vance who first thought of establishing the IICS, and who is now organizing its newly-formed New York City branch.) Other corporate sponsors are Media Videotex of Vancouver, B.C., GESI of Berkeley, CA, and Pioneer.

Individual memberships cost \$50, and Haukom is planning to offer discount subscriptions to a variety of well-established publications in the interactive field as an incentive to get more members. Tentative goals for '86, according to Haukom, are to put together an international conference, and a series of specialized workshops and seminars. For more information, write the International Interactive Communication Society, P.O. Box 4520, Mountainview, CA 94040. ■

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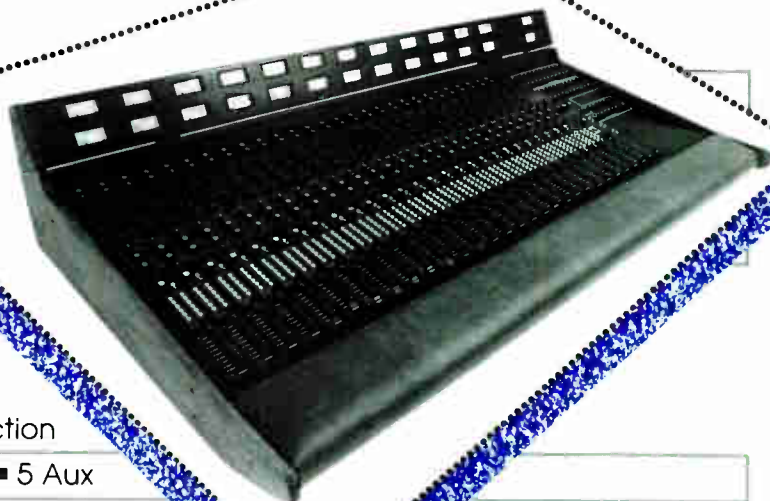


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Video Events Calendar

APRIL 1985

- 14 - 17 **National Association of Broadcasters.** Annual convention. Las Vegas Convention Center. Information: Dr. Harold Niven, National Association of Broadcasters, 1771 N Street N.W., Washington, D.C. 20036. Telephone: 202/293-3540.
- 15 - 16 **The Future of Film and Video Distribution in Education** organized by British Universities Film and Video Council. Theme: impact of new technologies on film and video distribution in education. British Academy of Film and Television Arts, Picadilly, London. Information: Murray Weston, Director, BUFVC, 55 Greek Street, London W1V 5LR. Telephone: 01-734 3687.
- 20 - 25 **MIP-TV.** 21st Annual Marche International des Programmes. International TV program marketplace. Palais des Festivals, Cannes, France.

MAY 1985

- 5 - 8 **ABC-TV Affiliates Meeting.** Information: ABC, Affiliations Department, 1300 Avenue of the Americas, New York, NY 10019. Telephone: 212/887-7777.
- 7 - 11 **American Women in Radio and Television.** Annual convention. New York Hilton, New York City.
- 12 - 15 **Broadcast Financial Management Association** 24th annual convention. Chicago. Information: Bob McAuliffe, Broadcast Financial Management Association, 360 North Michigan Avenue, Suite 910, Chicago, IL 60601. Telephone: 312/332-1295.
- 12 - 15 **NBC-TV Affiliates meeting.** Century Plaza, Los Angeles.
- 13 - 15 **Sat Expo '85.** Third annual. Sponsored by Channel Guide and Satellite Broadcasting. Sheraton Denver Tech Center, Denver, Colorado. Information: Irl Marshall, 303/779-7930.
- 15 - 18 **Public Broadcasting Service/National Association of Public Television Stations** annual meeting. St. Francis Hotel, San Francisco. Information: Jane Brantley, 475 L'Enfant Plaza S.W., Washington, D.C. 20024. Telephone: 202/488-5000.
- 15 - 18 **American Association of Advertising Agencies** meeting. Greenbrier, White Sulphur Springs, W. VA. Information: Jerry Graniero, American Association of Advertising Agencies, 666 Third Avenue, New York, NY 10017. Telephone: 212/682-2500.
- 19 - 22 **CBS Affiliates meeting.** Fairmont Hotel, San Francisco. Information: Diane Quinzi, CBS, 51 West 52nd Street, New York, NY. Telephone: 212/975-4321.

JUNE 1985

- 2 - 5 **NCTA. National Cable Television Association.** Annual Convention and National Cable Programming Conference. Las Vegas. Information: Dan Dobson, National Cable Television Association, 1724 Massachusetts Avenue N.W., Washington, D.C. 20036. Telephone: 202/775-3606.
- 5 - 9 **Broadcasting Promotion Association Seminar.** Hyatt Regency, Chicago. Information: Patricia Evans, Broadcasters Promotion Association, 248 West Orange Street, Lancaster, PA. Telephone: 717/397-5727.
- 6 - 9 **Broadcast Promotion and Marketing Executives/Broadcast Designers Association** annual seminar. Hyatt Regency, Chicago. Information: Lance Webster, Broadcasters Promotions Association, 6813 Alto Loma Terrace, Los Angeles, CA 90068. Telephone: 213/856-9278.
- 6 - 12 **Montreux 1985.** 14th International Television Symposium and Technical Exhibition. Montreux, Switzerland. Information: P.O. Box 97, CH-1820 Montreux, Switzerland.
- 8 - 12 **American Advertising Federation.** National convention. J.W. Marriott. Washington, D.C. Information: American Advertising Federation, 1225 Connecticut Avenue N.W., Washington, D.C. 20036. Telephone: 202/659-1800.
- 10 **Videotape Production Association's Monitor Awards.** New York State Theater at Lincoln Center, New York. Information: Jessica Jossell, 212/265-4160.
- 12 **International Radio & Television Society** annual meeting and Broadcaster of the Year luncheon. Waldorf-Astoria, New York. Information: Marilyn Ellis, 212/867-6650.
- 17 **Clio Awards.** New York State Theater at Lincoln Center. New York. Information: Clio Awards, 336 East 59th Street, New York, NY 10022. Telephone: 212/593-1900.

AUGUST 1985

- 4 - 7 **Cable Television Administration and Marketing Society** 11th annual conference. Fairmont Hotel, San Francisco, CA. Information: Martha Turner, 404/399-5574.
- 25 - 27 **Eastern Cable Show.** Sponsored by Southern Cable Television Association. Georgia World Congress Center, Atlanta, GA.

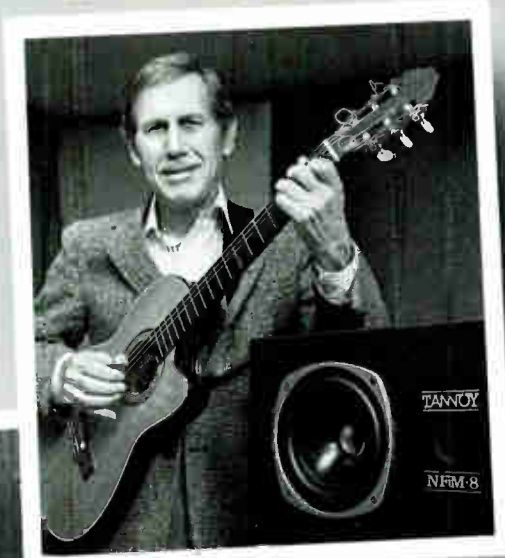
SEPTEMBER 1985

- 11 - 14 **Radio-Television News Directors Association** international conference. Opryland, Nashville, TN.
- 18 - 20 **Atlantic Cable Show.** Atlantic City Convention Center. Atlantic City, NJ. Information: 609/848-1000.

TANNOY NFM-8;

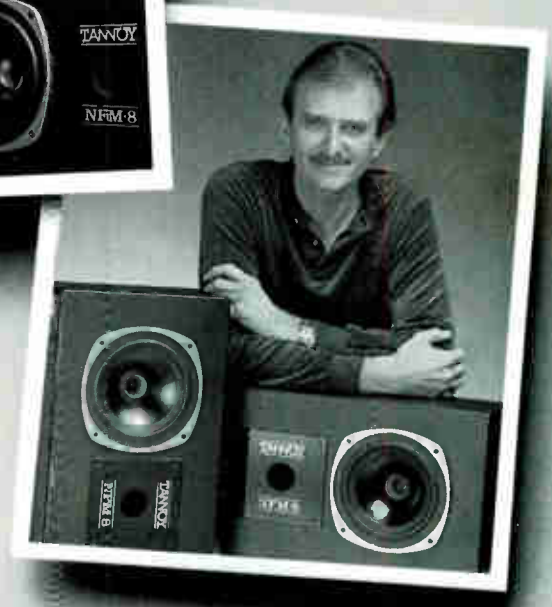
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Audio Console Selection Booklet

Rupert Neve, Inc., have published a concise booklet on buying an audio console for broadcast video applications, presented in a clear, straightforward fashion, without mentioning any specific products. This free guide covers a variety of practical topics, including: common console features, output configurations, the basics of automation, "console shopping" tips, and defining users' needs. For a copy, circle the reader service number below, or write and request "Buying an Audio Console for Broadcast Video" from Rupert Neve, Inc., Berkshire Industrial Park, Bethel, Connecticut, 06801.

Circle #047 on Reader Service Card



New Telex Diversity System

A new diversity system for wireless microphone applications from Telex utilizes two antennas and a patented Pos-i-Phase™ "smart" circuit in the receiver that analyzes the signal-to-noise ratios as well as the phase relationship of both signals received. The circuit compares the two signals, corrects for any major differences in phasing, and combines them for maximum signal strength.

Both of the two packages recently unveiled include the FMR-2 receiver described above, two $\frac{3}{8}$ wave antennas, a microphone and a transmitter. One package includes the WHM500, a handheld condenser mike with self-contained transmitter, equipped with a switch that acts as a "standby" to control the RF. The WT-200, a small belt-pack transmitter with the same switching feature, has phantom power so it is compatible with most popular lapel mikes, and forms another package when combined with the Telex WLM-200 miniature microphone. The FMR-2 receiver is built into a rugged housing and includes front panel LED meters for signal strength and audio level, facilitating the monitoring of operating status under any conditions.

Circle #048 on Reader Service Card



AXE Audio-Video-MIDI Synchronizer/Metronome

The AXE-1000 from Artists X-ponent Engineering of Menlo Park, CA, is an extremely accurate, micro-processor-based programmable digital metronome/synchronizer designed for recording and syncing music to film and video. The unit allows the user to: program various tempos to run for a specific number of beats; automatically start each tempo from SMPTE coded film, video or audio tape; put out a metronome pulse for live recording; and automatically control MIDI equipped devices (including accelerations and retards) in exact sync.

Up to 50 programmable tempos can be entered in either beats per minute or frames per second. Four frame formats are provided: 24 (film), 25 (EBU), 29.97 (NTSC drop frame), and 30 (NTSC) frames per second. Tempo durations can be entered by the total number of beats or for a specific period of time (accurate to 1/100th second). The KT-1000 will save and load the user's program onto tape or to an AXE non-volatile memory card. An add-on RS-232C computer interface buss will be made available so programs can be input from a computer or read out via a computer monitor and/or printer.

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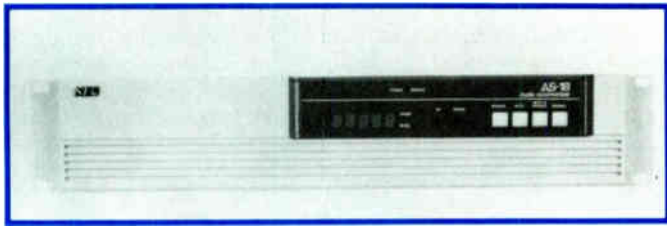


Symetrix 511A Noise Reduction

Symetrix, of Seattle, Washington, have unveiled their new Model 511A, a single-ended noise reduction unit which operates without traditional encode/decode processing. The 511A is an update of the company's 511 unit, and is used to remove noise from prerecorded tapes, or virtually any noisy audio source, including mixers, effects, and processing devices. Applications include recording studios, broadcast facilities, video postproduction, tape duplicators, and sound reinforcement companies.

This stereo/dual independent mono processor operates via voltage controlled dynamic filters in series with a "soft-knee" downward expander. The front panel includes variable threshold controls for both expander and filter circuits, and separate in/out bypass switches for each channel. The 511A, priced at \$595, is housed in a single-space rack mount chassis and both balanced and unbalanced inputs/outputs are provided.

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NEC Digital Delay/Synchronizer

NEC's AS-18 digital audio synchronizer is designed for matching audio to video, or for virtually any audio delay or timing function application. Features include: two audio channels with an optional third channel; one second per channel of delay (optionally expandable to 4s/ch); operation with any frame synchronizer; delay can be boosted in non-video applications (such as radio broadcast programming) to a maximum of 12 seconds; 16 bit quantizing; 48 kHz sampling frequency; 20 to 20k Hz frequency response (+.5, -1.0 dB); and a dynamic range of 90 dB. The basic two channel AS-18 is priced at \$9,500, and several remote control options are available.

Circle #051 on Reader Service Card

E-V Eight Channel Rack Mount Mixer

Electro-Voice is now offering their EVT 5208 stereo mixer in a convenient, rack-mountable version. The new EVT 5208-RM features low-noise, three-band EQ; stereo and mono outputs; LED VU meters; monitor send; and a built-in reverb. Each of the eight channels accepts a balanced low-impedance mike level, or high-impedance line level input. Effects inserts are provided on each channel, as well as on the two sub-group outputs.

In addition to mono, stereo and monitor outputs, the mixer's output section includes the following controls: effects return master; aux input master and reverb return master (each pannable to the stereo sub-groups); and meter assign switching. The EVT 5208-RM is priced at \$825.

Circle #052 on Reader Service Card



Shure Mike-to-Line and Headphone Amps

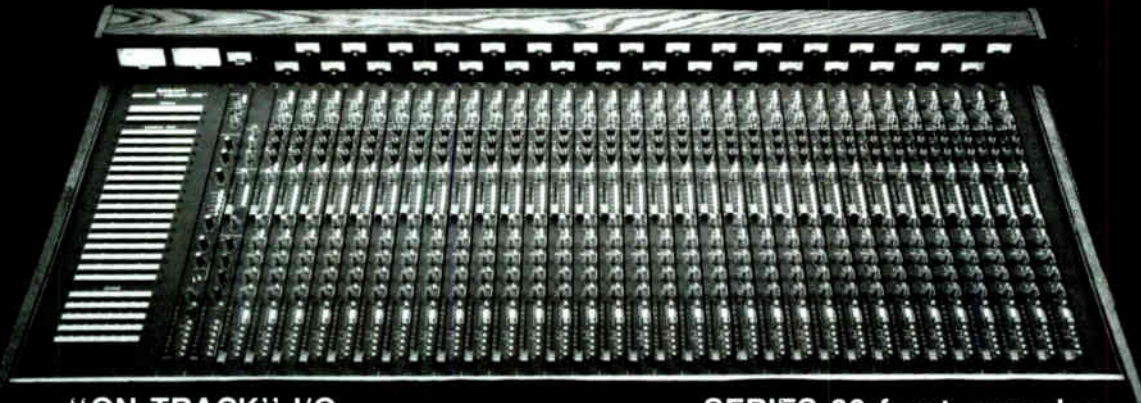
Shure Brothers, Inc., of Evanston, IL, have added microphone-to-line and headphone bridging amplifiers to their selection of compact, field production products. Priced at \$175, the FP11 mike amplifier provides up to 84 dB of gain in 6 dB increments so microphones and other low-level devices can be boosted to line levels. Other applications include gain boosting for long cable runs and occasions when signals are sent over telephone lines. The FP11 includes a switchable peak limiter and LED peak indicator. Other features include XLR input/output connectors, mini-phone jack aux input, line output spring clips, and single nine-volt battery powering.

The FP12 headphone-bridging amplifier ac-

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cepts a microphone or line level signal, bridges it, and produces a signal sufficient to drive headphones at loud volumes. The FP12's in-line bridging design allows several units to be used together without deteriorating the original audio signal and permits the checking of microphones or line level cable runs without interrupting the source signal. In addition, the FP12 can also be used for multiple headphone feeds, a two station intercom, extra power for existing headphone circuits, and as a headphone practice amp for electronic instruments. Standard features include: switchable mike and line level inputs, balanced loop-through via XLR connectors, and phone jacks. The Shure FP12 is priced at \$160.

Circle #053 on Reader Service Card



Tektronix Measurement Package

The MP2903 measurement package from Tektronix is designed for users needing fast implementation of an automated portable oscilloscope measurement system. It includes an enhanced version of the Tektronix 2465 DVS scope, the powerful MC68000-based 4041 system controller, and 4105 color display terminal. Standard with the

new measurement package is TEK EZ-Test software, a test program generator. The MP 2903 measurement package is available in a number of alternate configurations. Upgrades, including higher performance color graphics terminals, are also available. The Tektronix MP2903 is base priced at \$21,510.

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Softouch Data Storage/Display Option

The BTX Data Storage/Display option is an enhancement to the Softouch audio editing system that allows the unit's Softkeys™ and Loop Memory to be extended, preserved, protected and reviewed. This enhancement allows memory data to be stored on microcassette tapes, printed on a standard computer printer, displayed on a VDT or transmitted via RS-232 to another computer.

Each cassette tape gives the user access to an additional 990 Loops and 160 Softkeys. Once the data is on cassette, the tape provides secure backup for edits and commands. The cassette can then be filed or carried to a different facility for use on another Softouch. The printer capabilities allow the Softkeys and Loops to be printed on any printer compatible with the low-cost Epson RX-80, for session documentation or as a reference for later work.

The Data Storage/Display option is available in two models. Model 4795 includes special Softouch software, the microcassette unit, RS-232 cable, tapes and complete instructions. It is priced at \$2,000. Model 4796, a special computer interface version priced at \$1,000, does not include the microcassette unit and its related peripherals. For both models, factory-only upgrades are available at additional cost.

Circle #055 on Reader Service Card

AUDIO AFFECTS

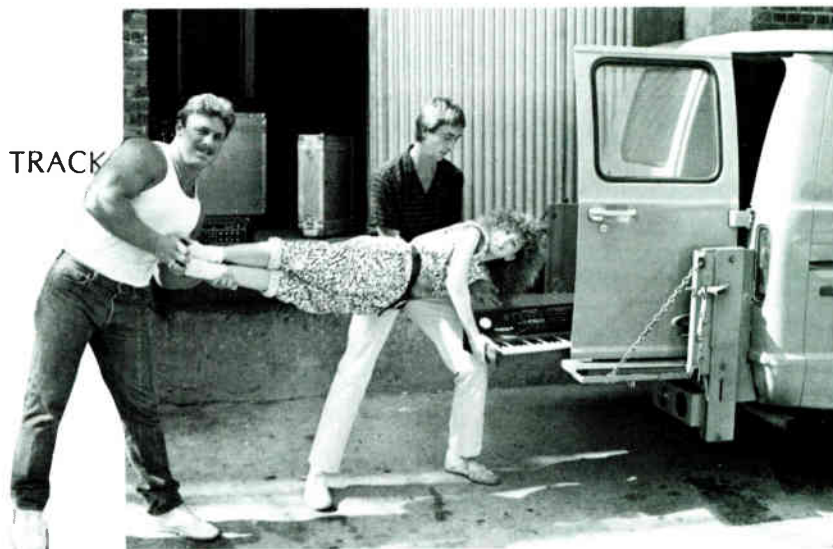
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JOHN BONNER, CHIEF ENGINEER, GOLDWYN SOUND FACILITY

"Everyone in broadcasting looks for the ultimate in signal clarity with as much definition as possible. BBE accomplishes this without compromise."

PAUL SAKRISON, CHIEF ENGINEER, KIK-FM

"In my opinion, BBE is an indispensable tool in live sound reinforcement. Use of the device at the Pacific Amphitheatre and with tour groups proves that BBE really makes live amplified sound, sound live. That's what it's all about."

MICHAEL ADAMS, SOUND IMAGE (SOUND REINFORCEMENT CONTRACTORS)

"Our company, which deals in theater sound installations and service, was asked to evaluate the BBE 202R audio processor. We were very impressed. The need for this product in theaters can only increase due to the public's demand for better motion picture sound."

JAMES T. WARD, THEATER SOUND CONTRACTOR

"I'm a perfectionist not only when I play music but in the recording process as well. BBE makes the recording sound live and that's what I want. No more sessions without it."

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VIDEO PROS TALK AUDIO

Mix surveyed some major video production and postproduction houses to find out how they have outfitted for audio production.



Crawford Post Production in Atlanta uses a Neve automated console with Studer tape machines to handle their audio-for-video needs.

by Elizabeth Rollins

When MTV went on line as the first network to offer stereophonic programming, perhaps that is when pro-sound-for-TV seeds began germinating in a few ad men's heads. More likely, the technological excitement of digital reproduction made media moguls yearn to see electronic graphics, to hear original, synthesized scores on *their* corporate presentations—to make that hilarious dialogue and those screwy sound effects *sound* as good as the commercial *looked*.

In the past few years, advances in video tape graphics, animation and editing capability, and inventions such as the Montage disk-based editing system have wooed the film world from the flat-bed to the on-line suite. Most moderate to high budget commercials and pop clips are shot on film and edited on video, as are many television programs and an increasing number of feature films.

So now there are video facilities in most major markets which are equipped with the mandatory film-to-tape transfer gear, ADOs, Boschs, Paint Boxes, Mirages and Montages, plus trucks that can peel out with seven cameras to cover NFL

football or Handel's "Messiah."

Of course, the audio world has been spinning at an equally dizzying pace. The synthesizer with MIDI alone has introduced radical perceptions of (and practices in) making music, not to mention vast advances in signal processing and encoding. Yet you don't have to be a famous New York producer to take advantage of these new hard and soft toys. Nowadays, if the used car salesperson in Menemomie wants strings on his 30 second radio spot, he's got strings, courtesy of his local recording studio equipped with a variety of synthesizers.

"We do audio-for-video . . . it's really an outgrowth of audio mixing for film."

But with all these advances and market shifts, is there an equal aural excitement in those video control rooms? Standards in audio-for-video are being pushed ever-higher. Many major video facilities have installed, or are just about to finish put-

ting in very competitive audio recording and sweetening rooms to go with the mandatory layback facilities.

This is an expensive chore, however, and it's a lot of trouble for most video people who don't have much experience at this sort of thing. So some facilities continue to rely on studios who've proven their expertise in audio-for-video recording and mixing; still others have clients who take care of all that anyway. Just about the only thing their sound engineer has to do is get the two track tape from the producer and lay it back to the one-inch video master (hoping that the time code is reliable and will sync up to his equipment).

Mix surveyed some video houses in various geographical regions to see how audio and video are getting on together in closed quarters. Editel Chicago is one of the most well-known facilities in the country, turning out commercials for the nation's largest retailer, Sears and Roebuck, United Airlines, McDonald's, Kellogg's, and Lipton Tea, to name a few. When Boy George wanted to re-edit his video, "The Metal Song," (produced by Limelight Productions) he turned to Editel while he was in town for a concert. Vice-president of technical services Ler. Pearlman has

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PHOTO: CHRISTI CARTER

Macy's Broadcast Advertising was the first shoot at One Pass' new King Street studios complex in San Francisco.

some strong opinions about some of the market shifts he's seeing: "Since there are too many studios competing for too few dollars in the recording industry, everyone suddenly says, 'We have to diversify.'" He continues, "But you don't just automatically go from a \$50 an hour rate for mixing a record to a very specialized job of mixing and laying back for television. One of the big problems with audio is that it sometimes comes in with no synchronization, or improperly recorded time code. Some recording studios say that audio-for-video is the thing of the '80s, so they lock up two 24 track tape recorders and they say, 'We do audio-for-video.' We should remember that it's really an outgrowth of audio mixing for film. A lot of expertise is in the editing—the skill at handling dialogue," observes Pearlman. Editel has a 24 track analog and a two track digital recorder, and these machines are used mainly to mix down for layback.

This is not a facility for cutting and mixing jingles, and perhaps that's why Pearlman is so outspoken about the quality that comes out of audio studios. He's quick to point out that Chicago, sometimes called "the jingle capital of the nation," suffers no dearth of audio quality. "Universal, Streeterville, CRC, Zenith, db—these are all excellent facilities," he says of companies with which his clients constantly interact.

Editel Chicago has siblings in Los Angeles, New York, and now, San Francisco, with the recent merger of the Editel Group and One Pass, Inc. (owned by Scanline, Inc.) The San Francisco production company has several divisions to manage mo-

bile and editing facilities, corporate projects, commercial campaigns, and programming distribution. Clients include Levi Strauss, HBO, and Apple Computer.

Buying a soundstage last November to round out their extensive services did not, however, make One Pass complete. Audio is next. Vice president/general manager Scott Ross, a former audio engineer, speaks candidly: "We are in a bit of a turmoil right at the moment. Changes are on the horizon. We've purchased a lot of equipment, but we're in a difficult situation because we know what we need, but we don't know how to build a control room. So we've been

talking to lots of famous people like Chips Davis and Jerry Jacob," says Ross of the project, which he estimates will be finished by late spring or early summer. New equipment for the production and sweetening room includes: a Harrison automated 3232 console, Otari 24 and two tracks, an Adams-Smith synchronizer and a CMX 340X.

"Up until now we've been aware that our audio sweetening room was meager, but what happened was, actually our clients used it a lot!" says Ross. "But now, some of our clients are beginning to demand more. The spec for the new room is to be able to do what we do now only faster and better, to have a larger voice-over booth, Automatic Dialogue Replacement, basic tracking capability, and Foley," Ross forecasts.

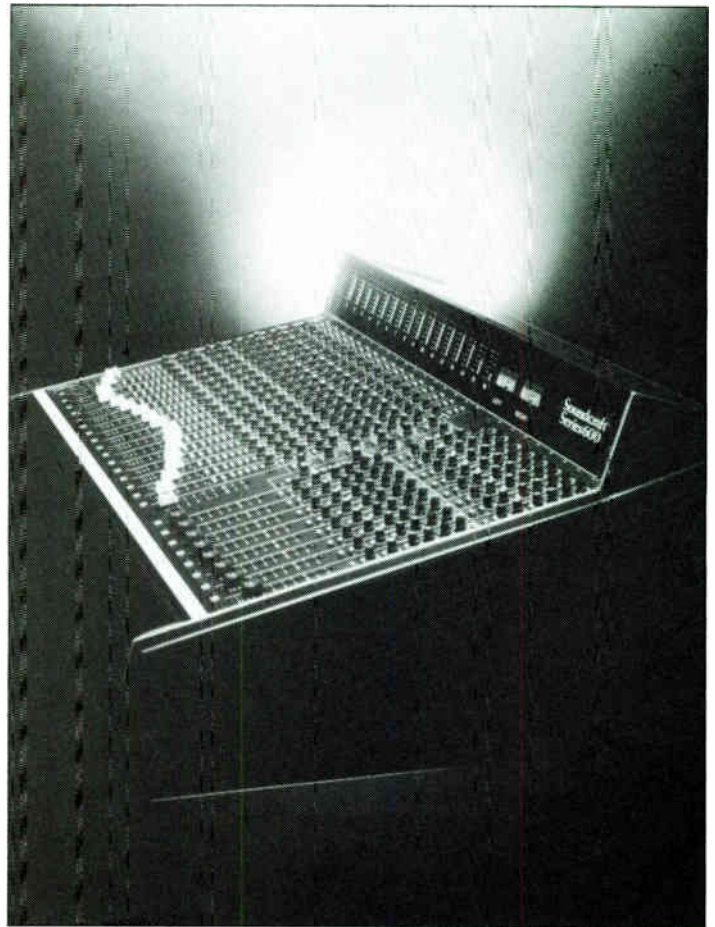
Blueprints are being drawn up at The Post Group in Los Angeles for a deluxe audio-for-video set up. "Actually, the plan is for two rooms: a pre-lay room, and a sweetening room," reports Richard Thorne, senior vice president of the Post Group. With ten editing bays chock full of the most sophisticated graphics and animation tools, this postproduction facility snags clients such as Fusion Films (recently they've posted such videos as Sammy Haggard's "Voice of America," and Narada Michael Walden's "Gimme, Gimme, Gimme") RC Entertainment, and the advertising firm Callner-Shapiro. "We have a lot of great clients who want to do everything here...they've been asking us for years to put in an audio room, and we plan on opening a pre-

Several hundred JVC BR-7000URs fill the racks of VCA West, Video Corporation of America's Huntington Beach, CA duplicating facility. VCA, which has several locations throughout the country, purchased 2000 of the JVC Hi-Fi duplicators.



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mier, you-got-to-see-it room," says Thorne with the enthusiasm of a Hollywood producer. He says he's looking at an SSL-6000 board for the heart of the room, which he expects to open in May. Plans further down the road include an extensive sound effects library stored on some format of laser disk.

Scene 3 in Nashville is a video production company with a creative staff that focuses on creating entertainment programming. While the company has for quite some time had a well-outfitted audio support truck to supplement their 45-foot, six camera video truck, management realized this year that their in-house audio was lacking. Chief engineer Mike Arnold reports that Scene 3 will have a new sweetening studio on line by the time this article appears in print. Arnold says that although his company could handle most audio jobs in-house, "it hasn't been the most cost effective way to do the job." He says most of the projects mixed at Scene 3 were produced by the company for television distribution, such as: two syndicated music specials sponsored by 7-Up Bottling Company called, "Story, Songs and Stars," and "The Gift of Song."

The new room includes: a Harrison TV4 console, a Studer A80 24 track, an A810 two track with time code capability, and a BTX Shadow synchronizer, which will have the IBM PC-based control option as soon

as it becomes available. The on-line editing bay will be getting a new Harrison Pro-7 console as well.

In 1978, VCA Teletronics in New York City installed a separate audio room when "sweetening" to many video houses still meant a non-nutritive powder to put in your coffee. A year-and-a-half ago, according to audio engineer Ira Kemp, the studio underwent a major upgrade after months of collaboration with Studer, Solid State Logic and Audio Kinetics. "The original concept for the SSL-6000 console grew from our ideas. We contacted SSL and had some discussions," says Kemp of the three stereophonic buss board that Teletronics bought. "The big question at that time was, 'How can I mix recording audio with film and video most effectively?' Two years ago there was no one to help answer that question, so we hired a staff and put it together," explains Kemp, who was chief technician at The Record Plant before he went to Teletronics four years ago. The next step involved Studer. "We needed a machine that would run at three speeds and could handle 14-inch reels. We got an A800 four track made for us, then expanded to eight and had half-inch track heads made for it," he reports. Audio Kinetics developed the current "Options 64" software largely as a result of the debugging work done at Teletronics, according to Kemp.

—PAGE V102

Opportunities in Stereo Television



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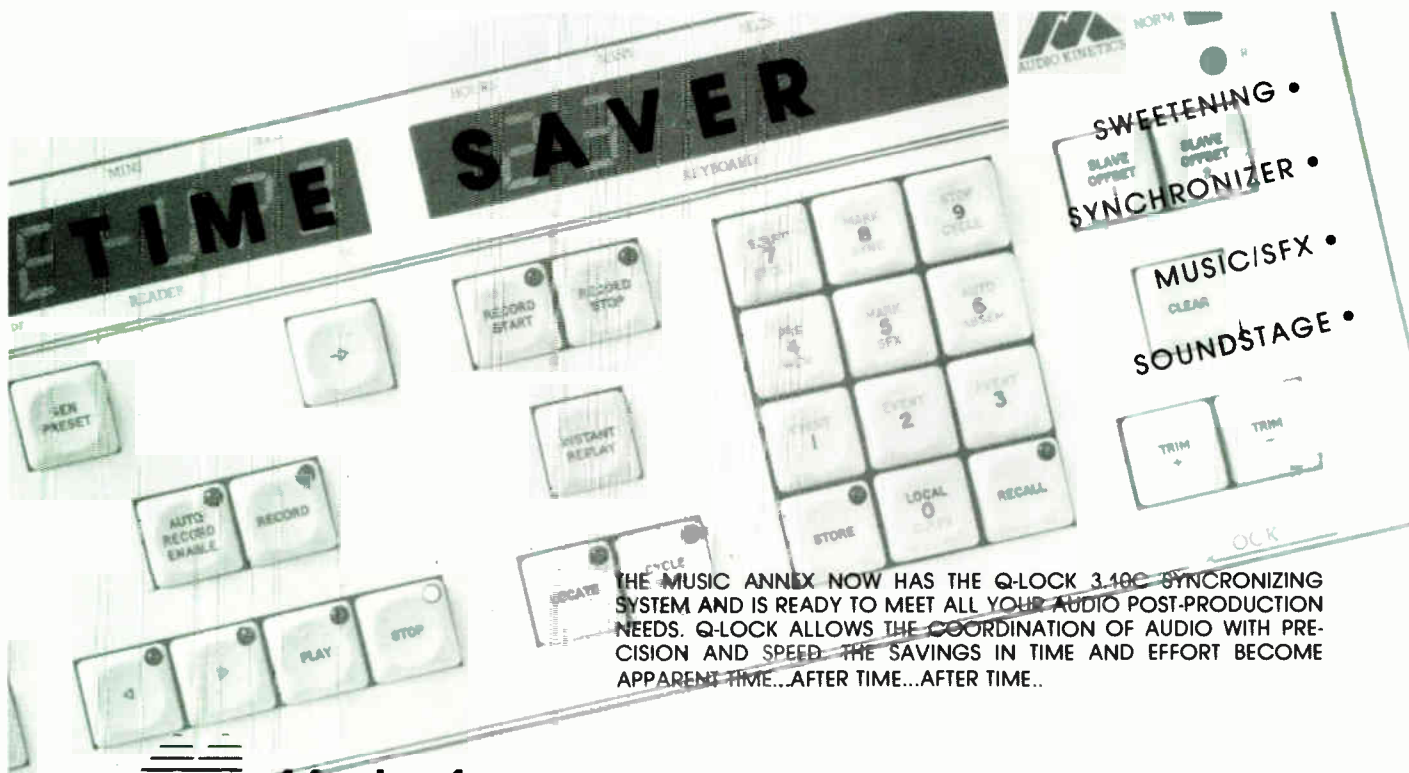
The Video Control Room at Ardent Teleproductions.

—FROM PAGE V100

When asked about how audio should fit into the video production house of the '80s, Kemp says, "Most average recording studios can't afford all the equipment you need to do it right. For example, we make the 24 track lock up to house sync to be sure we have a correct reference. That's expensive."

So what's happening now at Teletronics? "We're gearing up to adopt the DASH standard. You see, right now, we're doing the Sony video 45s—converted to digital audio, then digital all the way through until the end of the process," says Kemp casually of this major upgrade. Toward the end of the conversation he sums up his stance: "I think the VTR will launch the audio digital revolution."

Moving down the east coast to Memphis...there's news from a name familiar to both the audio and video communities. Ardent has been remodeling one of its three 24 track audio rooms to target audio-for-video postproduction. This month, installation will be completed, including a new console with time code based automation, and the BTX Softouch syn-



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chronization system to make looping and dialogue replacement easier.

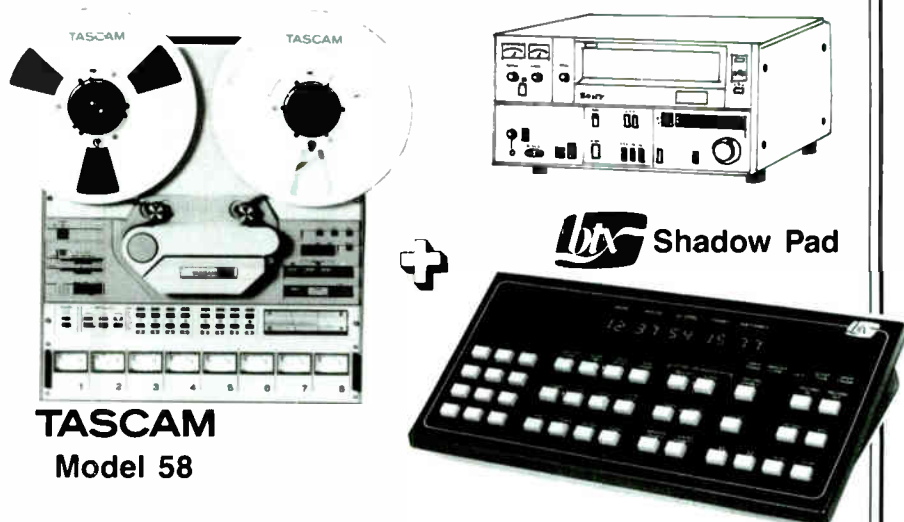
Ardent had established a reputation with 19 years of experience in audio recording and disk mastering, then three years ago, the company expanded into video production and postproduction. When Ardent produced the highly successful "TV Dinners" video for ZZ Top, they began to attract a fair amount of music video work, but major commercials have come slowly. "Memphis has been sort of a late bloomer," says owner John Fry. "Now we're starting to get some of the run-away business from large companies that are based in this region who used to automatically go to New York or Los Angeles," he explains. Recent completion of a national TV spot for Dr. Scholls with original sound effects and music scored on an in-house Fairlight CMI synthesizer has proven Fry's point. Since the Fairlight has been so handy for scoring, Fry says he's waiting in line for the release of an interface which will give it SMPTE time code synchronization so sound effects can be easily and accurately inserted on tape.

Crawford Post Production in Atlanta, which opened in 1980, has emphasized audio from the beginning. "We started as a 3/4-inch off-line facility and audio facility. Video and audio have grown together," says marketing manager Kathy Kelly. Crawford's recent move to a 20,000 square foot space in a new industrial park has allowed for two more comfortable audio rooms. The larger one has a Neve 8128 console with Necam II automation, and a Studer A80 24 track. This past winter, Jeff Glixman spent three months producing a band for Geffen records in this suite. The smaller voice-over studio has a Trident series 70 board, and at press time, Kathy Kelly reported that its Otari eight track would soon be replaced with a 24 track tape recorder.

Since the Atlanta market supplies a lot of high-end corporate work from clients such as Coca Cola and IBM, Crawford has armed themselves with the Bosch FDS 4000, the Dubner CBD-2, and the Ampex AVA graphics systems, as well as the Montage editing system. Unlike Ardent and Scene 3, Crawford sells itself as "strictly for rent," not as a production company.

For full production, post-production and audio, Atlanta offers the two-year-old Video Tape Associates, the younger sibling to six-year-old VTA of Hollywood, Florida. In Atlanta, the two on-line bays, remote truck and soundstage have been used to produce a number of

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Turner Broadcasting programs ("Baseball Behind the Seams," with Kirk Douglas, and two shows in the series "The World of Audubon.") Both VTA facilities are capable of scoring and mixing in-house. The Michael Jackson "Billy Jean" concert for MTV was transferred from film to tape, on-line edited, and mixed down in VCA's 24 track audio room.

In subtle contrast to the Turner-home base city, Hollywood, Florida generates predominantly commercial work from such companies as Eastern Airlines, Fotomat, Blue Cross, and HBO. VTA's audio engineer Joe Moore says their 24 track MCI room is a good sales draw: "It's amazing how intricate commercials are. All of a sudden if you have the capability, everyone is doing 24 track audio." But he goes on to clarify that, "We're not in the music biz. We don't want to grab all those jingles away from the studios or compete with them. Audio-for-video—that's what we do here. It's a world unto itself. It's certainly not just music video. It's not MTV. We mix specifically for television," says Moore, who settled into the audio-for-video specialty six years ago.

Of all the sunbelt cities, Dallas is the one most romanticized by the media right now. Movie audiences are beginning to know Waxahachie (20 miles south of Dallas) like their own backyards through movies such as "Places in the Heart," "Paris, Texas," and "1918" which were all shot there. "Tender Mercies," "Silkwood" and the soon-to-be-released "Return to Peyton Place" are some other features that were shot in the Lone Star State. Does this mean all the postproduction houses in Texas are getting a piece of the Hollywood pie? Dallas' Video Post and Transfer owner Neil Feldman says that is a popular misconception. "Hollywood may come here to shoot, but they go home to edit," he reports. "The real core of our business here that we strive to cultivate in the long run is corporate industrial video." Feldman, a transplanted New Yorker, says his market is burgeoning with new technologies such as interactive disk, "but especially with these, you have to be competitive—you have to show you can give New York and Los Angeles quality at Texas prices."

Video Post and Transfer is equipped to handle two track audio, but Feldman gladly refers clients to neighboring Omega Audio for more complicated projects. "I don't want to be forcing clients to pay video prices for audio mixing. I try to do the video with a scratch track. We mix down to stereo, then lay it back to video," he

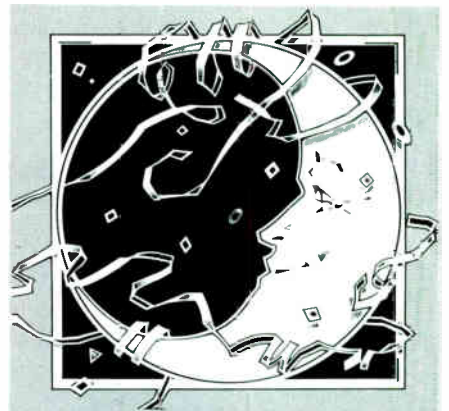
says. An example of a project Video Post and Transfer worked on with Omega is the PBS Christmas special, "Handel's Messiah," which was shot live in Houston.

Meanwhile, back in Hollywood, the business of entertainment fills 75 percent of the job orders at Pacific Video, according to marketing representative David Toma. "But I sort of hate to break it down in percentages that way because that remaining 25 percent of commercials, industrials and religious programming is incredibly steady—very important to us," Toma emphasizes. Carson Productions' "Bloopers and Practical Jokes" and Bob Banner's "Star Search" are a couple of the TV shows which are edited and sweetened at Pacific, using their Harrison 48 input automated board and two 24 track machines.

The history of Los Angeles is bound by the mythology of Hollywood—movies, the visual progenitor to video. Naturally, competition is fierce. Vice president of marketing Leon Silverman says, "Our role in management when facing this kind of market is to be constantly looking into a crystal ball—to be always looking five years into the future." When Mix asked for a reading, Silverman obliged by telling us that, "We see a trend toward more digital audio for TV, especially because of the high fidelity VHS and Beta formats. That's why we're so excited about editing the first digitally recorded music TV concert for Frank Zappa [recorded live in New York]." Pacific Video will be mixing digital multitrack down to PCM, then laying it back to one-inch video.

Serious experimentation with direct-read-after-write laser disks comes under the category of R&D. Pacific recently acquired a new DRAW unit from Optical Disk Corporation to, "investigate not only video, but also the possibilities of putting an audio sound effects library on disk for better quality and durability," according to Silverman.

About four years ago when the music business lighted up with a power surge of red, green, and blue video guns, it seemed as if everybody wanted to get into the music video act. Now most studios recognize the breadth of the audio-for-video market, and the specialized equipment and experience it demands. While video facilities may not be direct competition, they might just be keeping these studios on their toes. From conversations with management of video facilities, it seems that an increasing number have grown ears as well as eyes.



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Soundcheck for the



(Left) Name tags identify the 'seats of the stars' for planning the frequent celebrity cutaway shots.

(Opposite) Audiotek's Jim Shoker mixes house sound at the 6,000 seat auditorium employing a 40 input Soundcraft 800 B console and three smaller submix boards, as a total of 260 inputs are handled during the course of the evening.

(Below) A totally independent sound reinforcement system was provided using Showco JM-5 consoles for Prince's portion of the program.



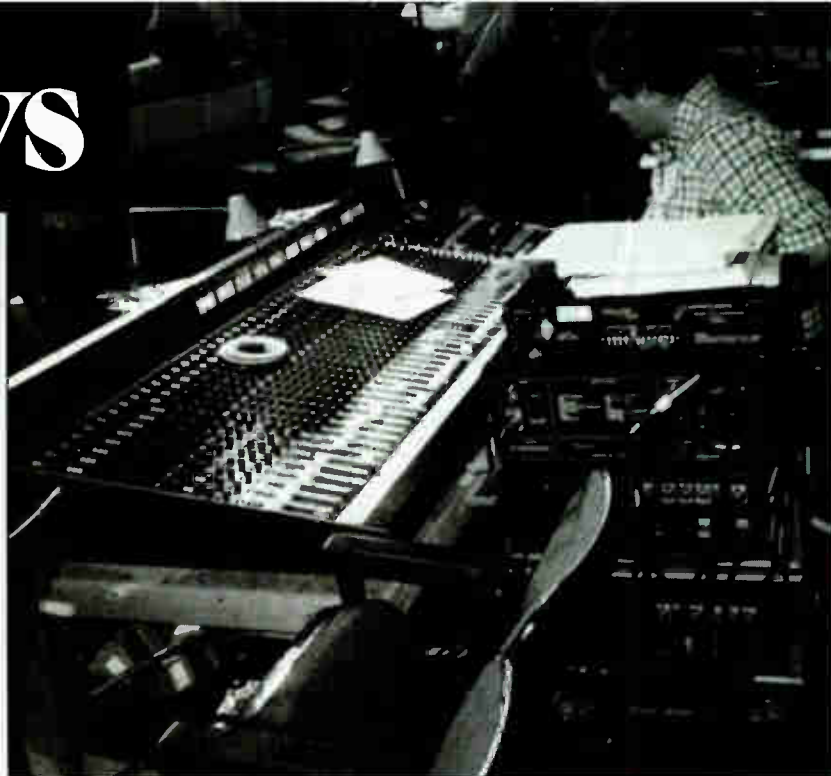
(Above) Don Worsham at the controls in Record Plant Truck #3 mixes performance tracks for the broadcast feed.

(Right) Steve Kibbons ran the Midas 4400 stage monitor mixer, used for all of the performing artists except Prince.



Grammys

—a peek at dress rehearsal for the 27th Annual Grammy Awards held at LA's Shrine Auditorium and broadcast live to 140 million viewers worldwide



PHOTOS BY MR. BONZAI



(Above) Broadcast mixer Ed Greene cues playback of prerecorded instrumental tracks for Tina Turner's dramatic vocal performance. The prerecorded music, which amounted to about 60 percent of the program's instrumental tracks, originated from the Green Crowe remote truck's Otari four track tape machine.



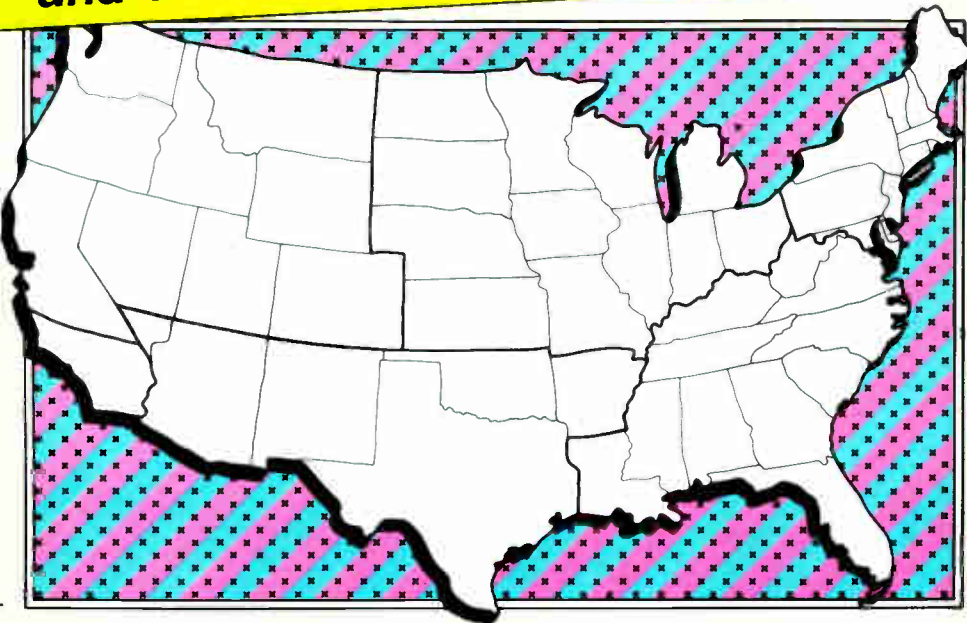
(Left) Sound designer Murray Allen (left) and NARAS special consultant George Simon look forward to the challenges of the evening's broadcast (and party).

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 Drive, Port Chester, NY 10573
(914) 939-2818
Owner: Ray Abel
Manager: Jim Key

AD MUSIC CONCEPTS
APPV
309 19th Ave., Belmar, N.J. 07719
(201) 681-9377
Owner: Daniel Gralick

AMERICAN VIDEO CHANNELS, INC.
VPF, OLVP, VPP/E, APPV
321 W. 44th St., New York, NY 10036
(212) 765-6324
Owner: Jack Allalouf, Liv Hincley, Yair Tropen
Manager: John Middleton

ATEX, INC.
OLVP, APPV
15 Wiggins Ave., Bedford, MA
(617) 276-7108
Owner: Eastman Kodak
Manager: Doug Dowling

ATLANTIC COMMUNICATIONS
VPF, OLVP, VPP/E, APPV
P.O. Box 3003, Framingham, MA 01701
(617) 235-4265
Owner: Wayne H. Brown
Manager: Wayne H. Brown

AUDIO IMAGES
VPF, OLVP, VPP/E, APPV
427 West Pittsburgh St., Greensburg, PA 15601
(412) 832-0228
Manager: David J. Stara

AUDIO INNOVATORS, INC.
APPV
216 Blvd. of the Allies, Pittsburgh, PA 15222
(416) 471-6220
Owner: Norman J. Cleary
Manager: Moira Cleary

AUDIO RECORDING TECHNOLOGY INSTITUTE
APPV
756 Main St., Farmingdale, NY 11735
(516) 694-6036
Owner: Jim Bernard

AUDIO VIDEO PRODUCTION AND RENTAL
VPF, OLVP, VPP/E, APPV
67 North Branford Rd., Branford CN 06405
(203) 865-6768
Manager: Ken Soudan

AUDIO VIDEO PRODUCTIONS
VPF, OLVP, VPP/E
P.O. Box 6287, Lawrenceville, NJ 08648
(609) 882-5570
Owner: Mel Obst
Manager: Manny Obst

AUDIO VISUAL PRODUCTIONS
OLVP
111 Midstreams Place, Brick, N.J. 08724
(201) 899-4342
Owner: George F. Knoll

AVEKTA PRODUCTIONS INC.
164 Madison Ave., 4th floor, New York, NY 10016
(212) 686-4550
Owner: Maria Avgerakis, president
Manager: George Avgerakis, VP & creative dir., Rod Morrison, producer

BALLENTYNE BRUMBLE COMMUNICATIONS
OLVP
800 Corinthian Ave., Philadelphia, PA 19130
(215) 236-3988
Owner: John Ballentyne, Dianne Brumble

BEACH STREET VIDEOCENTER
VPF, OLVP, VPP/E
8 Beach St., New York, NY
(212) 925-4364
Owner: Peter Kantor
Manager: Bill Ruhnke

BEARSWAMP STUDIOS
APPV
1611 Cherry Lane, Macungie, PA 18062
(215) 398-1492
Owner: Clark Ferguson
Manager: Clark Ferguson

M BECKMAN ASSOCIATES
VPF, OLVP
140 W 16 St., New York, NY 10011
(212) 620-0933
Owner: Michael Beckman
Manager: Jeff Shachtman

BEE-VEE SOUND INC.
APPV
211 East 43rd St., New York, NY 10017
(212) 949-9170
Owner: Bruno Vineis
Manager: Camille Crenshaw

BELL & HOWELL/COLUMBIA PICTURES
VPP/E
505 Fifth Ave., #600, New York, NY 10017
(212) 697-7355
Owner: President - Robert B. Plannkuch, VP sales - David C. Cuyler

BES TELEPRODUCTIONS
VPF, OLVP, VPP/E
6829 E Atmore Rd., Richmond, VA 23224
(804) 276-5110
Owner: Guy Spiller
Manager: Charles Reilly

BIG APPLE STUDIOS INC.
APPV
 353 West 48th St., New York, NY 10036
 (212) 974-1755
 Owner: Bernard Fox, Larry Harlow
 Manager: Larry Harlow

BNS VIDEO
VPF, OLVP, VPP/E
 Pier 62 North River 3rd Fl., New York, NY 10011
 (212) 466-0234, 223-0909
 Owner: Peter Sherry, president
 Manager: Gary Zaremba, director of production

BRIGGS BAKERY (audio sweetenings)
APPV
 122 West 88th St., New York, NY 10024
 (212) 787-4242
 Owner: Lee Murphy
 Manager: Lee Murphy
EQUIPMENT
 Synchronizer: BTX Softouch, Shadow
 VTRs: (2) Sony 5850, Beta Sony SLO 383, Panasonic 6300
 VHS
 Switchers: Sony RM-440 Editor
 Audio recorders: MCI-JH 24-16 track, MCI-JH110 4 track,
 Otari MTR 10-2 track.
 Audio mixers: Sound Workshop Series 30
 Other major equipment: Lexicon 1200 Audio Time Comp.,
 Lexicon 200 Digital Reverb, Lexicon Prime Time, Kepep II, Gain
 Brain II, Dolby "A", dbx N.R., Aphex II Aural Exc., Compellor,
 LA-2A, etc.
 Rates: (on request)
 Direction: 3 seasons all post audio for PBS TV series, "Reading
 Rainbow", several pharmaceutical productions, and a number of
 issue-oriented documentary TV programs. Designer jeans, too —
 but who hasn't.

BROADWAY VIDEO INC.
VPF, VPP/E
 1619 Broadway, New York, NY 10019
 (212) 265-7621
 Manager: Stacey Foster, vice president creative services

BRODY VIDEO PRODUCTIONS INC.
VPF, OLVP, VPP/E, APPV
 1400 Mill Creek Rd., Gladwyne, PA 19035
 (215) 649-6200
 Owner: Louis Brody
 Manager: Duncan Love

BUDGET VIDEO
VPF
 313-B West Water St., Toms River, NJ 08753
 (201) 244-8306
 Owner: Kryn P. Westhoven
 Manager: Kryn P. Westhoven

CAESAR VIDEO GRAPHICS
VPP/E
 137 East 25th St., New York, NY 10010
 (212) 684-7673
 Owner: Peter Caesar
EQUIPMENT
 Edit System: CMX 340X
 VTRs: (3) Ampex VPR-3s, Sony BVH-2000
 Switchers: GVG 300-3A
 Graphics systems: SFX ADO, (2) Quantel DPB-7000 Paint-
 boxes
 Audio recorders: Otari MTR-10 1/2" 4 track, TEAC 3300S 1/2"
 1/4 track stereo
 Audio mixers: Neve 5452 (16 x 2)
 Other major equipment: (2) Dubner CBG-2s, (2) Chyron 4100,
 UREI 813B speakers, Dolby "A", Yamaha PC2002 240 watt
 power amp, Klark-Teknik 1/2 octave room equalizer.
 Rates: On request.
 Direction: High technology computer generated graphics and
 video animation; state-of-the-art computer video editing; music
 videos; creative concepts and design.

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OLVP, VPP/E, APPV
 210 7th St., S.E. Suite D-1, Washington, D.C. 20003
 (301) 794-5906
 Owner: Ves Bennett
 Manager: Carol Moy

C&C AUDIO-VIDEO
VPF, OLVP, VPP/E, APPV
 RD#1 Box 581-A, Glassboro, NJ 08028
 (609) 881-7645
 Owner: Edward P. Candelora, Jr.
 Manager: Terri Candelora

CDR-CONSULTING PRODUCTIONS
OLVP, VPP/E, APPV
 3086 Fennegan Court, Woodbridge, VA 22192
 (703) 690-3869
 Owner: Christopher Rogers
 Manager: Christopher Rogers



CELEBRATION RECORDING, INC.
 New York, NY

CELEBRATION RECORDING, INC.
APPV
 2 West 45th St., 16th Floor, New York, NY 10036
 (212) 575-9095
 Owner: MZH&F Inc.
 Manager: Sal Ciampini
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 & 3 track).
 Rates: Please call for complete promotional package.
 Direction: Celebration Recording is owned and operated by
 MZH and F Inc., a music production company with 35 years ex-
 perience writing and producing music for television and radio
 commercials, made-for-TV, feature release and educational films
 and videoclips, 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, OLVP, VPP/E, APPV
 651 Beacon St., Boston, MA 02115
 (617) 267-6400
EQUIPMENT
 VTRs: RCA TH-50, RCA TR-800s, RCA TR-600 A.
 VCRs: BVJ-80Cs, Sony 5850s
 Switchers: Grass Valley.
 Cameras: RCA TKP-46, Arriflex 35 BL-2 (2) Ikegami 357-A, HL-
 79D.

Audio Recorders: MCI, Otari 24 track.
 Audio Mixers: MCI 636 automated.
 Other major equipment: ADO digital video effects system, CMX
 340 editing systems, ADO, Quantel Fant Box, Montage.
 Rates: Competitive.
 Direction: Ed Butiman, Lou LaMont, Colin McLaren: three na-
 tional award-winning commercial directors. (Clio awards, etc.)



CHANNEL 3 VIDEO
 Warwick, RI

CHANNEL 3 VIDEO
VPF, OLVP, VPP/E
 Post Office Box 8781, Warwick, RI 02888
 (401) 461-1616
 Owner: Jeffrey B. Page
 Manager: Richard Collins
EQUIPMENT
 Synchronizer: CEL, TBC, DVE.
 VTRs: Sony, JVC with Time Code.
 Switchers: Panasonic.
 Cameras: Ikegami.
 Audio recorders: Superscope, Marantz.
 Audio mixers: Sture.
 Other major equipment: Barber Baby Boom, pilots license and
 airplane.
 Rates: Location production \$600/day, editing \$35/hour.
 Direction: Commercials, industrials and music videos are
 specialties of Channel 3 Video. Begun in 1978 with one camera
 and recorder, we now boast a 1200 sq. ft. production area with
 adjoining editing and preproduction areas, as well as executive of-
 fices all under one roof just a mile off Interstate 95. Our most re-
 cent music video was for Otis Blackwell, known for songs he wrote
 such as "All Shook Up", "Return to Sender", and "Blue Suede
 Shoes".

COAST COMMUNICATIONS, INC.
APPV
 Suite 32 Independence Mall, Wilmington, DE 19803
 (302) 654-2713
 Owner: Mitchell E. Hill
 Manager: Robert T. Bowersox

CT. VIDEO PRODUCTION
VPF, OLVP, VPP/E, APPV
 7 Old Colony Road, Old Saybrook, CT 06475
 (203) 388-5549
 Owner: John Reilly
 Manager: John Reilly

CREATIVE MEDIA CONCEPTS
VPF, OLVP, VPP/E
 84-14 248th St., Bellerose, N.Y. 11426
 (718) 347-1221
 Owner: Tim Horsting
 Manager: Tim Horsting

CUE RECORDINGS
APPV
 1156 Ave. of the Americas, New York, NY
 (212) 921-9221
 Owner: Mel Kaiser
 Manager: Bruce Kaiser

DEVLIN PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 150 West 55th St., New York, NY 10019
 (212) 582-5572
 Owner: Sandra Deslin
 Manager: Operations: John Krams, Howard Weiss

DIDIK TV PRODUCTIONS
VPF, OLVP, VPP/E, APPV
Box-133, Reed Park, N.Y. 11374
(718) 843-6839
Manager: Frank Didik

DIMENSION SOUND STUDIOS
APPV
368 Centre St., Jamaica Plain, MA 02130
(617) 522-3100
Owner: Thom Foley, Dave Hill
Manager: Thom Foley

DU ART VIDEO
VPP/E
245 W. 55th St., New York, NY 10019
(212) 757-3681
Owner: A Division of Du Art Film Labs
Manager: Dir. of Sales, Glen Palmer

DU TEL PRODUCTIONS, INC.
OLVP, APPV
5047 Stanton-Ogletown Rd., Newark, DE
(302) 994-5360
Owner: Samuel R. Johnson
Manager: Samuel R. Johnson

EAST COAST PRODUCTIONS
VPF, VPP/E
1509 Jarrett Place, Bronx, NY 10461
(212) 409-4900
Owner: Victor Vanzo

EAGLE VISION, INC.
VPF, OLVP, VPP/E, APPV
P.O. Box 3347, 50 Wardwell, Stamford, CT 06902
(203) 359-8777
Owner: Mike Macari Jr., Rocky Progeno
Manager: Mike Macari Jr., Rocky Progeno

EAST SIDE FILM & VIDEO CENTER
APPV
216 E 45 St., New York, NY 10017
(212) 867-0730
Owner: Gordon Enterprises Ltd.
Manager: Don Engle

EASTERN SOUND & VIDEO
OLVP, APPV
462 Merrimack St., Methuen, MA 01844
(617) 685-1832
Owner: Pat Costa
Manager: Jack Pinaro

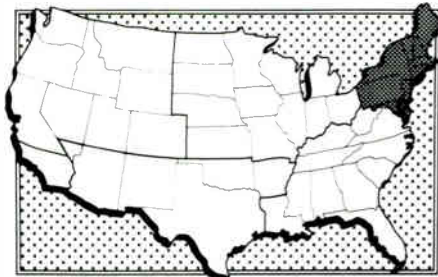
EDITEL NEW YORK
VPP/E, APPV
222 E. 44th St., New York, NY 10017
(212) 867-4600
Owner: Scanline
Manager: Dan Rosen, president

EDITING CONCEPTS
214 East 50th St., New York, NY 10022
(212) 980-3340
Owner: Arthur Williams
Manager: Linda Glass-Foss

ESPN
VPF, OLVP, VPP/E
1 ESPN Plaza, Bristol, CT 06010
(203) 584-8477
Owner: ABC
Manager: Remote booking, Steve Ullman

EVERETT STUDIOS
VPF
22 Barker Ave., White Plains, NY 10601
(914) 997-2200
Owner: Robbie Everett
Manager: Rick Everett

FERRINI PRODUCTIONS INC.
VPF, OLVP, VPP/E
5 Wall St., Gloucester, MA 01930
(617) 281-2355
Owner: Henry Ferrini
Manager: Patricia Welch



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).

THE GALLERY
VPF, OLVP, APPV
87 Church, East Hartford, CT 06108
(203) 528-9009
Owner: Doug Clark
Manager: Linda Clark

GEOMATRIX ASSOCIATES, INC.
OLVP, VPP/E
305 Bic. Drive, Milford, CT 06460
(203) 878-6066
Owner: Cathie Reese, Guy Ortoleva
Major equipment: CMX A/B roll editing, ¼" with SMPTE time code.
Rates: \$125 per hour CMX editing with Chyron titles.
Direction: Quality ¾" A/B roll editing — edit decision list with floppy disk for off-line rough cutting. Enables auto-assembly with CMX compatible 1" suites.



GOLDEN APPLE MEDIA, INC.
Mamaroneck, NY

GOLDEN APPLE MEDIA, INC.
VPF, OLVP, VPP/E, APPV
112 West Boston Post Rd., Mamaroneck, NY 10543
(914) 381-4141
Owner: Larry Fillingham
Manager: Larry Fillingham
EQUIPMENT
Synchronizer: BTX Shadow system.
VTRs: Sony BVH 2500, (2) Sony BVU 800s.
Switchers: Crosspoint Latch.
Audio recorders: Ampex 24, MCI 4 track, Layback MCI, Ampex 2 track.
Audio mixers: Syncon 24 channel, MCI 618 for video.
Other major equipment: Convergence 203T editor, Lexicon 224 digital reverb, Chyron VP-1.
Rates: Upon request.
Direction: Golden Apple provides complete video production, from concept development to broadcast-quality master. Our ex-

tensively equipped postproduction suite is fully interfaced with our 24 track recording studio, so we offer the full range of audio and video services, including layback, 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).

GREEN MOUNTAIN VIDEO & FILM
VPF, OLVP, VPP/E
P.O. Box 3143, Burlington, VT 05401
(802) 864-5124
Owner: Anthony V. Villanti, Jr.
Manager: Ralph Ackerman

HARTFORD CATV, INC.
VPF, OLVP, VPP/E, APPV
91 Shield St., Hartford, CT 06110
(203) 522-5972
Owner: Times Mirror (Cable)
Manager: John Calvetti, president Hartford CATV, Inc.

HELIOTROPE STUDIOS LTD.
VPF, OLVP, VPP/E, APPV
21 Erie St., Cambridge, MA 02139
(617) 868-0171 (Telex: 4997268)
Owner: Boyd Estus, James Griebach
Manager: Boyd Estus

HI-FIVE AUDIO/VIDEO STUDIOS
VPF, OLVP, VPP/E, APPV
377 Park Ave. So., New York, NY 10016
(212) 684-3766
Owner: Mark (Moogy) Klingman
Manager: G. Parker

HORN/EISENBERG FILM & VIDEO TAPE EDITING
VPP/E
16 W 46th St., New York, NY 10036
(212) 391-8166
Owner: Chris Horn, Alan Eisenberg

INNER CITY COMM. INC.
VPF, OLVP, VPP/E, APPV
52 Midwood St., Brooklyn, NY 11225
(718) 469-1655
Owner: R. A. Phillips II
Manager: R. A. Phillips II

INNOVATIVE VIDEO ASSOCIATES
VPF, OLVP, VPP/E, APPV
13 Fern Ave., Collingswood, NJ 08108
(609) 858-4120
Owner: Lawrence Chatman

INTERCONTINENTAL TELEVIDEO INC.
VPF
13 West 36th St., New York, NY 10018
(212) 947-9097
Owner: Gerald Citron
Manager: N. Toovey

INTER-MEDIA ART CENTER
VPF, OLVP, VPP/E
370 New York Ave., Huntington, NY 11743
(516) 549-9666
Manager: Michael Rothbard

INTERNATIONAL PRODUCTION CENTER
VPF, OLVP, VPP/E, APPV
514 W. 57th St., New York, NY 10019
(212) 582-6530
Owner: MPC Video Ind. Inc.
Manager: J. T. Ottens

ITT-ADVANCED TECHNOLOGY CENTER
VPF, OLVP, VPP/E, APPV
1 Research Dr., Shelton, CT 06484
(203) 929-7341 ext. 399
Manager: Paul R. Kerekes

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(212) 977-5680
6255 Sunset Blvd, Hollywood, CA 90028
(213) 461-3211

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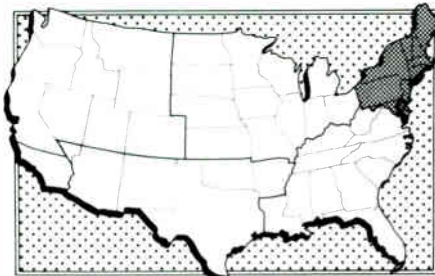
147 WEST 24TH STREET

NEW YORK, N.Y. 10011

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800-847-4123

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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).

JAP SHOOTINGS, LTD.

VPF, VPP/E
Box 11, Centreville, VA 22020
(703) 631-2669
Owner: Joe Phulmore

JSL VIDEO SERVICES

VPPE
25 West 45th St., New York, NY 10036
(212) JSL-5082
Managers: Michael J. Carney, James P. Kearney

LAUREL VIDEO PRODUCTIONS

VPPE
1999 E. Route 70, Cherry Hill, NJ 08003
(609) 424-3300
Owner: Steve Tadzynski

LION & FOX RECORDING INC.

APPV
1905 Fairview Ave. N.E., Washington, D.C. 20002
(202) 832-7883
Owner: Hal Lion, Sally Lion, Jim Fox
Manager: Jim Fox



LONG VIEW FARM
North Brookfield, MA

LONG VIEW FARM

VPF, OLVP, VPP/E, APPV
Stoddard Road, North Brookfield, MA 01535
(617) 867-7662 or (800) 225-9055
Owner: Gil Markle
Manager: Andrea Marchand
EQUIPMENT
Synchronizer: BTX Shadow/Cypher.
VCRs: BVU 800's, JVC.
Switchers: Crosspoint Latch & Dual TBC
Cameras: Ikegami, JVC.

Audio Recorders: Studer, Otari, MCI.
Audio Mixers: MCI, Soundworkshop Series 34, 32 x 24, MCI 528, 28 x 28.

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.

Direction: Ideal for rock concert sweetening, film scoring, etc. Luxury live-in accommodations and full support staff. Studio musicians and arrangers on premises.

LORCOTT PRODUCTIONS, INC.

OLVP
401 East 74 St., New York, NY 10021
(212) 744-4465
Owner: Scott Levine
Manager: Lori Finkel

LUMINO PRODUCTIONS

OLVP
5 Kent St., Montpelier, VT 05602
(802) 223-2551
Owner: Mike Billingsley
Manager: Mike Billingsley

MALTESE MEDIA, INC.

VPF, VPP/E, OLVP
271 Cleveland Ave., Highland Park, NJ 08904
(201) 247-4740
Owner: Paul J. Goodberg
Manager: Paul J. Goodberg

MANHATTAN VIDEO PRODUCTIONS, INC.

VPF, OLVP, VPP/E
12 W. 27th St., 11th Fl., New York, NY 10001
(212) 683-6565
Owner: Corporation
Manager: George Cautero

MANHATTAN BRIDGE STUDIO

VPF, OLVP, VPP/E
156 Tillary St., Brooklyn, NY 11201
(212) 288-3883
Owner: Audrey Deckoff
Manager: Audrey Deckoff

R. J. MARTIN COMPANY

VPF, OLVP, VPP/E, APPV
321 Commercial Ave., Palisades Park, NJ 07650
(201) 592-0952
Owner: Richard J. Martin
Manager: Kurt von Seekamm

MAZIN-WYCKOFF, INC.

VPF, VPP/E
36 E 12th St., New York, NY 10003
(212) 475-4366
Owner: Norman Mazin
Manager: Norman Mazin

MEDIA PRODUCTIONS INC.

VPF, OLVP, VPP/E, APPV
9 Business Park, Suite 2, Branford, CT 06405
(203) 488-3264
Owner: Charles A. Lewis, Frank Dendoe
Manager: Charles A. Lewis, Jr.
EQUIPMENT
VTRs: BVU 800 series 3/4".
Switchers: Crosspoint Latch.
Cameras: (3) Ikegami 730s.
Audio recorders: TEAC.
Audio mixers: Yamaha.
Other major equipment: Microtime TBC and Chyron character generator.
Rates: Studio: \$150 per hour, remote \$750 per day (one camera) 3/4".
Direction: We specialize in industrial and commercial production work and also have a large video rental business. We also specialize in 16mm film production. We have just moved to a new quarter million dollar studio facility.

JON MILLER PRODUCTION STUDIOS

VPF, OLVP, VPP/E, APPV
7249 Airport Rd., Bath, PA 18014
(215) 837-7550
Owner: Jon K. Miller
Manager: Chns Miller

MITCHELL SKLARE PRODUCTIONS
VFF, OLVP
6 E 30th St., New York, NY 10016
(212) 683-7478
Owner: Mitchell Sklare
Manager: Charmaine Kiehne

MODERN TELECOMMUNICATIONS, INC.
VFF, OLVP, VPP/E, APPV
885 Second Ave., New York, NY 10017
(212) 355-0510
Owner: Robert C. Weisgerber
Manager: Ken Mochlak

MOTOR VIDEO CORP.
VPP/E
321 W. 44th St., New York, NY 10036
(212) 307-7585
Owner: Brooks Harris
Manager: Alicia Loving-Cortes
Direction: Our post production facilities include: Interformat and off-line editing with A-B roll BVU 800s, VPR2b, ISC edit control, CDL switcher w/AFV, time code gen/readers, Yamaha audio, title stand. Specialize in off-line and feature "409" and "trace" EDL management w/output to all formats and media. Off-line working cassettes from 1" and 3/4" w/visual window and TC on any channel. Screening and cuts-only on Convergence ECS-90 system. Contact: Cristina Hadzi, producer.

MURRAY STREET ENTERPRISE
APPV
69 Murray St., New York, NY 10007
(212) 619-1475
Owner: Steve Rathe
Manager: Fred Landerl, Leslie Peters

MUSIVISION, INC.
VFF, VPP/E
185 East 85th St., New York, NY 10028
(212) 860-4420
Owner: Fred Kessler

M-Y MEDIA PRODUCTIONS
VFF, OLVP, VPP/E, APPV
2175 Lemoine Ave., Suite 504, Fort Lee, NJ 07024
(201) 585-9424
Owner: Bill MacNeil, John Yurko
Manager: David Rector

NEBULA SOUND & VIDEO
OLVP, APPV
1086 Wagner Ave., Philadelphia, PA
(215) 455-5161
Owner: Otto Capobianco, Jr.
Manager: Joan Owens

NEW YORK POST PRODUCTION SERVICES
APPV
P.O. Box 133, Woodstock, NY 12498
(914) 679-8848
Owner: Chris Andersen
Manager: Mary Lou Arnold

NIMBUS NINE RECORDING INC.
APPV
420 W. 45th St., New York, NY
(212) 496-7771
Owner: Geoff Daking
EQUIPMENT
Synchronizer: BTX 4500 SMPTE.
VCRs: Sony U-Matic, JVC VHS.
Audio Recorders: MCI JH-24 Multitrack, Otari 4 track, 2 track and mono.
Audio Mixers: Trident Series 80 Console.
Other major equipment: Full 24 track recording studio.
Rates: \$225/hr.
Direction: Scoring and voice-overs for numerous major national TV commercials for various advertising agencies, additional music mixing for No-Nuke film "In Our Hands" for the June 12th Film Group, Zack-Job Futer (ABC TV) with Luther Vandross (Voice of Zack) for Elliot Lawrence Productions.

THE NINETEEN RECORDING STUDIO
APPV
19 Water Street, South Glastonbury, CT 06073
(203) 633-8634
Owner: Nineteen, Inc.
Manager: J. Freed / Bonnie Lamarche

OMNI PRODUCTIONS
VFF, VPP/E, OLVP, APPV
407 Bainbridge Street, Philadelphia, PA 19147
(215) 925-5888
Owner: Electra Briggs, Robert Wynn

ONOMATAPOCIA, INC.
APPV
37 W. 57th St., Ste 1210, New York, NY 10019
(212) 688-3167
Owner: Matthew Kaplowitz
Manager: Mike Ferricolce

PANART PRODUCTIONS
OLVP
1860 Broadway, Suite 1201
New York City, NY 10023
(212) 541-4620
Owner: George Braun

PEACH PRODUCTIONS
VPP/E, OLVP, APPV
P.O. Box 245, Fairview, PA 16415
(814) 774-3303
Owner: David Carmosino
Manager: Linda Thor

PECKHAM PRODUCTIONS, INC.
OLVP
50 Haarlem Ave., White Plains, NY 10603
(914) 949-7825
President: Peter H. Peckham
Manager: Russell C. Peckham

MX1688 Recording Mixer

6 x 8 x 2 with control room mixing

The Carvin MX1688 recording console offers the professional quality features and signal performance you've grown to expect from Carvin! Use of the finest components and professional audio design enable the MX1688 to interface with any professional tape deck. For additional info on this console and Carvin's complete product line send \$1 to Carvin, Dept. MX62, 1155 Industrial Ave., Escondido, CA 92025. A similar 16 x 4 x 2 MX1644 mixer is available for \$1995.

Recording Features

- Eight Track Studio Control Center
- Input/Output Channel Organization
- Independent 8 Into 2 Monitor Mixer
- Four Auxiliary Busses w/ Pre/Post
- Three Band Parametric EQ w/ Defeat Switch
- Mute and Solo on all Input and Output Channels
- Two Effects Returns w/ Pan and Solo
- Talkback w/ Built-in Mic and Monitor Dimming
- Peak Warning Indicators w/ Peak Stretching
- Patch Points on all Channels
- Microphone Phantom Power
- Cue and Effects Sends from Output Channels
- Alternate Metering of Cue and Two-Track
- Quick Tape Playback Through Monitors
- Independent Mic and Line Preamps
- Studio Feed w/ Source Selection
- Totally Modular Internal Construction
- Input Noise of -127 dBv, THD less than .05%
- 20 dB headroom at All Stages

P.A. Features

- Eight Sub-Groups w/ Solo and Mute
- Channels Assignable to L & R Stereo Output
- Four Independent Monitor Mixes Available
- Headphone Monitoring of Main or Monitor
- 11 Step Gain Controls for Easy Set-up
- Talkback to Monitors

MX1688

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Calif 800-542-6070

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- Studio B for voice-over and commercial production.

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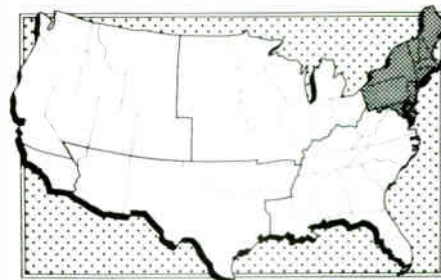
Sony/MCI RTS Hedco Quad/8 BTX

AcoustaWood, AKG, Ampex, Ampro, Aphex, ATI, Audio Digital, Audio-Technica, Auratone, BE, BTX, Coherent, Crown, Designer Acoustics, dbx, ESE, Eventide, Electro-Voice, Fidelipak, Fostex, HME, Industrial Acoustics, Inovonics, JBL, Koss, Lexicon, Micron, Nady, Orban, Primus, PZM, R-Columbia, Ramko, ROR, Sennheiser, Shure, Sigma, Stanton, Swintek, Symetrix, Tannoy, Telex, Tram, Ursa Major, Valley People

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NEW YORK, NEW YORK, 10023
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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).

PENNY LANE STUDIOS

APPV
1350 Ave. of the Americas, New York, NY 10019
(212) 687-4800

Owner: Harley Flaum
Manager: George Slatter

EQUIPMENT

Synchronizer: Q-Lock 3 10 3

VCRs: JVC

Audio Recorders: Otari 24 track 3M-79 24 track, Ampex ATR 2 and 4 track

Audio Mixers: Trident TSM 32/24

Other major equipment: Comprehensive selection of outboard audio equipment

Rates: Call for rates

Direction: Penny Lane Studios was designed to provide music for advertising and record albums

PICSONIC PRODUCTIONS, INC.

VPP/E
1466 Broadway, Suite 906, New York, NY 10036
(212) 575-1910 & 575-1911

Owner: Neil C. Hurwitz
Manager: Valene J. Ehrlich

POWER STATION RECORDING

APPV
441 W. 53rd St., New York, NY 10019
(212) 246-2900

Owner: Bob Walters, Tony Bongiovi
Manager: Dianna Alleyne

PRECISION VIDEO SERVICES

VPF, OLVP, VPP/E, APPV
630 9th Ave., New York, NY 10036
(212) 489-8800

Manager: Bernie Barnett

PRINCZKO PRODUCTIONS

VPP/E
9 East 38th Street, New York, NY 10016
(212) 683-1300

Owner: Gary Princz, Richard Korn

PRODUCERS VIDEO CORP.

3700 Malden Ave., Baltimore, MD 21211
(301) 523-7520

Owner: Gordon Faulkner
Manager: Bruce Reid

P.Z. PRODUCTIONS

OLVP
105 3rd Place, Brooklyn, NY 11231
(718) 237-1802

Owner: Phil Zwickler
Manager: Jim Ferreras

QED ENTERPRISES
VPF, VPP/E, OLVP
 4802 Fifth Avenue, Pittsburgh, PA 15213
 (614) 622-1500
 Owner: MPPB, Inc
 Manager: Lloyd Kaiser, President

RIGHT TRACK RECORDING
APPV
 168 W. 48th St., New York, NY 10036
 (212) 944-5770
 Owner: Simon Andrews
 Manager: Mark Harvey

THE RUTLEDGE CENTER, INC.
VPF, OLVP
 1604 Pennington Road, Trenton, NJ 08618
 (609) 883-5600
 Owner: Richard Politi
 Manager: Frank Capuzzi

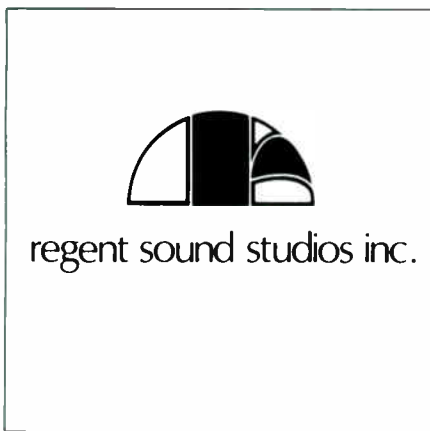
QUARK VIDEO
VPF, VPP/E, OLVP
 421 Judson Street
 New York, NY 10014
 (212) 807-8504
 President: Michael Levin

R J S STUDIOS
APPV
 2917 Colden Avenue, Bronx, New York, NY 10469
 (212) 798-2504
 Owner: Rick Sanchez

HOWARD SCHWARTZ RECORDING
APPV
 420 Lexington Ave., New York, NY 10170
 (212) 687-4180, (800) 327-7787
 Owner: Howard M. Schwartz
 Managers: M. Laskow, B. Levy
EQUIPMENT
 Synchronizer: ECCO MQS 100A
 VTRs: NEC TT7000, NEC TT 8000
 VCRs: BVU 200B
 Audio recorders: MCI JH114-110B
 Audio mixers: MCI 556C-538C
 Other major equipment: Events, port delegation, audio relay.

RECORD PLANT
OLVP, APPV
 321 W. 44th St., New York, NY 10036
 (212) 581-6505
 Owner: Roy Sicala
 Manager: Phil Gitomer

ROCKAMERICA/SOFT FOCUS PRODUCTIONS
VPF, VPP/E, OLVP, APPV
 27 E. 21st St., New York, NY 10010
 (212) 475-5791
 Owner: Ed Steinberg



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 Lifin
 Manager: Sandi Morrol

EQUIPMENT
 Synchronizer: (3) ECCO MQS 103A, Convergence 104, (3) BTX Shadows
 VTRs (3) JVC 8250, (3) Sony BVU-80CDB
 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, Magnatech 16/35 mm mag dubber, AIWA cassette decks (5), Nakamichi cassette deck 500, Sony digital PCM 1610, PCM 10, F1
 Audio Mixers: MCI— JH-528, JH-532, JH-536, JH-618
 Other major equipment: ECCO time code generator, time code reader, Datametrics & Esse character generators, Conrac & Sony video monitors, programmable Autolade, Ampex Sync-Lock (2), Sierra/Hidley audio monitors, JBL 4313's & 4311's, Canten LE 900, ROR's, Auratones, Lexicon DDL's, Lexicon 224's, Audicon Plate, AKG BX-20, UREI 565 filter sets, 360 systems programmable EQ, plus standard outboard equipment.
 Direction: Electronic editing with or without picture and digital recording.
 Rates: Please write or call

REGISTER A/V VIDEO SYSTEMS INC.
VPF, VPP/E, OLVP, APPV
 50 Kane St., Baltimore, MD 21224
 (301) 633-7600
 Owner: Eugene G. Register, president
 Manager: R. Eugene Foote

RESOLUTION, INC.
VPF, OLVP, VPP/E, APPV
 Chace Mill, One Mill St., Burlington, VT 05401
 (802) 862-8881 / 1-800-862-8900 (toll free U.S.)
 Owner: Corporation
 Manager: William H. Schubart, president

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EMULATOR	SEQUENTIAL CIRCUITS	LINN DRUM	ENSONIO

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 1116 Boylston St., Boston, MA 02115 (617) 536-0066
 22 La Salle Rd., West Hartford, CT 06107 (203) 236-5401
 outside MA (800) 533-3388

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Direction: all 3 networks, commercials, and shows, most complete audio post on East Coast

SERVISOUND, INC.

APPV
35 W. 45th, New York, NY 10036
(212) 921-0555
Owner: Mike Shapiro
Manager: Chrs Nelson, VP

SILVER LININGS, INC.

APPV
25 Huntington Ave., Boston, MA 02116
(617) 262-9289
Owner: Arklay F King
Manager: Barbara Plister



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: Video Monitor, 42 Audio inputs.

Rates: Call or write for rates and information.

Direction: Skyelabs specializes in catering to the specific requirements of each client. We tend to avoid negative superlatives like, "Can't," "Too difficult," "Fix it in the mix," and other lacking excuses that might leave our clients with less than a professional, high quality product. After all, if we didn't enjoy the challenge of our work, there would be no point in offering you the best

SOHO VIDEO

OLVP
116 West Houston St., New York, NY 10012
(212) 473-6947
Owner: George Breidenbach
Manager: Melissa Hill

DENNY SOMACH PRODUCTIONS, INC.

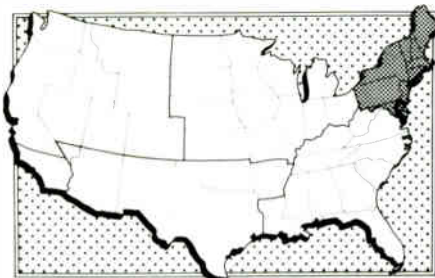
OLVP
14 Ardmore Ave., Ardmore, PA
(215) 642-8646
Owner: Denny Somach
Manager: Sheri Gillis

SORIN PRODUCTIONS

OLVP
12 Three Brooks Rd., Freehold, NJ 07728
(201) 462-1785
Owner: David Sorin
Manager: Nancy Keyak

SOUND & VISION

VFP
225 Park Ave. So., Suite 308, New York, NY 10003
(212) 254-7434
Owner: Tima Surmelioglu, Elizabeth Silver
Manager: Tima Surmelioglu, Elizabeth Silver



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).

THE SOUND SHOP, INC.

APPV
304 E. 44th, New York, NY
(212) 573-6777
Manager: Bob McDowell

SPECTRA COMMUNICATIONS

VPP/E, OLVP
Box 621, Port Washington, NY 11050
(516) 883-3395
Owner: Major League Graphics, Inc.
Manager: Lee Kalinsky

SPECTRUM PRODUCTIONS

VFP
532 Madison Ave., New York, NY 10022
(212) 319-8610
Owner: David Solomita
Manager: Kevin C. McManus

SPECTRUM RECORDERS

APPV
151 S. Main St., Lanesboro, MA 01237
(413) 499-1818
Owner: Spectrum Recorders
Manager: Peter Seplow

E.J. STEWART, INC.

VFP, VPP/E, OLVP
525 Mildred Ave., Primos, PA 19018
(215) 626-6500 / (212) 288-0525
Owner: Hal Lipman, Dave Wiggins, Eric Address
Manager: Hal Lipman

STUDIO 16 COMMUNICATIONS

VFP, VPP/E, OLVP, APPV
16 Ridgewood Terrace, Springfield, MA 01105
(413) 736-0311
Owner: Brian N. Cawley
Manager: Darlene J. Cawley

JOHN M. SULLIVAN ASSOCIATES

VFP, VPP/E, OLVP, 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" to 1"

Switchers: Grass Valley 1680-10x

Cameras: 7 Ikegami HL-79 EAL's

Audio recorders: Akai/Yamaha

Audio mixers: Yamaha

Other major equipment: Studio w/hard cyc, Mole lighting, 5 cameras, remote production, truck, 1" VTR's, 3/4" VTR's

Rates: Call for brochure

Direction: Broadcast television productions, studio & location Music videos, corporate, industrial video tapes, live telecast, remotes teleconferences 2 postproduction editing suites 3 mobile production vehicles. Major clients: ABC, NBC, CBS, HBO, MTV, Fortune 500 corporations 2 Emmy Awards



JOHN M. SULLIVAN ASSOCIATES
Boston, MA

SYNC SOUND, INC.

APPV
450 W. 56th St., New York, NY 10019
(212) 246-5580
Owner: Bill Manno, Ken Hahn
Manager: Elissa Kline

TELETIME VIDEO PRODUCTIONS

VFP, VPP/E, OLVP
117 Cuttermill Road, Great Neck, NY 11021
466-3882
Owner: Harold Kleir, pres.
Manager: Nan Givner-Klein

TEL-E-VUE PRODUCTIONS

OLVP
P.O. Box 217, Ferndale, NY 12734
(914) 292-5965
Owner: Paul Gerry
Manager: Patricia Gerry

TULCHIN STUDIOS / THE DIRECTORS CENTRE

VFP, VPP/E, OLVP, APPV
240 East 45th Street, New York, NY 10017
(212) 986-8270
Owner: Harold M. Tulchin
Manager: Susannah Eaton-Ryan

UNITED CINE: SOUND

OLVP, APPV
P.O. Box 403, New York, NY 10108
(212) 247-5678
Owner: John Cacciatore

UNITEL VIDEO, INC.

VFP, VPP/E, OLVP
515 W. 57th St., New York, NY 10019
(212) 265-3600
Owner: Public Company, American Stock Exchange
Manager: Garth Gentlin, V.P. sales

VCA TELETRONICS

VFP, VPP/E, OLVP, APPV
231 East 55th St., New York, NY 10022
(212) 355-1600
Owner: Alfred Markin
Manager: Will Roth, sales

VIDEO COMMUNICATION SERVICES

VFP, VPP/E, OLVP
208 Linden Ave., Riverton, NJ 08077
(609) 786-1775
Owner: Frank Siegel, Frank Cioci

VIDEO SPORTS PRODUCTIONS

OLVP, APPV
P.O. Box 544, Westfield, NJ 07091
(201) 276-7790
Owner: Jonathan Fishbein
Manager: Anna Li

THE MIX BOOKSHELF



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Now it is simple and convenient to order these hard-to-find titles from a single source by phone or through the mail. Send for our free catalog.

106) HOME RECORDING FOR MUSICIANS. Craig Anderton Easy to follow and well-illustrated, this book is written for musicians with little engineering experience. It emphasizes practical knowledge, techniques, and tips for making clean, quality demos at home. Also includes information on audio theory, acoustics, and equipment. 182 pp.(P) \$14.95

120) 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

130) BUILDING A RECORDING STUDIO. Jeff Cooper, M. Arch., S.M., S.B., B.S.A.D. A step by step guide to recording studio construction for small or large budgets. Thorough coverage of the principles of acoustics, how acoustics affect recording, soundproofing a room, plus chapters on the studio, the control room, and a glossary of the 100 most misunderstood terms in acoustics. 209 pp.(P) \$30.00

142) SOUND SYSTEM HANDBOOK. VOLUME 1. Jim McCandliss A valuable tool for understanding, setting up, and operating sound systems and recording gear. Includes sections on types of microphones, miking techniques, mixers, amplifiers, speakers, portable sound systems, and a reference glossary. Three ring binder format allows supplementing the text with equipment information, spec sheets, etc. \$39.95

201) VIDEO PRODUCTION GUIDE. Lon McQuillin A broad overview placing emphasis on the human organizational aspects with lively, comprehensive coverage of both studio and location production from the viewpoint of the producer and director. Divided into four parts: pre-production, production, post-production, and other important topics. 382 pp.(P) \$28.95

217) VIDEO EDITING & POST-PRODUCTION: A PROFESSIONAL GUIDE. Gary H. Anderson A new "real world" guide to both technical and nontechnical 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

241) REVOLUTIONARY TECHNOLOGY, AN INTRODUCTION TO THE VIDEO AND DIGITAL AUDIO DISC. David Matthewson This book covers the technicalities and special production problems of the three major videodisk systems, Laservision, Selectavision, and VHD. Applications are thoroughly compared; domestic, industrial, commercial, educational, etc. Includes section on compact digital audio disks which use a variation of Laservision technology. 120 pp.(P) \$11.95

307) MAKING MUSIC; THE GUIDE TO WRITING, PERFORMING, AND RECORDING. Ed. by George Martin This is both an authoritative guide for everyone who makes music and a unique source of insight into the genius and work habits of 65 of the world's leading music figures (e.g. contributors on songwriting include McCartney, Sting, Sondheim, Webb, and Simon, among others). There are sections on writing, arranging, performing, recording, and music business all written by experts. 352 pp.(H) \$17.95

341) AN INSIDERS GUIDE TO ADVERTISING MUSIC. Walt Woodward An excellent reference for advertising music professionals which goes right to the heart of the jingle industry. Detailed, informative, and insightful, it covers how and why music works in advertising, when and how to use it, and all crucial elements of production for quality radio and TV campaigns. 126 pp.(H) \$14.95 Optional cassette \$5.95 extra

360) MUSIC APPLICATIONS OF MICROPROCESSORS. Hal Chamberlain This superb volume comprehensively covers digital microprocessor sound and music synthesis including standard linear techniques, musical applications for the newer 16 bit micros in non-mathematical language, and all phases of waveform shaping and filtering as applied to electronic music generation. 661 pp.(P) \$21.95

THE RECORDING INDUSTRY RESOURCE CENTER • 2608 NINTH STREET • BERKELEY, CA 94710



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NORTHEAST

VIDEOWORKS, INC.
VPF, VPP/E, OLVP, APPV
 24 West 40th St., New York, NY 10018
 (212) 869-2500
 Owner: Ken Lorber, Frank Herold, Eliot Tuckerman
 Manager: Carol McCoy

VIZWIZ, INC.
VPF, VPP/E
 115 Dummer Street, Brookline, MA 02146
 (617) 739-6400
 Owner: Peter J. Fasciano, Tom R. Sprague
 Manager: Peter J. Fasciano

WFSB PRODUCTIONS
VPF, VPP/E, OLVP
 3 Constitution Plaza, Hartford, CT 06115
 (203) 521-1230
 Owner: Post/Newsweek, Inc.
 Managers: Jim Nikodemski, Walter McEntire

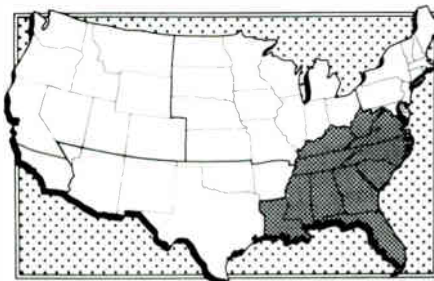
WILL ASSOCIATES
VPF, VPP/E, OLVP
 P.O. Box 466, Plainfield, NJ 07061-0466
 (Production facilities located in NY)
 (201) 757-6293
 Owner: C.W. Harris, Jr.
 Manager: Charlie Harris

WINDSOR TOTAL VIDEO
VPF, VPP/E
 565 Fifth Avenue, New York, NY 10017
 (212) 725-8080
 Owners: R. J. Henderson, C.E.O., B. B. Goodman, pres.

THE WORKSHOPPE RECORDING STUDIOS INC.
APPV
 40-35 235 St., Douglaston, NY 11363
 (718) 631-1547
 Owner: Kevin Kelly
 Manager: Kevin Kelly
EQUIPMENT
 Synchronizer: BTX Shadow system
 VTRs: JVC 6650
Audio Recorders: Otan MTR 90 II 24/16/8, MCI JH 110 4/2 mono
Audio mixers: Automated Sound Workshop Series 40 36/24, Studio B Sound Workshop 12/8
 Other major equipment: Large mike complement, musical instruments and full outboard effects and live echo chamber
Rates: On request
 Direction: Studio A 24/16/4/2 track music scoring to video tape
 Studio B: Voice over to picture, sound effects, needle drops 20 minutes from Penn Station, NYC at the Douglaston LIRR station on the north shore of Long Island

WPHL PRODUCTIONS
VPF, VPP/E, OLVP
 5001 Wynnfield Ave., Philadelphia, PA 19131
 (215) 878-1700
 Owner: Colony Communications
 Manager: Joel Levitt

YATES PRODUCTIONS
OLVP
 32 Barnegat Road, Pound Ridge, NY
 (914) 764-8558
 Owner: Gerard Yates, film & tape



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).

ALPHA AUDIO
 2049 W. Broad St., Richmond, VA 23229
 (804) 358-3852
 Owner: Alpha Recording Corp
 Manager: Nick Colleran



AMERICAN MULTIMEDIA INC
 Burlington, NC

AMERICAN MULTIMEDIA INC.
OLVP, VPP/E, APPV
 Rt. 8 Box 215A, Burlington, NC 27215
 (919) 229-5554
 Manager: Richard Clark
EQUIPMENT
 Synchronizer: Adams-Smith
 VTRs: Ampex VPR-2B's
VCRs: Panasonic 3/4" & 1/2"
Switchers: Grass Valley 300 w/2 channel DVE
Cameras: Ikegami studio/field cameras
Audio Recorders: Otan 24 track MTR 90/Ampex ATR 100
Audio Mixers: Neve console, Hill Audio
 Other major equipment: Chyron Graphics, CMX 340X, Editing System.
Rates: Available on request
 Direction: Specializing in major remote productions with suspended sound system, light truss with 350 pars, multi-camera one inch recording with Grass Valley switcher and DVE, 25' wide screen projection, 24 track recording, computerized editing

ARCHER PRODUCTIONS INC.
OLVP, APPV
 P.O. Box 1118, Pompano Beach, FL 33061
 (305) 781-9901/946-2777
 Owner: World Wide Motion Pictures Corp
 Manager: Peter Archer, president



ARDENT TELEPRODUCTIONS, INC.
 Memphis, TN

ARDENT TELEPRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
 2000 Madison Ave., Memphis, TN 38104
 (901) 726-6553
 Owner: John Fry, Robert Williams
 Manager: Frank Anthamatten
EQUIPMENT
 Synchronizer: United Media, MCI, BTX
VTRs: Hitachi 1" JVC 3/4"
Switchers: Grass Valley
Cameras: Ikegami EC-35, Hitachi
Audio Recorders: MCI 24 track, MCI 2 track
Audio Mixers: MCI, Neve, Quad 8
 Other major equipment: Chyron 440C, Ultimatte IV, NEC E-Flex, Steadicam, 16 and 35 mm film
Rates: On request
 Direction: Broadcast: ZZ Top "TV Dinners", BarKays Freak Show, DeGarmo-Key "666", Dr. Scholls, Schlitz Rocks America, Auto Shack, French National Television Industrial Service Merchandise, Federal Express

ARTISAN RECORDERS, INC.
APPV
 408 So. Andrews Ave., Ft. Lauderdale, FL 33301
 (305) 566-1800
 Owner: Peter Yianilos
 Manager: Michael Music, bookings

ATLANTIC VIDEO
VPF, OLVP, VPP/E
 150 S. Gordon St., Alexandria, VA 22304
 (703) 823-2800
 Manager: Diana Del Toro, dir. of client services

AUDIOFONICS INC.
VPF, OLVP, VPP/E, APPV
 1101 Downtown Blvd., Raleigh, NC 27603
 (919) 821-5614
 Owner: Larry Gardner
 Manager: Bill Blankinship, operations manager
EQUIPMENT
 Synchronizer: BTX Shadow
VTRs: (4) Ampex 1", Ampex 2", Hitachi 1" portable.
VCRs: 3/4", Beta, VHS and 1/4" video formats
Switchers: ISI 904
Cameras: Sony M3, NEC MNC-71, JVC K11900, Arriflex II B
Audio Recorders: Ampex MM 1200 24 track, (6) 1/2 track, (4) full track, (1) 2-track
Audio Mixers: Sound Workshop Series 40, Dynamix D-3000.
 Other major equipment: Convergence ECS-104S editor, E-Flex II DVE, video color correctors, frame synchronizers, title cameras, camera boom, dbx noise reduction
Rates: Excellent, please call for a quote.
 Direction: Audiofonics' goal is to offer the perfect blend of personnel, creativity and modern technology. We provide producers with a wide choice of services for commercials, industrial presentations, even feature length films. Complete film/tape and music production facilities are available, just give us a call

AUDIO-VIDEO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 1821 SW 11th St., Ft. Lauderdale, FL 33312
 (305) 763-7935
 Owner: Berry E. Cardott
 Manager: Berry E. Cardott

BGA PRODUCTION SERVICES
OLVP, APPV
5743-H Kingsgate Dr., Orlando, FL 32809
(305) 351-4300/482-9041
Owner: Barnett Gerstein
Manager: Bruce Gerstein

CONTINENTAL FILM PRODUCTIONS CORP.
VFF, OLVP, VPP/E, APPV
4220 Amnicola Highway, Chattanooga, TN 37406
(615) 622-1193
Owner: James E. Webster
Manager: James L. Webster

CRAWFORD POST PRODUCTION
VPP/E, APPV
535 Plesamour Drive NE, Atlanta, GA 30324
(404) 876-7149
Owner: Jesse C. Crawford
Manager: Steve Carlisle

EQUIPMENT
Synchronizer: BTX Shadow/Softouch controllers.
VTRs: Ampex VPR-3s, Ampex VPR-2Bs, Sony BVU-800s,
Sony BVU-820s.
Switchers: Ampex AVC-33 Digital Switchers, Ampex 4100E.
Cameras: Ikegami 79-E & 79-D.
Audio recorders: Studer A800 24 track, Ampex 124 24 track,
Ampex 104 4 or 2 track, Ampex 102 2 track, Ampex 101
Mono, Otari 8 track, and Technics cassette recorder.
Audio mixers: NEVE 8128 48 channel with Necam II automa-
tion, Trident Series 70 24 channel.
Other major equipment: Audio: Lexicon 224X digital reverb,
Super Prime Time, PCM-42, ADR vocal stressor, Eventide Har-
monizer 949. Video: Rank Cintel MK III C, Ampex ACE Touch
Screen editors, ADO with perspective and Version 5 software up-
dates, Montage Picture Processor, AVA (Ampex Video Art paint
system), Bosch FGS 4000, Dubner CBGII, Dunn Camera for
35mm slides or 8" X 10" color Polaroid film from the three
graphics systems, Sony BVH-2500 single frame or field recorder,
Ultimate 4.
Rates: Studio A: \$80-\$165/hour. Studio B: \$80-\$150/hour.
Direction: Although Crawford Post Production considers itself
mainly a high-end post house for film and video, it gave equal
consideration to its audio suites when building its new 20,000 square
foot facility. The facility is equipped with the most technically ad-
vanced post equipment in the region, and its two audio studios,
capable of 24-track recording, mixing, and layback to picture,
rank high among recording houses in this region, in fact, the coun-
try. And with the onset of stereo audio for television, Crawford is
well equipped, staffed, and prepared.

EASY ST. PRODUCTIONS
VFF, OLVP, APPV
1300 So. Blvd., Charlotte, NC
(704) 365-3468
Owner: John Autry
Manager: John Autry

ENCORE VIDEO PRODUCTIONS
VFF, OLVP, VPP/E
933 Highway 501, Myrtle Beach, SC 29577
(803) 448-9900
Owner: Rik Dickinson, Frank Payne

FAT TRACKS
APPV
3011 Huntington St., Orlando, FL 32803
(305) 896-0115
Owner: Mike Redman
Manager: Mike Redman

GANNETT PRODUCTION SERVICES
VFF, OLVP, VPP/E
1611 W. Peachtree St., NE, Atlanta, GA 30309
(404) 873-9182
Owner: Gannett Co., Inc
Manager: Mike Martin

DICK HEARD TV PRODUCTIONS
OLVP
146 Woodmont Blvd., Nashville, TN 37205
(615) 383-0935
Owner: Dick Heard
Manager: Dick Heard

HENDERSON CROWE PROD. INC.
VFF, OLVP, VPP/E, APPV
100 Galleria Parkway, Suite 400, Atlanta, GA 30313
(404) 952-5439
Owner: Charles Henderson, Jerry Crowe
Manager: Jerry Crowe

IMAGE RESOURCES INC.
VFF, OLVP, VPP/E
P.O. Box 2519, 801 S. Orlando Ave., Winter Park, FL
32790
(305) 645-4200
Owner: E. Robert Brook
Manager: Debi L. Armstrong

IMAGES INC.
VFF, OLVP, VPP/E, APPV
1662 Stockton St., Jacksonville, FL 32204
(904) 388-3300
Owner: John B. Reitzammer
Manager: Charles Barth

INSTANT REPLAY
VFF, OLVP, VPP/E
2951 So. Bayshore Dr., Coconut Grove, (Miami) FL 33133
(305) 448-7088
Owner: Chuck Azar
Manager: Chuck Azar

ISLAND STUDIOS INC.
VFF, OLVP, APPV
9 West Grace St., Richmond VA 23223
(804) 643-2022
Owner: Corporation
Manager: William Beverly

I VIDEO PRODUCTIONS
VPP/E, OLVP
P.O. Box 2005, Yorktown, VA 23692
(804) 898-8116
Owner: Tim Ivy

LA LOUISIANNE, INC.
APPV
711 Stevenson St., Lafayette, LA 70501
(318) 234-5577, 984-6924
Owner: Carol J. Rachou, Sr.
Manager: Carol J. Rachou, Jr.

LE MOBILE
P.O. Box 221, Hermitage, TN 37076
(212) 870-0801
Owner: Guy Charbonneau
Manager: Meryl Yelman

LIFE INTERNATIONAL PRODUCTIONS
VFF, OLVP, VPP/E, APPV
750 E. 25th St., Hialeah, FL 33013
(305) 940-9197
Owner: Associated Medical Institutions
Manager: Don Duncan

LOUISVILLE PRODUCTIONS
VFF, VPP/E
520 W. Chestnut St., Louisville, KY 40202
(502) 582-7744
Manager: Ed Shadburne

MARKETING PRODUCTIONS INC.
VFF, OLVP, VPP/E
284 N. Cleveland St., Memphis, TN 38104
(901) 726-1289
Manager: Bob Ward

MASTER MEDIA, INC.
VFF, OLVP, VPP/E
5097 Chamblee-Tucker Rd., Atlanta, GA 30084
(404) 491-0330
Owner: Dave Causey
Manager: Dave Causey

MOBILE AUDIO
APPV
P.O. Box 6115, Rome, GA 30161
(404) 232-7844
Owner: Rick Morvell

MONOLITH PRODUCTION INC.
VFF, OLVP, VPP/E, APPV
6541 Powers Ave., Jacksonville, FL
(904) 246-7288
Owner: Jesus Cabarrus, Jr
Manager: Carlos Carreras Rodriguez

LISTING CONTINUED ON PAGE 120

TAPE SYNCHRONIZERS!

SYSTEM 2600
"Building Blocks"



PLAY-SPEED SYNCHRONIZING

- lock ATRs together
- lock ATRs to video sync
- lock ATRs to projectors
- lay back audio to video



CHASE SYNCHRONIZING

- sweeten audio-for-video
- add ATRs to video editing systems
- synchronize to automated mixers
- slave VCRs for digital audio



REMOTE TRANSPORT CONTROL

- ours, yours or theirs*
 - our modular remote (to 500') control panels
 - your computer, terminal or keyboard
 - their* edit controllers or mixers
- * CMX, Solid State Logic, Calaway, others



FULL-FUNCTION AUDIO-FOR-VIDEO EDITING CONTROL SYSTEMS

- cueing, trimming, looping, displaying, jogging, rehearsing, recording, audio event editing, and lots more



FOR DETAILS ABOUT
SYSTEM 2600 BUILDING BLOCKS,
CALL, WRITE OR WIRE:

ADAMS•SMITH



34 Tower Street
Hudson, MA 07149 USA
Tel.: 617-562-3801
NYC.: 516-352-2341
TWX: 710-347-0096

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CAV CO.
CORP.
C 101.1 FM

COMMUNICATION AUDIO VIDEO CORPORATION

We want to
provide the people,
products and services
you need.

Contact:
John Brown 804/971-9971

CAV Corp.
324 West Main St., P.O. Box 3471, Charlottesville, VA 22903

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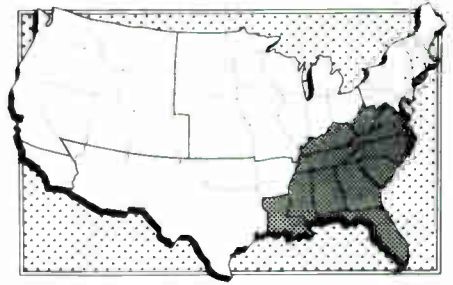
AMP SERVICES INC.

(305) 964-5414 • 6270 Wauconda Way West • Lake Worth, Fla. 33463

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V120 

World Radio History



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).

FROM PAGE 119

EQUIPMENT

Synchronizer: TBC, SMPTE Time Code video and audio editing systems

VTRs: Sony Broadcast 3/4" editing, BVU 110

Switchers: Crosspoint Latch, A/B roll capabilities

Cameras: Sony 3-tube broadcast, Eclair NPR, Arr, Bolex, Scoopic, Beaulieu

Audio recorders: Nagra, Tascam 8 & 2 track

Audio mixers: Yamaha, Studiomaster, digital delay, dbx

Other major equipment: Chyron, Animation stand 16-35 mm. Totally mobile production van with generators, tungsten and HMI lights, indoor studio space. EEI effects

Rates: Available upon request and by the job

Direction: Monolith specializes in the relation of film, video and audio production, especially in the area of music video. Beyond equipment, studio, and mobile capabilities, we have the creative and experienced personnel needed in directing, writing, and producing a specialized film or video. Experts in music editing, special effects, cinematography, lighting, and commercial production are all a part of Monolith. Our editing facilities are SMPTE ready for video and audio interface in cutting the final product.



MONOLITH

Film Video Audio

MONOLITH PRODUCTION INC.
Jacksonville, FL

NATIONAL TELEPRODUCTIONS, INC.

VPF, OLVP

1750 N. Congress Ave., Suite 205,

West Palm Beach, FL 33401

(305) 689-9271

Owner: Robert M. Peterson

EQUIPMENT

Synchronizer: MCI, Quantel Framestore

VTRs: Portable all formats, Studio M format and 3/4"

Switchers: 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" mobile unit

LISTING CONTINUED ON PAGE 122

MIX VOL. 9, NO. 4



Besides VTA, What Video Tape Post Production Facilities Offer 8 Years of Experience in Stereo Sound?

Well, there must be at least one,
but we can't think of the name.

When you say VTA, people think video
expertise...16 years experience...the South's
largest video tape post production company.

But few know that VTA is also
a pioneer in stereo sound.

It is. While other facilities play catch-up,
VTA is ready. VTA began stereo simulcasts
back in '76 and has had in place and in
operation every hallmark of quality
stereo/mono sound equipment since its
introduction. DBX on every audio and video
tape machine, audio sweetening rooms,

36 channel MCI JH600 automated consoles
Lexicon 224 Larcs...you name it,
and you'll find it in both VTA's Florida
and Georgia facilities - plus the people
who know how to use it.

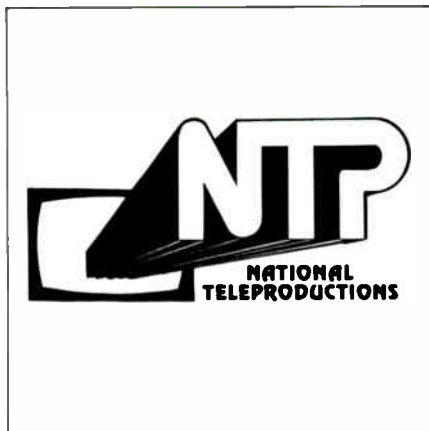
Here comes stereo TV from
both directions, and you're ready for it
because VTA is ready.



video tape associates

1733 Clifton Rd. N.E. Atlanta, GA. 30329 / [404]634-6181
2040 Sherman St. Hollywood, FL. 33020 / [305]920-0800

Circle #077 on Reader Service Card



NATIONAL TELEPRODUCTIONS, INC.
West Palm Beach, FL

FROM PAGE 120

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 16 mm and 35 mm film trade

NEW AGE SIGHT & SOUND
VPF, OLVP, VPP/E, APPV
Suite 164, 120 Inter-State North Pkwy East
Atlanta GA 30339
(404) 956-7956

Owner: Media Assoc. Lmt.
Manager: William Allgood
EQUIPMENT
Synchronizer: BTX system
VTRs: Ampex VPR-2 1"; JVC & Sony 3/4"; Panasonic, JVC and Sony 1/2"
Switchers: JVC KM-2000 3 buss w/chroma-key.
Cameras: (3) Sony M3 three-tube cameras.
Audio recorders: MCI 24 and 2 track, Sony 3324 digital 24 track, Sony 1610 2 track, Sony FI 2 track.
Audio mixers: Sound Workshop 50 x 24 x 48 and 28 x 24; Sound Workshop Logex B 12 x 8; Panasonic WR-500.

Other major equipment: 40' x 50' studio, convergence/JVC VE-92 editor w/time code, Symtec PGS III computer/Graphics generator.
Rates: Please call or write for rates.



NEW AGE SIGHT & SOUND
Atlanta, GA

SPEND MORE TIME MAKING: MUSIC FOR AUDIO MUSIC FOR VIDEO MUSIC FOR FILM MUSIC FOR MONEY! it's SMPL™.

Get the most complete synchronizer system on the market today! You'll spend more time making music while the SMPL System's 10 point autolocator quickly locates audio, video and MIDI tracks and synchronizes audio/audio, audio/video, MIDI/time code.

SMPL supports all North American and European video and film formats.

Automatic punch in and punch out, time code metronome, recorder remote control and many more user friendly production tools are at your fingertips.

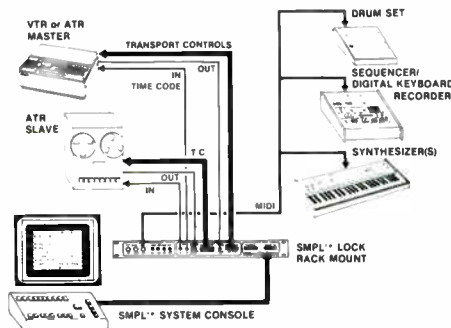
And, all this costs a lot less than you ever imagined.

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P.O. Box 14467 • 1020 W. Wilshire Blvd. • Okla. City, OK 73113 • (405) 842-0680

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NEW RIVER STUDIOS
APPV
408 South Andrews Ave., Fort Lauderdale, FL 33301
(305) 524-4000/947-9393
Owner: New River Productions, Inc.
Manager: Virginia Cayia
EQUIPMENT
Synchronizer: Q.Lock 3.10
VTRs: JVC 6600 3/4" U-matic.
Audio recorders: (2) Studer A800s, (2) Studer A80s
Audio mixers: Neve 8108 w/Necam 96.
Other major equipment: (2) JVC 2082 Monitors, complete array of outboard gear, AMS, EMT, Lexicon, etc.
Rates: Please call for further information.
Direction: Credits include: Cyndi Lauper live video "Money", Norwegian Cruise Lines "Bahamarama Monday."

PROFESSIONAL BROADCAST PRODUCTIONS, INC.
APPV
3224 West Kennedy Blvd., Tampa, FL
(813) 876-7405
Owner: Mel Berman, Ginny Berman
Manager: Thomas Angermeier

QUADRADIAL CINEMA CORP.
VPF, OLVP, VPP/E, APPV
14203 N.E. 18th Ave., North Miami, FL 33181
(305) 940-7971, 940-7994
Owner: Robert Ingria, Mary Shahan
Manager: Robert Ingria

ROXY PRODUCTION CENTER
VPF, OLVP, VPP/E, APPV
827 Meridian St., Nashville, TN 37207
(615) 227-0920
Owner: RRT, Incorporated
Manager: Dan Herschede

SCENE THREE, INC.
VPF, OLVP, VPP/E, APPV
1813-8th Ave. South, Nashville, TN 37203
(615) 385-2820
Owner: Marc W. Ball, chairman of the bd
Manager: Kitty Moon, president
EQUIPMENT
Synchronizer: CMX/BTX
VTRs: Sony 1"
VCRs: 3/4", VHS, Beta
Switchers: Ampex, Vital.
Cameras: Ikegami.
Audio Recorders: Studer.
Audio Mixers: Harrison.
Other major equipment: Dolby & dbx noise reduction; Lexicon digital reverb.
Direction: Programming and commercial production, studio and remote for clients such as CBS Records, 7-Up, N.W. Ayer, PolyGram, Warner Bros., CBS Television, Multimedia, HBO. Studio facility with computerized lighting; 45 foot semi-mobile unit with Harrison 46 input audio console.

SMALLWONDER STUDIO
VPF
 1813 Lombardy Ave., Nashville, TN
 (615) 298-1545
 Owner: Mark Pleasant
 Manager: Mark Pleasant

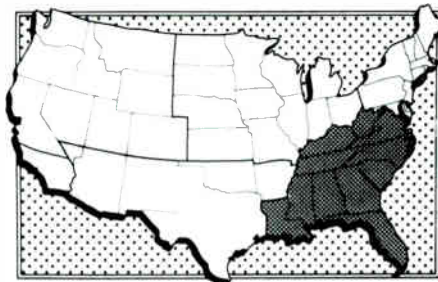
SOUNDSTOP RECORDING STUDIOS
APPV
 1307 Division St., Nashville, TN 37215
 (615) 244-4149
 Owner: Tree International
 Manager: Patrick A. McMakin

SOUTHEAST AUDIO SERVICES
 1791 Blount Rd. #206 Pompano Beach, FL 33060
 (305) 974-1500
 Owner: Joe Foglia
 Manager: Ginny Moro

SOUTHERN PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 900 Division St., Nashville, TN 37203
 (615) 248-1978
 Owner: Lynn Bennett
 Manager: Alice Mader

SPECTRUM PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 536 Huffman Rd., Birmingham, AL 35215
 (205) 833-6906
 Manager: Rick Greenlee, Randy Harper

SPECTRUM RECORDING STUDIO
APPV
 999 S. Federal Highway, Deerfield Beach, FL 33441
 (305) 428-0119, 491-6964
 Owner: Jim Kalamasz
 Manager: Jim Kalamasz



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).

20TH CENTURY PRODUCTIONS
OLVP
 576-B Goldsboro Rd. NE, Atlanta, GA 30307
 (404) 688-0799
 Owner: Hal Bishop
 Manager: Hal Bishop

VIA INC.
VPF, OLVP, VPP/E
 2323 Cheshire Bridge Road, Atlanta, GA 30339
 (404) 982-0540
 Owner: Nick Nicholson

VIDEO IMAGE PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
 808 Live Oak Dr., Chesapeake, VA 23320
 (804) 420-4592
 Owner: William L. Cox
 Manager: William L. Cox

VIDEO IMAGE, INC.
VPF
 2724 NE 21st Ave., Ft. Lauderdale, FL 33306
 (305) 561-1492
 Owner: Randy Griffith

THE VIDEO PRODUCTION CO. OF AMERICA INC.
VPF, VPP/E
 1201 Central Ave., Charlotte, NC 28204
 (704) 376-1191
 Owner: Mary J. Knox
 Manager: H. Walter Knox

VIDEO PRODUCTION SERVICES
OLVP
 1010 Greenwood Ave., Atlanta, GA 30306
 (404) 881-1802
 Owner: Greg Morse
EQUIPMENT
 Synchronizer: BTX.
 VTRs: 1" and 3/4", portable.
 Switchers: Panasonic AS-6100.
 Cameras: Ikegami-79E, DAC, Sony M3.
 Audio recorders: Otari 8 track, Nagra 4.2 2 track.
 Audio mixers: Sound Workshop 12 x 8.
 Other major equipment: Toyota remote van for audio or video, sync playback package, Schoeps microphones, (2) M/R booms.
 Rates: Rates on request.
 Direction: Remote Audio/Video production. Multitrack location recording, sync playback. Sound for film and tape w/2 Mole/Richardson studio booms, video assist package for film.



Timing is Everything in Life...

And, it's no different with technology. The Model 610 Dual Compressor/Expander is engineered to fulfill today's production demands by delivering the desired end result time after time.

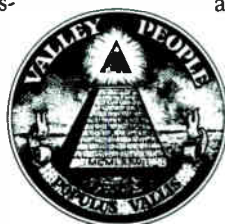
Consider the 610's interactive Expanded Compression mode. With this method of operation, the audio signal may be compressed to reduce dynamic range, and the expander may be used to reduce the residual noise which would otherwise be "pumped up" or accentuated by the compression process in the presence of low-level passages or pauses.

Only the symmetrical release coupling circuitry employed in the Model 610 can deliver a truly imperceptible transi-

tion between compression and expansion. Devices using less sophisticated circuitry introduce "turn-on" noise at the end of the compression process or allow noise level to recover before downward expansion takes place to cancel it. Unfortunately, instead of solving a problem these devices introduce a new one.

You'll find that all operational modes of the Model 610 deliver unsurpassed, problem-solving performance. And, operation of the unit is simple and intuitive, so that you get immediate results!

Isn't it time that you own a 610?



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 Nashville, Tenn. 37204 • 615-383-4737
 TELEX 558610 VAL PEOPLE NAS
 Export: Gotham Export Corporation, NY, NY/Telex 129269

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SOUTHEAST continued

VIDEO TAPE ASSOCIATES
VFF, OLVP, VPP/E, APPV
1733 Clifton Rd., N.E., Atlanta, GA 30329
1-800 554-TAPE
Owner: Ken Chambliss
Manager: Mike McNally

WINDMILL PRODUCTIONS, INC.
VFF, VPP/E
1820 Briarwood Ind. Ct., Atlanta, GA 30329
(404) 634-9060
Owner: Larry D. Goddard

YES PRODUCTIONS
VFF, OLVP, VPP/E, APPV
P.O. Box 24026, New Orleans, LA 70184
(504) 486-5511
Owner: WYES TV
Manager: Michael J. LaBonia

NORTH CENTRAL

ACTIVE 8 PRODUCTIONS
VFF, OLVP, VPP/E, APPV
3003 Park 16th St., Moline, IL 61265
(309) 764-9694
Owner: Quad Cities Comm. Corp.
Manager: Doug McWhorter

AUDIO-GRAPHICS
APPV
1516 Ferris Ave., Royal Oak, MI 48067
(313) 544-1793
Owner: E. J. Wollrum
Manager: S. E. Wollrum

THE AVTECH COMPANY, INC.
VFF, OLVP, VPP/E, APPV
6023 North Dixie Dr., Dayton, OH 45414
(513) 890-7600
Owner: Joseph Russo
Manager: Daniel Churchill

BARLOW PRODUCTIONS INC.
VFF, OLVP, VPP/E, APPV
1125 S. Brentwood Blvd., St. Louis, MO 63117
(314) 721-2385
Owner: Ron Barlow
Manager: Ron Barlow

BENNETT PRODUCTIONS
VFF, OLVP, VPP/E, APPV
2553 Cleveland Ave., Columbus, OH 43211
(614) 267-7007
Owner: John W. Colley
Manager: John W. Colley

BURCH COMMUNICATION
OLVP, VPP/E
4265 Forest Lake Dr., Mound, MN 55364
(612) 472-7426
Owner: Jack Burch
Manager: Jack Burch

CENTRON PRODUCTIONS
OLVP
1621 W. 9th St., Lawrence, KS 66044
(913) 843-0400
Owner: Bob Kohl
Manager: J. D. Powers

CITY ANIMATION COMPANY
VFF, OLVP, VPP/E, APPV
57 Park St., Troy, MI 48083-2753
(313) 589-0600
Owner: Jack E. Simon
Manager: Larry A. Feedback



NORTH CENTRAL

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).

CITY VIDEO PRODUCTIONS, INC.
VFF, OLVP, VPP/E, APPV
1227 S. Harlem, Berwyn, IL 60402
(312) 484-8818
Owner: Frank J. Kostka
Manager: Alan W. Iusik

CLANDESTINE SOUND LAB
APPV
316 S. Rogers, Bloomington, IN 47401
(812) 333-7931
Owner: Raymond Maxwell
Manager: Raymond Maxwell

CREATIVE TECHNOLOGY, INC.
VFF, OLVP, VPP/E, APPV
853 Copley Rd., Akron, OH 44320
CLE (216) 566-7187; AKR (216) 535-5778
Owner: Group One
Manager: Christopher W. Dieck V.P./director creative services

EQUIPMENT
Synchronizer: BTX Shadow, Datatron 5152 SMPTE code reader/generator
VTRs: (4) Ampex VPR-2 1", (2) RCA TR 600 2", Ampex VPR-20 1", Ampex/Nagra VPR-5, Sony BVU-820 3/4", (2) Sony BVU-800 3/4", (4) Panasonic NV-8200 VHS decks, (3) Sony Beta decks
Switchers: Central Dynamics Labs 480-8, Grass Valley 100
Cameras: (2) Philips LDK-25B, (2) Thompson CSF 602 Micro Cams with Schneider 10.1 zoom & Zeiss wide angle, (2) Ikegami ITC-62 B&W matte cameras
Audio recorders: MCI 8 track, MCI 2 track, MCI/Sony 2 track with time code, (3) ITC cart machines
Audio mixers: Sound Workshop 16 channel with Outpost Genesis mixdown automation, Sony/MCI JH-800 12 channel console
Other major equipment: CMX-3400X, Vital Squeezezoom DVE, Fernseh Compositor, Sony BVE-800, Chyron VP-2, Rank Cintel Mark IIIB Flying Spot Scanner (16/35mm and slides), Magna-Tech MR-636-3-R, Thompson CSF 8410 image enhancer, Thompson CSF 9100 processor, 60' x 40' studio w/18' lighting grid, 14' motorized turntable, 15' x 20' insert stage, Vinten Hydroped, Vinten Autocue, CP location prompter, full complement of Mole and Lowell lighting and grip equipment, Sony, Audio-Technica and Neumann microphones
Direction: This is a full-service production and postproduction facility. We are meeting the needs of a wide range of clients, including advertising agencies, independent film and video production companies and industrial corporations. In addition, we have a division designing and marketing sophisticated computer post apparatus.

CREATIVE PRODUCTIONS, INC.
OLVP, APPV
220 W. Sixth Ave., Topeka, KS 66603
(913) 234-4082
Owner: Barry Busch
Manager: Chns Alumbaugh

THE DISC LTD.
APPV
14611 E. Nine Mile Rd., East Detroit, MI 48021
(313) 779-1380
Owner: Bob Dennis, Greg Reilly, Tom Gelardi
Manager: Greg Reilly

KEN EARL PRODUCTIONS, INC.
APPV
590 Buckingham Way, Bolingbrook, IL 60439-1007
(312) 472-6550
Owner: Ken Earl
Manager: Ken Earl

EDITEL-CHICAGO
VFF, VPP/E, APPV
301 E. Erie, Chicago, IL 60611
(312) 440-2360
Owner: Scanline Communications
Manager: Len Pearlman V.P./tech services

FACET COMMUNICATIONS, INC.
VFF, OLVP, VPP/E
1223 Central Parkway, Cincinnati, OH 45214
(513) 381-4033
Owner: WCET Television
Manager: John T. Dominic VP and GM

FIRST GENERATION VIDEO PRODUCTIONS
VFF, OLVP, VPP/E
2 E. 2nd, Box 2104, Hutchinson, KS 67504
(316) 662-9262
Owner: Nick Slater

GALAXY PRODUCTIONS, LTD.
VFF, OLVP, VPP/E
1510 Midway Court, Ste. E2, Elk Grove Village, IL 60007
(312) 593-7030
Owner: Dennis Gallagher

GOLDEN PICTURES, LTD.
VFF, OLVP
125 S. Racine, Chicago, IL 60607
(312) 226-8240
Manager: Tom Rockwell, Steve Golden

GRS, INC.
VFF, OLVP, VPP/E, APPV
13300 Broad St., Pataskala, OH 43062
(614) 927-9566
Manager: Stephen S. Andrews

PAUL HERMAN PRODUCTIONS
OLVP
7117 Blackburn Dr., Downers Grove, IL 60516
(312) 964-7020
Owner: Paul Herman
Manager: Paul Herman

INFOCOM PRODUCTIONS INC.
OLVP, APPV
4614 Prospect Ave., Cleveland OH 44103
(216) 431-9163
Owner: Wallace D. Huskonen
Manager: Mark McCue

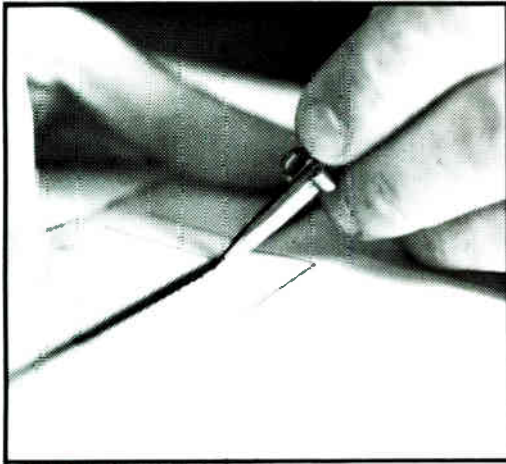
PAUL JACKSON CREATIVE
OLVP, APPV
3115 Chaucer, St. Louis, MO 63114
(314) 427-8614
Owner: Paul E. Jackson, Sr.

JONES INTERCABLE INC.
VFF, OLVP, VPP/E
Route 2 County Hwy J, P.O. Box 68,
Juneau, WI 53039
(414) 349-3201
Owner: Jones InterCable Inc.
Manager: Gerald Pauls; program director, Shawn Roth

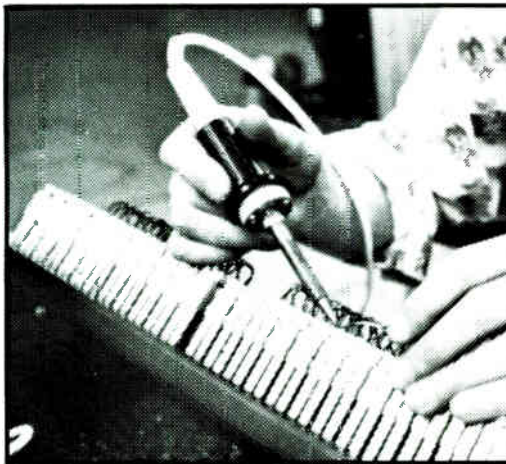
JUDSON STUDIOS
VFF
3457 Granger Rd., Akron, OH 44313
(216) 666-1200
Owner: Robert Judson

KARTES VIDEO COMMUNICATIONS
VFF, OLVP, VPP/E, APPV
10 E. 106th St., Indianapolis, IN 46280
(317) 844-7403
Owner: Jim Kartes
Manager: Dan Lawhorn

Custom Design



Installation



Maintenance



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Smooth operation is necessary for your studio's success, but difficult without careful planning. **AVC's** experience in every facet of Recording/Audio/Video Production Studio design and installation will ensure smooth operation. We draw from an equipment line of over 200 professional brands including:

 Harrison

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Soundcraft

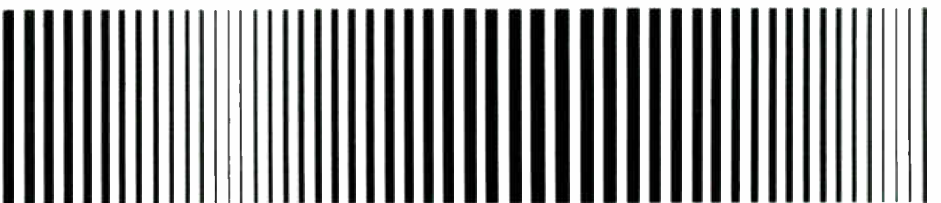
lexicon

bty

Whether its a patch cord or a complete studio installation, call **AVC** in Minneapolis or Elmhurst/Chicago for the best support to complement your systems needs.

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SYSTEMS
INCORPORATED**

AVC



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Postbox 356 d
Phone: 201 423 4405

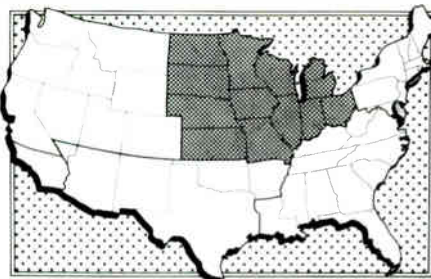
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REELS & BOXES
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PROFESSIONAL QUALITY
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Des Plaines, IL
60016

33

Circle #082 on Reader Service Card

V126



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).

KLUGE COMMUNICATIONS, INC.
VPF, OLVP, VPP/E, APPV
5350 W. Clinton Ave., Milwaukee, WI 53223
(414) 354-9490
Owner: Douglas W Kluge
Manager: Douglas W Kluge

LIGHTHOUSE VIDEO, INC.
OLVP, VPP/E
2020 E. Camp McDonald Rd., Mt. Prospect, IL 60056
(312) 823-8855
Manager: Ed Booth

MARK VIDEO ENTERPRISES, INC.
VPF, VPP/E
2715 Packard Rd., Ann Arbor, MI 48104
(313) 971-0031
Owner: George Marketos

MEDIA GROUP TELEVISION
VPF, OLVP, VPP/E, APPV
9th Ave. & 23rd St., Moline, IL 61265
(309) 764-6411
Owner: Moline Gospel Temple
Manager: Chuck Olmstead

MEETING MEDIA ENT. LTD.
VPF
3330 Dundee Rd., Northbrook, IL 60062
(312) 564-8160
Owner: Philip L. Weintraub
Manager: Bibu Tashjan

ARTHUR MERIWETHER INC.
VPF, OLVP, VPP/E
1529 Brook Dr., Downers Grove, IL 60515
(312) 495-0600
Manager: Bruce Johnson

MESHENDA PRODUCTIONS
VPP/E
7615 Maryland Ave., Chicago, IL 60619
(312) 651-3872
Owner: Lisa Williams
Manager: Lisa Williams

THE MIRROR GROUP
APPV
1226 Oakwood, Rochester, MI 48063
(313) 652-7790
Owner: Rick Manasa, Mike Manasa
Manager: Rick Manasa

MORNINGSTAR VIDEO PRODUCTIONS, INC.
VPF, OLVP, VPP/E, APPV
3360 Tremont Rd., Columbus, OH 43221
(614) 459-1500

Manager: Joel G. Nagy, president

EQUIPMENT

Synchronizer: Audio Kinetics Q-Lock in Post Production, Audio Kinetics Q-Lock in Recording Studio

VTRs: (3) Ampex VPR-80 1" Master with TBC-80 in post-production

VCRs: (3) Sony BVU-800's (A-B-C Sync-Roll) in post-production, Sony BVU-110, (3) Sony 5850's

Switchers: Grass Valley 1600 in post-production

Cameras: (3) CEI 330's

Audio Recorders: Tascam 85-16/Otari MX 5050 in post-production, Nakamichi PCM Digital-Revox B 77 in field production, (2) Tascam 85 16/Studer B-67 in recording studio

Audio Mixers: Tascam model 15 (16 in) in post-production, Tascam model 16 (24 in) in recording studio

Other major equipment: Video Editing System CMX 340X editing system Outboard Lexicon 224X Super Prime Time, Eventide Harmonizer/Orban EQ & Sibil Controller Dubner CBG 2 graphics, animation and character generator, Fairlight CMI/LinnDrum/Prophet 5, Abekas DVE, (3) Fortell Y-688 TBC Rates: By quotation Range: \$40-\$350/hr

Direction: Morningstar Video specializes in broadcast quality sales, training and information programs for corporate and industrial clients. Pioneering the development of advanced production software, Morningstar has integrated software control of audio and video post-production for frame-accurate, repeatable, decision-listed program assembly, editing, processing and mix-down

NEW LIFE COMMUNICATIONS

OLVP

424 W. Minnesota Ave., P.O. Box 1075,
Willmar, MN 56201
(612) 235-6404

Manager: Larry Husinga

EQUIPMENT

VTRs: 3 Sony 1"

VCRs: 3/4" and VHS

Switchers: Grass Valley 1660-IL

Cameras: 3 CEI 310

Audio Mixers: Yamaha M1516

Other major equipment: 34' TV trailer is wired for 5 cameras; RTS intercom and IFB; routing switcher of iso'd recording

Direction: Location video recording, single or multi-camera, switched or iso'd Music production—"The Lundstroms," weekly syndicated TV program in 60 markets Sports—ABC NCAA football, U of Minn. hockey and basketball. Drama—"Minnesota Connection," 58 min. docu-drama, locations in Minneapolis and New York.

NEW ORIENT MEDIA

OLVP, VPP/E, APPV

126 W. Main St., Dundee, IL 60118
(312) 428-6000

Owner: Bob Sandige

Manager: Bob Tonge (Audio)

NORTHWEST TELEPRODUCTIONS, INC.

VPF, OLVP, VPP/E, APPV

4455 West 77th St., Minneapolis, MN 55435
(612) 835-4455

Manager: Robert Mitchell, president, Bob Kerr, VP marketing

PHOTO COMMUNICATION SERVICES, INC.

VPF, OLVP

6410 Knapp NE, Ada, MI 49301
(616) 676-1499

Owner: Michael Jackson

PRAIRIE DREAMS AUDIO/VIDEO RECORDING

VPF, OLVP, VPP/E, APPV

206 Locust, Americus, KS 66835
(316) 443-5181

Owner: Lee C. Muller

Manager: Lee C. Muller

PRODUCERS COLOR SERVICE, INC. VIDEO COMMUNICATIONS DIVISION

VPF, VPP/E, APPV

24242 Northwestern Highway, Southfield MI 48075-2583
(313) 352-5353

Manager: Bruce Calmer, gen. mgr.; Keith Neff, tech. oper. mgr.

EQUIPMENT

Synchronizer: EECO interlock to 1" VTR, ATRs, mag decks

VTRs: (8) BVH 2000, (13) BVH 1100A

Switchers: (4) CDL 480, GVG 300/3

Cameras: (2) Sony BVP 3, EC 35, (2) Bosh FDL 60 telecine, Ikegami 730

Audio recorders: Ampex MM1200, Ampex ATR100, MCI 110B, Otari 24 track

Audio mixers: SSL 4000B computer assisted 24 ch

Other major equipment: (5) edit salons, CMX on line, (2 with

producers color service, inc.

PRODUCERS COLOR SERVICE, INC
Southfield, MI

CMX 3400), Quantel, Paintbox, 2 channel ADO, Viditone, audio post-Ulmatte, 100' x 150' x 30' stage, Aphex, Eventide H949 Harmonizer, DeltaLab IX, J. Orban 546A, Dolby and dbx NR, voice over booth, 24 tie lines to video production studios

Rates: On request

Direction: Commercials, network and national for major Midwest agencies, retail, automotive, etc. Industrial production and post production high end industrial clients for tape or videodisc release. Effects, considerable experience in video FX combining Paintbox Viditone/ADO's Tape & Film Ulmatte techniques

PRODUCERS VIDEO

OLVP
282 East Sycamore St., Columbus, OH 43206
(614) 461-9818
Owner: Dan Sakas

PROVIDEO

OLVP
6401 Odana Rd., Madison, WI 53719
(608) 271-1226
Owner: Liberty Broadcast Co
Manager: Jerry Emmerich

RDM AUDIO/VIDEO

VFP, APPV
3211 Standish Ave., Cleveland, OH 44134
(216) 845-1015
Owner: Richard Myers
Manager: David Myers

ROSCOR VIDEO RENTALS

ROSCOR VIDEO RENTALS
Morton Grove, IL

ROSCOR VIDEO RENTALS
OLVP, VPP/E
6160 W. Oakton, Morton Grove, IL 60053
(312) 539-7700

Owner: Privately owned
Manager: Bennett Grossman
EQUIPMENT

VTRs: Ampex VPR80, Sony EVH 500 I", Sony BVU 800, VO5850, BVU 110 4", 1 1/2" VHS and Beta
Switchers: Grass Valley Model 100, Panasonic WJ 5500

LISTING CONTINUED ON PAGE 128

SHOW

SHOPPING LIST

1. Stop by SPRAGUE MAGNETICS.
 - A. REPLACEMENT HEADS & RECORDER SPARE PARTS FOR: Ampex, MCI, 3M, Otari, Revox, Sony BVH, Teac and Studer.
 - B. REPLACEMENT CART HEADS: Ampro, ATC, Pacific Recorders, ITC, Broadcast Electronics, etc...
 - C. REPLACEMENT FILM HEADS: Magnasync, Magnatech, MTM, etc...
 - D. DUPLICATOR HEADS: Cetec Gauss, Electrosonic, etc...
 - E. REFURBISHMENT SERVICES: All types of heads, 24 Hour turnaround, FREE evaluation.
 - F. ALIGNMENT TAPES: MRL, Nortronics and STL

SPRAGUE MAGNETICS INC.

15759 Strathern Street/Van Nuys, CA 91406
(818) 994-6602 TLX:754239 FAX:818-994-2153

800-553-8712 800-325-4243 N. CA

Circle #083 on Reader Service Card

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AMERICA'S MOST EXPERIENCED REAL TIME DUPLICATOR

The world's largest state-of-the-art cassette duplication facility continues to give you incredible excellence. GRD was first to introduce Real-time cassette duplication at a reasonable cost, and elevated the cassette to audiophile quality. This year GRD has taken the next step into the future with Digital Duplicating, AGFA's super-extended normal bias 612 tape and high bias 627 tape. GRD will faithfully reproduce your most demanding programs without compromise... in Real-Time at unreal prices.

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AND ASSEMBLY
CUSTOM LOADED BLANK
AGFA CASSETTES, CHROME, 612

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P.O. BOX 13054
PHX., AZ 85002

THE RECORDERS Quartz-lock Auto
Bias 30-25000 Hz. 025% w/r m.s.
Dolby B - more than 67 db
S/N ratio

Circle #084 on Reader Service Card

FROM PAGE 127

Cameras: Ikegami EC35, HL79E, ITC 730, the new HL95, Sony DXC M3, JVC B4110, Unicam
Audio recorders: Technics RS 1520
Audio mixers: Ramsa NR130, Shure M267, Sony MXP21
Other major equipment: Abekas A52 DVE, A42 Stillstore, Trivax CCUs for all HL79E, Barco Video Projectors, PeeWee Dollys, Quanta character generators, full lighting equipment
Rates: Call for information
Direction: We specialize in multi camera productions with either HL79Es for high end shoots or ITC 730s for industrial type productions. All cameras are interlaced 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 Hoscov we don't just rent video equipment, we engineer video rentals

RUSTAD/WICKHEM/VIDEO, INC.
VFP, OLVP, VPP/E, APPV
 4902 Hammersley Rd., Madison, WI 53711
 (608) 274-4000
 Owner: John Rustad, Bob Wickhem

SHARPSHOOTERS VIDEO, LTD.
OLVP
 P.O. Box 31, South Holland, IL 60426
 (312) 333-5256
 Owner: David Logan
 Manager: David Logan

SHERYL VIDEO CO.
VFP, OLVP, VPP/E, APPV
 2325 McKinley Ave., Lakewood, OH 44107
 (216) 228-0136
 Owner: Sheryl Bluck
 Manager: John Bluck

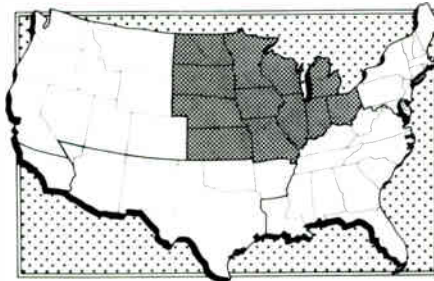
SOUND MASTER PRODUCTIONS
OLVP, VPP/E
 747 Brixham Rd., Columbus, OH 43204
 (614) 272-0212
 Owner: Greg A. Martin

SOUTH WIND MEDIA SERVICES, INC.
VFP, OLVP, VPP/E, APPV
 P.O. Box 1711, Topeka, KS 66601
 (913) 233-1030
 Owner: Corporation
 Manager: Glenn R. Anderson

STOKES SOUND SERVICES
OLVP, APPV
 100 Stokes Lane, P.O. Box 398, Hudson, OH 44326
 (216) 650-1669
 Owner: A.J. & Allan Stokes
 Manager: A.J. Stokes
EQUIPMENT
 Synchronizer: BTX Softouch, Shadow, Cypher
 VCRs: 3/4" Sony 5800; JVC 4700U, 1/2" VHS, Beta
 Cameras: Ikegami ITC-730
Audio Recorders: MCI JH114-24, JH-110-8,4,2, Otari 5050B-2, 8; Nagra 4 2 L.
Audio Mixers: Soundcraft, Sound Workshop, Yamaha
Other major equipment: Limiters: dbx, UREI, Valley People, EQ's: UREI, White, Orban, Dynaflex, 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 over-dubs. Also available for rental are audio and video EFP systems

STUDIO 55
VFP, OLVP, VPP/E
 6176 Olson Memorial Hwy., Golden Valley, MN 55422
 (612) 541-0290
 Owner: IDS/American Express
 Manager: Jeffrey Nelsen

STUDIO M
APPV
 45 East 8th St., St. Paul MN 55101
 (612) 221-1500
 Owner: Minnesota Public Radio
 Manager: Tom Mudge
EQUIPMENT
 Synchronizer: BTX Softouch, Shadow
 VTRs: JVC U-Matic 8250
 Switchers: Panasonic
 Cameras: JVC-GXS9U
 Audio recorders: 3M 32 track, Otari MTR 90II, MCI 110B 1/2"



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); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

4 track, Otari MTR12 2 track, SMPTE center stripe
Audio mixers: MCI JH-636 VU automatic 36 x 24
Other major equipment: Lexicon 224X w/LARC digital reverb (2), EMT 140, Ecoplate J and II, Orban Dynamic Sibilance controller, Audio and Design (recording) Compex limiter, Audio and Design (recording) "Scamp" rack, UREI LA 4A limiters (4), Eventide 949 harmonizer, UREI "Little Dipper" filter, Trident parametric equalizers (2), Omnicraft noise gates, MICMIX Dynaflexer, Marshall time modulator
Rates: Analog \$125/hr., Digital Recording: \$140/hr. Video/Audio interlock rates 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 M
 St. Paul, MN

SUITE 16 PRODUCTIONS
VFP, OLVP, APPV
 107 W. Sherman, P.O. Box 643, Lynn IN 47355
 (317) 874-1527, 874-2442
 Owner: Ken Thomas, Mike Anderson, Matt Wells
 Manager: Ken Thomas, Mike Anderson, Matt Wells

SUMA RECORDING STUDIO
APPV
 5706 Vrooman Rd., Painesville, OH 44077
 (216) 951-3955
 Owner: Kenneth R. Hamann
 Manager: Michael J. Bishop

SUTTMAN PRODUCTIONS
APPV
 Box 72, Dayton, OH 45409
 (513) 299-4578
 Owner: Eric Suttman
 Manager: Eric Suttman

TAKE 1 VIDEO
VFP, OLVP, VPP/E, APPV
 1730 E. 24th, Cleveland, OH 44114
 (216) 771-1315
 Owner: Jeff Kassout
 Manager: Jeff Kassout

TANKE PRODUCTION SERVICES INC.
OLVP
 1818 N. Halsted St., Chicago, IL 60614
 (312) 787-7691
 Owner: Peter Tanke

TELEATION MOBILE PRODUCTIONS
VFP, OLVP
 3210 W. Westlake Ave., Glenview, IL 60025
 (312) 729-5215
 Manager: Mike Kubik, operations manager

TELEMATRIX VIDEOTAPE PRODUCTIONS
 5635 W. 80th St., Indianapolis, IN 46278
 (317) 872-8801
 Manager: Lynne D. Miller VP GM

TELEPRO COMMUNICATIONS, INC.
OLVP
 550 Stephenson Hwy., Suite 107
 Troy, MI 48084
 (313) 583-7767
 Owner: Oscar Petoskey
 Manager: Michael Ross

TELEPRODUCTIONS
VFP, OLVP, VPP/E, APPV
 201 E. Erie St., Chicago, IL 60611
 (312) 337-6000
 Owner: Joseph Hassen
 Manager: David Bertz

THOMAS VIDEO PRODUCTIONS, INC.
VFP, OLVP, VPP/E
 1701 N. Heidelberg, Suite 101 & 102
 Evansville, IN 47711
 (812) 425-1668
 Owner: Tony Thomas, president

TMK - ELIAS PRODUCTIONS
APPV
 233 E. Erie St., Chicago, IL
 (312) 664-6057
 Owner: Ted Kay, Shelly Elias
 Manager: Joe Ott

TOTAL VIDEO-3/KMTV
VFP, OLVP, VPP/E
 10714 Mockingbird Dr., Omaha, NE 68127
 (402) 592-3333
 Owner: May Broadcasting Co
 Manager: Richard B. Bock

TRIBUNE/UNITED
VFP, OLVP, VPP/E
 P.O. Box 1049, Royal Oak, MI 48068
 (313) 549-7765
 Manager: John Hammond

TRI-J PRODUCTIONS
APPV
 P.O. Box 3254, Munster, IN 46321
 (219) 923-9369
 Owner: Bob Stephenson
 Manager: Bob Stephenson

UNIVERSAL RECORDING
APPV
 46 E. Walton, Chicago, IL 60611
 (312) 642-6465
 Owner: Murray Allen
 Manager: Foote Kirkpatrick
EQUIPMENT
 Synchronizer: 6 Softouch systems
 VTRs: JVC H250 C format
Audio recorders: ATH 102s 104s MCI 24 track, Mitsubishi X80 digital
Audio mixers: SSL 6000 Series, Newt
Other major equipment: Video and mag interlock and Macintosh high speed dubbers, video projectors and restorers

LISTING CONTINUED ON PAGE 130

NEVE NECAM • SSL 3M and MITSUBISHI DIGITAL

Film Mixing • Music • Video Sweetening



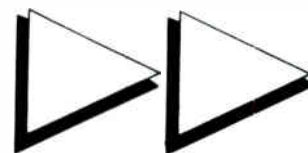
Murray Allen - president
Foote Kirkpatrick - studio manager



UNIVERSAL RECORDING CORPORATION

46 East Walton Street • Chicago, Illinois 60611 • 312/642-6465

Learn The Art Of Recording



THE RECORDING WORKSHOP



The leader in training tomorrow's music professionals. For over a decade, hundreds of engineers, as well as producers and recording artists have made their start at The Recording Workshop—a practical, hands-on approach where the studio becomes a working classroom.

New for 1985—4 workshop Programs:

- ▶ The 5 week Recording Engineer and Music Production Workshop
- ▶ The 1 week Studio Maintenance and Troubleshooting Workshop
- ▶ New for 1985—The Music Video Production Seminar
- ▶ New for 1985—Specialized Music Studies At Capital University

▶ No previous experience necessary ▶ Lectures by top music pros ▶ Extensive hands-on experience in 24, 16, and 8 track recording and mixing ▶ The largest and most equipped recording school/facility of its kind ▶ Training in commercial production, editing techniques and tape machine alignment ▶ Classes on the newest technologies—digital recording, the digital disk, MIDI interface, digital drum machines and computer assisted automated mixing ▶ on campus housing available ▶ Choose from a convenient, year-round schedule of classes.

Enrollment is limited, for free brochure, call or write today — The Recording Workshop, 455-X Massiewille Rd., Chillicothe, Ohio 45601

Toll free, in continental U.S.A. ▶ **800-848-9900**

In Ohio and outside U.S.A. ▶ **614-663-2544**

The Recording Workshop is licensed by the Ohio State Board of School and College Registration #80-07-0696T

Circle #085 on Reader Service Card

FROM PAGE 128

Rates: \$150-\$300/hour
Direction: Capability of interlocking sprocket and non-sprocket.
Most extensive and sophisticated audio for post production in
midwest, seven studios for post production to video.



UNIVERSAL RECORDING
Chicago, IL

VIDEO GENESIS, INC.
VFP, OLVP, VPP/E
24000 Mercantile Rd., Beachwood, OH 44122
(216) 464-3635
Owner: Howard J. Schwartz
Manager: Howard J. Schwartz

VIDEO IMPRESSIONS, INC.
OLVP, VPP/E
110 River Rd., Des Plaines, IL 60016
(312) 297-4360
Owner: Bill Holtane
Manager: Paul Snead

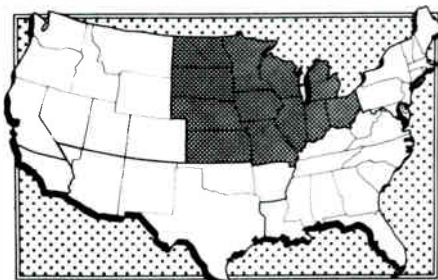
VIDEOLAB
VFP, OLVP, VPP/E, APPV
3517 Rochester Rd., Royal Oak, MI 48073
(313) 583-4848
Owner: Moray Black
Manager: Len Stone

VIDEO PRODUCERS NETWORK
324 E. 14 Mile Rd., Madison Heights, MI 48071
(313) 585-2616
Owner: Video Network Corp
Manager: Tony Palmieri

VMI PRODUCTIONS
VFP, OLVP, VPP/E
71 West 61st St., Chicago, IL
(312) 852-0266
Owner: Tom Eschnich
Manager: Tom Eschnich

WAV COMMUNICATION
VFP, OLVP, VPP/E
403 W. Silver Spring, Glendale WI
(414) 962-8273
Owner: Bruce Resnick
Manager: Bruce Resnick
EQUIPMENT
VTRs: JVC 8250s & 6650s
Switchers: Crosspoint Latch 6112 with the 6403 computer control, Panasonic WJ 5500 B.
Cameras: 3 Sharp XC-800s.
Audio recorders: Otari MX 5050, TEAC 122B.
Audio mixers: Ramsa.

Other major equipment: Chyron RGO-2 with camera font compose, Convergence computerized A/B roll editing.
Direction: WAV Communication is a full service video production facility utilizing multiple cameras connected to a remote studio configuration, a computer controlled A/B roll editing suite, and complete in-house art/design and photographic departments. We specialize in music videos, commercial and broadcast production, corporate presentations, along with documentary work.



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); VPP/E (Video Post-Production/Editing); APPV (Audio Post-Production for Video).

WJER VIDEO SERVICES
VFP, OLVP, VPP/E, APPV
646 Blvd., Dover, OH 44622
(216) 343-7755
Owner: WJER Radio, Inc., G. A. Petricola, pres
Manager: Carey Gardner

WORLDWIDE SOUND PRODUCTIONS
VFP, OLVP, VPP/E, APPV
202 West Plum, Robinson, IL 62454
(618) 544-7898
Owner: Ron Wheeler
Manager: Ron Wheeler

SOUTHWEST

BUCKBOARD RECORDING SERVICE
APPV
904 Keller Ave., Fort Worth, TX 76126
(817) 249-3094
Owner: Ron Di Julio

CEDAR CREST STUDIO
VFP, OLVP, APPV
P.O. Box 28, Mountain Home, AR 72653
(501) 425-9377
Owner: Bob Ketchum
Manager: Susan Robertson

CONTACT
VFP, OLVP, VPP/E
11246 S. Post Oak #203, Houston, TX 77035
(713) 729-1334
Owner: Jack Burney

CREATIVE AUDIO PRODUCTIONS
VFP, OLVP
326 Santa Isabel Blvd., Laguna Vista,
Port Isabel, TX 78578
(512) 943-6278
Owner: Ben McCampbell
Manager: Ben McCampbell

JOHN CROWE PRODUCTIONS
VFP
3 Dallas Communications Complex #102,
Irving, TX 75039
(214) 556-1816
Owner: John Crowe
Manager: Rusty Jones



DALLAS SOUND LAB
Irving, TX

DALLAS SOUND LAB
APPV
4 Dallas Communications Complex, Suite 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 JH110-B 1" layback
VCRs: Sony 5850s, JVC 8200, JVC 8250
Audio Recorders: Sony PCM 3324 digital 24 track, Otari MTR-90 24 track, Otari MTR-10 4 track, Otari MTR-10 2 track, Otari MX5050 4 track, Otari MX5050 2 track, Technics SV-100 digital 2 track, Sony PCM F-1 digital 2 track, REVOX cassette, MCI JH114 24/16 track, MCI JH-110-B 4/2 track.
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, computerized sound effects library, extensive MIDI keyboard set-up including Kurzweil 250, Yamaha DX7, Oberheim Xpander, Prophet-5, Prophet 10DS sequencer, LinnDrum, Korg Poly-800, Synclavier II available upon request.
Direction: Dallas Sound Lab is the largest facility of its kind in the Southwestern United States. Studio A, a 48-track recording studio with video/film interlock capable of orchestra scoring to picture, video sweetening and mixing, and album/jingle production, with audio tie lines to the three sound stages at Las Colinas for live TV shows, concerts, etc. Studio B, a 24-track studio with video/film interlock design for video-sweetening, mixing, overdubbing, ADR & SFX assembling. Studio C, 1200 sq. ft. 100 seat capacity screening & film mixing theatre.

Dallas Sound Lab is designed to meet the complete needs of clientele dealing with any aspect of audio for video or film production.

DIAMOND GROUP, INC.
OLVP
2 Dallas Communications Complex, Ste. 110
Irving (Dallas), Texas 75220
(214) 630-5097
Owner: Scott Talle

DUKE CITY VIDEO, INC.
VFP, OLVP
4121 'A' Cutler, NE, Albuquerque, NM 87110
(505) 884-5151
Owner: H. Jay Lefkowitz

VICTOR DUNCAN, INC.
OLVP, VPP/E
6305 N. O'Connor Rd. #100, Irving, TX 75039
(214) 869-0200
Owner: Victor Duncan
Manager: Lee A. Duncan, president

FIRST TEXAS VIDEO PRODUCTION
OLVP
315 W. Mulberry, Sherman TX
(214) 868-1399
Owner: Ralph Renshaw III
Manager: Randy Breed-Love
EQUIPMENT
VTRs: (2) Sony VO-5800s, VO-5850, VHS
Switchers: Director 2000 (Sony)
Cameras: Sony DXC-M3
Audio mixers: M-30 Tascam
Other major equipment: Harris TBC HVS-540, Chyron VP2, Sony Monitors
Rates: Small market rates, big market quality!
Direction: Commercial, Industrial, Training & Sales Presentation.

GUINN-COPPINGER MUSIC
APPV
1204 N. Lamar, Austin, TX 78703
(512) 476-8154
Owner: Ed Guinn, Stan Coppinger

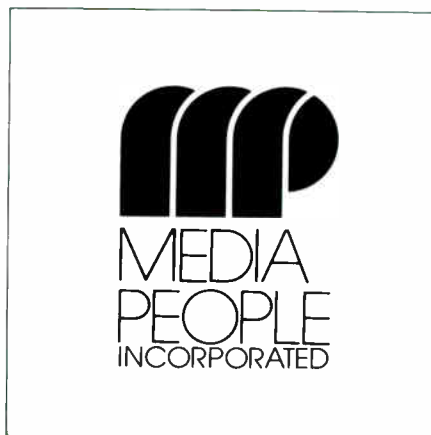
JOHNSON ENGINEERING CO.
APPV
3965 E. Foothills Dr., Sierra Vista, AZ 85635
(602) 458-3208
Owner: Jim Johnson, engineer
Manager: Jim Johnson

JONES PRODUCTIONS, INC.
VPF, OLVP, VPP/E
517 Chester, Little Rock, AR 72201-3011
1-800 643-6535
Owner: Gary W. Jones
Manager: Gary W. Jones

LICKONA, WATSON, CASEY
P.O. Box 5691, Austin, TX 78763
(512) 471-4811
Owner: Terry Lickona
Manager: Terry Lickona

LONG CANYON SOUND
APPV
7415 Long Canyon Tr., Dallas, TX 75249
(214) 298-2973
Owner: Ron W. Withall
Manager: Ron W. Withall

MBA PRODUCTIONS
VPF, OLVP, VPP/E
3203 Old Seymour Rd., Wichita Falls, TX 76309
(817) 322-7210
Owner: William J. Mur, Bruce J. Mur
Manager: Mack P. Mur



MEDIA PEOPLE, INC.
Scottsdale, AZ

MEDIA PEOPLE, INC.
VPF, OLVP
6736 E. Avalon, Scottsdale, AZ 85251
(602) 941-8701
Owner: Tony & Brash K. Woods

MIDCOM, INC
OLVP, APPV
3 Dallas Communications Complex, Suite 108
6311 N. O'Connor Rd., LB 50, Irving, TX 75039-3510
(214) 869-2144
Owner: Mike Simpson
Manager: Mike Simpson



OMEGA AUDIO & PRODUCTIONS, INC.
Dallas, TX

OMEGA AUDIO & PRODUCTIONS, INC.
APPV
8036 Aviation Place, Dallas, TX 75235
(214) 350-9066
Owner: Paul & Christensen
Manager: Curtis Drake
EQUIPMENT
Synchronizer: BTX 4600/4700 5 machine
VTRs: RCA TH 200 (8)
VCRs: JVC CR660-U
Switchers: Grass Valley
Cameras: RCA/CEI
Audio Recorders: (2) Otari MTR 90 24 track, 48 track Otari MTR 10-4 2/4 track
Audio Mixers: Amek M2500 3bx24 w/automation
Other major equipment: Full Stamp rack, Harmonizer, DDL 1

LISTING CONTINUED ON PAGE 132



The Incomparable Direct Box

Bruce Swedien—1984 Grammy Award winning engineer of Michael Jackson's "Thriller" album; and engineer for Quincy Jones, James Ingram, Sergio Mendez, Missing Persons...on the DI-100 Direct Box:

"The DI-100 has a very warm sound...very rich. It sounds just great to me!"
"I like to use it with synthesizers. What I do is take an output from the synthesizer, and because the DI-100 is capable of Line Level, I run it right into the tape machine...straight through...by-pass the console totally! It works great! Oh...and you know what else I really like about it?...that little gain control...that's handy!"
The DI-100..."it stays right with me, I won't give it up!!!"

We appreciate the support of our users...thanks again to:

BRUCE SWEDIEN
DAN WALLIN
GLEN GLEN SOUND,
PARAMOUNT PICTURES—LOS ANGELES
DISNEY STUDIOS—LOS ANGELES

EFX SYSTEMS—LOS ANGELES
WONDERLAND STUDIOS—LOS ANGELES
RECORD PLANT—LOS ANGELES
ABC-TV
CLAIRE BROS.—MANHEIM, PA

SWEDISH RADIO & TELEVISION
CENTRE CULTURAL—MANITOBA, CANADA
ANN-MARGRET SHOW
SHIRLEY MacLAINE SHOW

WAYNE NEWTON SHOW
ENGELBERT HUMPERDINK SHOW
CAESAR'S PALACE—LAS VEGAS
HARRAH'S—ATLANTIC CITY, NJ

CALL US AND ASK ABOUT OUR NEW RACKMOUNT DIRECT BOXES!!

ARIZONA
Phoenix Ear Audio
CALIFORNIA
Burbank Studiobuilders
San Francisco Sound Genesis
Whittier Whittier Music
CONNECTICUT
New Haven Goldie Libro Music
Stamford Audiotechniques
W. Hartford La Salle Music
FLORIDA
Jacksonville New Hope Sound
Miami Harris Audio
Tampa Paragon Music
GEORGIA
Smyrna The Music Mart
INDIANA
Evansville Dallas Music Pro Shop
Indianapolis Indy Pro-Audio
MASSACHUSETTS
Boston E.U. Wuritzer, Inc.
Brockton Scorpio Sound

MASSACHUSETTS (Continued)
Dalton Berkshire Pro-Audio
Watertown La Salle Music
MICHIGAN
Saginaw Watermelon Sugar
MINNESOTA
Savage La Vonne Wagener Music
NEVADA
Las Vegas Celestial Sound/Light
NEW HAMPSHIRE
Hempstead NEAT
NEW YORK
New York Audiotechniques
New York Martin AudioVideo
New York Night Owl Music Supply
NORTH CAROLINA
Granat Falls Fantasy Music
OHIO
Cleveland Central Music Exchange
Dayton Hauer Music
OREGON
Portland Portland Music

OREGON (Continued)
Portland RMS Sound
PENNSYLVANIA
Philadelphia Tekcom Corp.
SOUTH CAROLINA
Charleston Fox Music
TENNESSEE
Nashville Valley Audio
TEXAS
Austin Xenon Sound, Inc.
Dallas Avrom
Dallas Gemini Sound
Fort Worth Sierra Recording
Houston L D Systems
WASHINGTON
Bellevue Guitars Etc.
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Waukesha Flanners Pro-Audio



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Circle #086 on Reader Service Card

FROM PAGE 131

digital delays, UREI Little Dipper, Audicon plates, Lexicon 224X, Mitsubishi X-80 digital recorder.
Rates: Interlock w/picture \$135/hr.
Direction: Co-located with Video Post and Transfer at Dallas Love Field. Recent video music specials with Johnny Cash, Bob Hope, Quarterflash, Carl Perkins, Jerry Jeff Walker, Joe Ely, Eddie Rabbitt, Helen Reddy, PBS, etc. Omega Audio also has a fully equipped 24/48 track remote truck with full SMPTE interface.

ON LOCATION VIDEO SERVICES

VPF, OLVP, VPP/E
Box 35657, Houston, TX 77035
(713) 728-1020
Owner: Mel Rauer
Manager: Bob Andrews

PHIPPS & CO. PRODUCTIONS, INC.

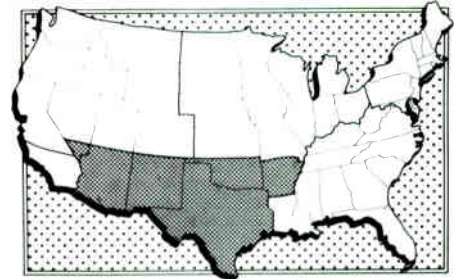
VPF, OLVP, VPP/E
5807 E. S. Garnett, Tulsa, OK 74011
(918) 250-7371
Owner: Terry L. Phipps
Manager: Karen Hoylman

SHOWCASE TELEPRODUCTION GROUP

VPF, VPP/E, APPV
7622 Louetta Rd., Spring, TX 77379
(713) 376-9679
Owner: Beehive Trust
Manager: J. E. Lincoln

SOUTH COAST VIDEO, INC.

VPF, OLVP, VPP/E
6503A Mapleridge, Houston, TX 77081
(713) 661-3550
Owner: Everett Gorel, Bob Williams, Bill Hamzy
Manager: Bill Hamzy
EQUIPMENT
Synchronizer: Microtime TBC's w/ digital fx processor
VTRs: 2" Sony Type-5 (edition) A/B rolls, Sony 4800, BVU 110 & 11" portable (ENG)
Switchers: Sony Director 2000 (edition), Panasonic WJ-4600A (remotes)
Cameras: Ikoncam HI-79E-A1, Sharp XC700
Audio mixers: Bansa WR 8210A
Other major equipment: Chyron VP 1 w/upgrades
Rates: Competitive



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).

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.

SOUTHWEST TELEPRODUCTIONS

VPF, OLVP, VPP/E, APPV
2649 Tarna Dr., Dallas, TX 75229
(214) 243-5719
Manager: Robert Dauber

SUNDANCE PRODUCTIONS INC.

VPF, OLVP, VPP/E, APPV
7141 Envoy Ct., Dallas, TX 75247
(214) 688-0081
Owner: president, Rush Beesley
Manager: Rush Beesley

TELEMATION PRODUCTIONS

VPF, OLVP, VPP/E
834 N. 7th Ave., Phoenix, AZ 85007
(602) 254-1600
Manager: Dave Roberts

VERITAS COMMUNICATIONS

VPF, OLVP
2301 W. Las Lomitas, Tucson, AZ 85741
(602) 293-3111
Owner: Donna Ramsey

VERSATRONICS INC.

VPF, OLVP, VPP/E, APPV
1701 Linwood Rd., Temple, TX 76501
(817) 773-4000
Owner: Lester Boutwell
Manager: Larry L. Brown

VIDEO MEDIA PRODUCTIONS

VPF, OLVP, VPP/E
2727 W. Southern, Tempe, AZ 85283
(602) 966-6545
Owner: James Rinkenberger
Manager: John Ralston

VIDEO POST & TRANSFER, INC.

VPP/E
8036 Aviation Place, Box 53, Love Field, Dallas, TX 75235
(214) 350-2676
Owner: Neil Feldman, president

LARRY WOOD PRODUCTIONS

OLVP
Box 11291, Las Vegas, NV 89111
(702) 739-7705
Owner: Larry Wood
Manager: Larry Wood

THE SPOILERS

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Phoenix, Arizona 85008
(602) 267-0600

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...Covers Sound Reinforcement



Almost 20 percent of Mix readers are involved in sound reinforcement, and Mix addresses their interests every month in our live sound section, Sound on Stage. Sound on Stage focuses on how the sound is handled for major tours and venues: the sound of Pavarotti at Madison Square Garden . . . the sound systems of unique nightclubs, like the Palace in Hollywood and Park West in Chicago . . . the unique sound and staging required for the US Festival and the Democratic National Convention. Sound on Stage also previews new sound reinforcement products and reports news of the live sound industry.

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Call (415) 843-7901 for rates and information.

SOUTHWEST continued

ZIMMERMAN & ASSOCIATES
VPF, OLVP, VPP/E, APPV
411 Bonham, San Antonio, TX
(512) 225-6708
Owner: Ron Zimmerman
Manager: Ron Zimmerman

ZOLI TELEPRODUCTIONS
OLVP, VPP/E
6916 Lyrewood Ln., Suite 179, Oklahoma City, OK 73132
(405) 728-2070
Owner: Zoli Vajda
Manager: Jan Lloyd

ZUMA GROUP, INC.
VPP/E
6733 N. Black Canyon Hwy., Phoenix, AZ 85015
(602) 246-4238
Owner: John Bittner
Manager: Copper Bittner

SO. CALIFORNIA

ACTION VIDEO INC.
VPP/E
6616 Lexington Ave., Hollywood, CA 90038
(213) 461-3611
Owner: Sam Holtz, Joe Benadon, Paco Araz
Manager: Sam Holtz, Joe Benadon

AERIAL VIDEO SYSTEMS
OLVP
1907 W. Burbank Blvd., Burbank, CA 91506
(818) 954-8842
Owner: Randy Hermes

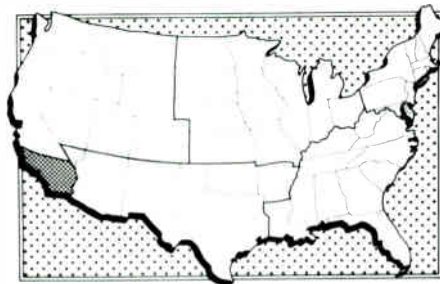
ALTAVIDEO
VPP/E, APPV
3501 Cahuenga Blvd. W., Los Angeles, CA 90068
(213) 876-8008
Owner: Rich Zaro



APHEX SYSTEMS LTD.

APHEX SOUND FIELD
North Hollywood, CA

APHEX SOUND FIELD
OLVP, APPV
13340 Saticoy St., N. Hollywood, CA 91605
(818) 765-2212
Owner: Marvin Ceasar
Manager: Greg Badger, tech director
EQUIPMENT
Major equipment: Apex Sound Field System SQ, Cinema Matrix, Surround Sound encoding, decoding equipment
Rates: Call for rates
Direction: Apex Sound Field System makes available on a rental/purchase basis. Its prof. line of SQ Surround Sound encoding, decoding equipment for producing music videos, movies, records



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).

and multi-media programming. The system allows the producer to encode a stereo and mono compatible 2 channel program for reproduction via four to six speakers using SQ, or with the Matrix, via four speakers. Cinema technical direction and recording mix down engineering services are available on a per project basis.

AUDIO VISUAL STRATEGIES
APPV
2207 S. Colby Ave., Los Angeles, CA 90064
(213) 478-2571
Owner: P. Shuye, D. Smith
Manager: Dion Smith

BOGUE REBER PRODUCTIONS
VPF
453 23rd Place, Manhattan Beach, CA 90266
(213) 545-1700
Owner: Gary Reber, John Boque

BOSUSTOW VIDEO
VPF, OLVP, VPP/E, APPV
2207 Colby Ave., West Los Angeles, CA 90064
(213) 478-0821
Owner: Tee Bosustow
Manager: Toni Weingarten

BRITANNIA SCORING SERVICE
APPV
3249 Cahuenga Blvd., West Hollywood, CA 90068
(213) 851-1244
Owner: Gordon Mills
Manager: Greg Venable

CALIFORNIA VIDEO CENTER
VPP/E
15303 Ventura Blvd., 11th Floor,
Sherman Oaks, CA 91403
(818) 789-5000
Manager: Don Ross

CATZEL, THOMAS & ASSOCIATES
VPF, OLVP, VPP/E, APPV
2207 Colby Ave., Los Angeles, CA 90064
(213) 824-2700
Owner: David Catzel, Kit Thomas

COMPACT VIDEO INC.
VPF, OLVP, VPP/E, APPV
2813 W. Alameda Ave., Burbank, CA 91505
(818) 840-7000
Owner: John Donlon, president



DSR PRODUCTIONS
Los Angeles, CA

DSR PRODUCTIONS
OLVP, VPP/E, APPV
607 N. Ave., 64, Los Angeles, CA 90042
(213) 258-6741
Owner: Van Webster
Manager: Marellen Urbini
EQUIPMENT
Synchronizer: BTX Shadow
VTRs: Sony
VCRs: Sony
Cameras: GBC
Audio Recorders: 3M, Ampex, Sony
Audio Mixers: MCI
Other major equipment: Sony digital audio, full multi-media production capacity
Rates: Call for rates. 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.

EBSEN/FISHER PRODUCTION
VPF, OLVP, VPP/E
9541 Cedar Brook Dr., Beverly Hills, CA 90210
(213) 273-2208, (818) 340-6335
Owner: Dustin Ehsen, Todd Fisher
Manager: Donna Fisher
EQUIPMENT
VTRs: BVU 110, BVH-500, BCN 20
Cameras: HL 79EAs with digital control unit
Audio recorders: Studer, Otari, PCM processor
Audio mixers: Shure FP31, Spectra Sonics
Other major equipment: Eddy Cam camera mount, Dynalux wireless mikes, Sennheisers
Rates: Please call scheduling for rates
Direction: We specialize in broadcast production with clients such as Chevron Oil, Baskin Robbins, and L.A. Olympic Committee. We also sell CMX compatible software for Apple II series computers.

EEC VIDEO GROUP
VPP/E
213 N. Cedar Ave., Inglewood, CA 90301
(213) 677-8167
Owner: B. C. Keach
Manager: Leigh Greenberg

EFX SYSTEMS
APPV
919 N. Victory, Burbank, CA 91502
(818) 843-4762
Owner: George Johnsen
Manager: Iere Mendelsohn
EQUIPMENT
Synchronizer: BTX Shadow, BTX Softouch, Adams Smith 605
VCRs: Sony, Panasonic JVC J4, Hitachi, Sony MCI 11
Audio Recorders: Studer, MCI, Sony
Audio Mixers: Amek 2500, Bmix 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 A-800, Emulator II and an enormous digital in-house sound effects library

FELDMAN PRODUCTIONS
VPF, OLVP, VPP/E
 1638½ Edgecliff Dr., Los Angeles, CA 90026
 (213) 665-8640, 876-4093
 Owner: Jerry Feldman
 Manager: Jerry Feldman

FOTO-TRONICS
VPP/E
 2800 West Olive, Burbank, CA 91505
 (818) 846-9350
 Owner: Gerry Brodersen
 Manager: Lloyd Martin

THE GARAGE AUDIO & VIDEO
 West Covina, CA 91790
 (818) 337-7943
 Owner: Patrick Woertink
 Manager: Alan Clark

GEO VISION
VPF, OLVP, VPP/E, APPV
 13427 Saticoy, North Hollywood, CA 91605
 (213) 461-3778
 Owner: Humberto Rivera, Heather Howell
 Manager: Humberto Rivera

GREENE, CROWE & COMPANY
OLVP
 3083 North Lima St., Burbank, CA 91504
 (818) 841-7821
 Manager: Kevin M. Hayes

HARPAZO MINISTRIES VIDEO PRODUCTIONS
OLVP
 P.O. Box 453, Lakewood, CA 90714
 (213) 423-0273
 Owner: Harpazo Ministries Evangelical Association Inc
 Manager: Duane Everts

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

HOMER & ASSOCIATES, INC.
VPP/E
 1420 N. Beachwood Dr., Hollywood, CA 90028
 (213) 462-4710
 Owner: Peter Conn
 Manager: Coco Conn

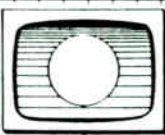
HORIZONTAL EDITING STUDIOS
VPP/E
 2625 West Olive Ave., Burbank, CA 91505
 (818) 841-6750
 Owner: William Carlquist
 Manager: Ralph Kalatucka

IMAGE DYNAMICS, INC.
VPF, OLVP, APPV
 4204 Sorrento Valley Blvd., Ste. 1
 San Diego, CA 92121
 (619) 455-6990
 Owner: Randy Wilbur
 Manager: Bill Snyder

IMPACT PRODUCTIONS
VPF, OLVP, VPP/E, APPV
 24245 Larkwood, El Toro, CA 92630
 (714) 951-1924
 Owner: Bob Allen
 Manager: Shellie Chambers

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 (213) 653-0240
 Dealer Inquiries invited

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INTERMIX, INC.
VPF, OLVP, VPP/E
 2505 South Robertson Blvd., Los Angeles, CA 90034
 (213) 870-2121
 Owner: Incorporated: pres., Heiko Posner
 Manager: Marshall Thompson

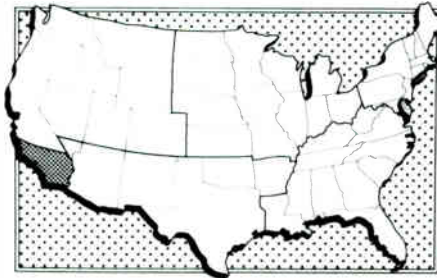
FRED JONES RECORDING SERVICES
APPV
 6515 Sunset Blvd. #205, Hollywood, CA 90028
 (213) 467-4122
 Owner: Fred Jones
 Manager: Karen Brocato

KAMERA VIDEOGRAPHY
OLVP, VPP/E
 15010 Ventura Blvd., #336, Sherman Oaks, CA 91403
 (818) 906-3277
 Owner: Vartkes Nargizian
 Manager: Art Vargas

KENT GIBSON SOUNDESIGN
APPV
 1860 Heather Court, Beverly Hills, CA 90210
 (213) 276-5334
 Owner: Kent Gibson

LASER EDIT, INC.
VPP/E
 540 N. Hollywood Way, Burbank, CA 91505
 (818) 842-0777

LAUGHING CARROT PRODUCTIONS
APPV
 11247 Huston St., No. Hollywood, CA 91601
 (818) 506-1165
 Owner: Barry B. Wilhelm
 Manager: Barry B. Wilhelm



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).

LION SHARE RECORDING STUDIO
APPV
 8255 Beverly Blvd., Los Angeles, CA 90048
 (213) 658-5990

Owner: Kenny Rogers
 Manager: Terry Williams

EQUIPMENT

Synchronizer: Studio B BTX Softouch, Studio A Studer T1.5
 2000

VTRs: Ampex VPH2B

VCRs: Sony BVU 800, Sony BVU 200, Beta & VHS

Audio Recorders: Studer A800, Ampex ATH102, Studer B10

Audio Mixers: Neve 810H with Nexcam, Neve 812B with Nexcam

Other major equipment: Large outboard equipment list. Large sound effect library

Rates: Please call for rates

MARION UNLTD.
OLVP, VPP/E
 6747 Odessa Ave., Suite 103, Van Nuys, CA 91406
 (818) 994-2098
 Owner: S. Marc Tapper
 Manager: Aleda Siccardi

MASTER DIGITAL, INC.
OLVP, VPP/E, APPV
 1749 14th St., Santa Monica, CA 90404
 (213) 452-1511
 Owner: Paul Addis, vice president sales
 Manager: Roger Pryor, president

MASTERVISION INC.
OLVP
 369 E. 17th St., Costa Mesa, CA 92627
 (714) 548-1014
 Owner: John Dicken
 Manager: Lance Scroggins

KENNETH R. MEADES
 Audio/Visual Consulting
 P.O. Box 71098, Los Angeles, CA 90071
 (213) 461-4663
 Owner: Kenneth R. Meades
 Manager: Kenneth R. Meades

MEDIA LEARNING SYSTEMS, INC.
VPF, OLVP, VPP/E
 1532 Rose Villa St., Pasadena, CA 91106
 (818) 449-0006
 Owner: president, James F. Griffith
 Manager: Marc Griffith

STUDIO DESIGNERS & SUPPLIERS DIRECTORY

AUGUST 1985 AUGUST 1985 AU

If you supply equipment or design services to the audio industry, fill out and return the questionnaire below by May 3rd, 1985.

Check the boxes that apply: Studio Designer Acoustical Consulting
 Studio Equipment Supply Equipment Installation/Maintenance/Serviceing

A. NO CHARGE FOR THIS SECTION

Company Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone() _____ Contact _____

B. \$50.00 CHARGE FOR THIS SECTION (150 Words Maximum)

Services offered, credits, specialization: _____

C. A BLACK & WHITE PHOTO OR LOGO MAY RUN WITH LISTING FOR \$100.00.

(Check One) Photo Logo

Please enclose payment in full with coupon. For your convenience, Mix accepts Mastercard/VISA.

MC VISA Card# _____ Exp. Date _____

Name of person filling out questionnaire _____

Signature _____

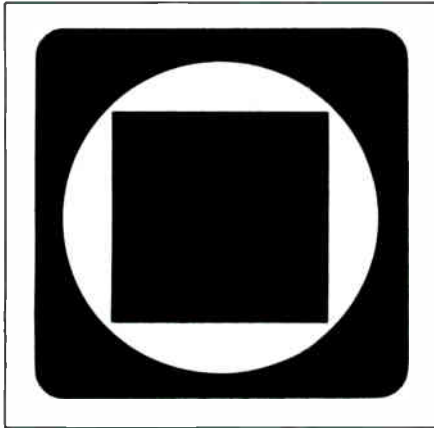
For information call Lauri Newman at (415) 843-7901. Return by May 3rd, 1985 to: Mix Magazine Listings, 2608 Ninth Street, Berkeley, CA 94710.

MOVING TARGETS, INC.

OLVP
1585 Crossroads of the World #101, Hollywood, CA 90028
(213) 871-1399
Owner: Jane Ballard, Barry Samson, Joshua Stallings

OCTOBER PRODUCTIONS INC.

VPF, OLVP
9 Ashley Ave., P.O. 40260, Santa Barbara, CA 93103
(805) 962-2523
Owner: Richard Hughes



PACIFIC VIDEO
Hollywood, CA

PACIFIC VIDEO

VPF, VPP/E, APPV
809 North Cahuenga Blvd., Hollywood, CA 90038
(213) 462-6266
EQUIPMENT

Synchronizer: CMX-3400 edit controller used in audio post production.
VTRs: Mixed format editing: Betacam, 3/4" BVU-800, 1" and 2".
Switchers: Grass Valley 300 with Mark II DVE.
Audio recorders: Ampex 1/4" stereo and mono, 1/2" 4 track, 2" 16 track, and 2" 24 track recorders.
Audio mixers: Harrison 48 input automated console.
Other major equipment: Off-line and on-line editing with CMX 3400 edit system: ADO, DVE, ESS and Vidifont Graphics 5 electronic graphics available. Dolby noise reduction and full sound effects library available in audio sweetening.
Rates: Rates upon request, contact: Leon Silverman, V.P. marketing/sales or David Toma, marketing/sales executive.
Direction: Pacific Video services clients in all segments of the video industry. Recent credits include: Dick Clark/Carson Productions — "T.V. Bloopers and Practical Jokes" series, Bob Banner Associates "Star Search" series, Brad Lachman/Paramount Productions "Solid Gold" series, Lynch/Biller for Turner Broadcasting "Night Tracks" series, McGraw Hill Learning Systems "IBM Training". Music videos for the following: Van Halen, Prince, Michael Jackson, David Bowie and others.

PARALLAX PRODUCTIONS

VPF
8255 Sunset Blvd., #101, Los Angeles, CA 90046
(213) 656-9222
Owner: Jeffrey Abelson

TIM PINCH RECORDING

OLVP, VPP/E, APPV
10,000 Riverside Dr. #16, Toluca Lake, CA 91602
(818) 841-8247
Owner: Tim Pinch
Manager: Tim Pinch
EQUIPMENT
Synchronizer: BTX Shadow II
VTR's: (2) JVC 8250 3/4" editing decks.
Audio Recorders: Ampex MM1200's (24 tracks), AG 440C (4 track).
Audio Mixers: Complete 24 track remote audio truck.
Other major equipment: Convergence edit controller model UE 92.
Rates: Please call.
Direction: In addition to our continuing expertise in the live recording field, we have expanded to offer our clients complete audio services from initial recording, through final sweetened master. We have done this by adding a BTX Shadow synchronizer, a 3/4" off-line editing system, a character inserter, and much more.

We continue to offer the most professional, and economical live audio recording services on the West Coast. Our clients include: The Police, The Jacksons, American Music Awards, Peoples Choice Awards, the Opening and Closing Ceremonies of the 1984 Olympics, and much more.

POSITIVE MEDIA

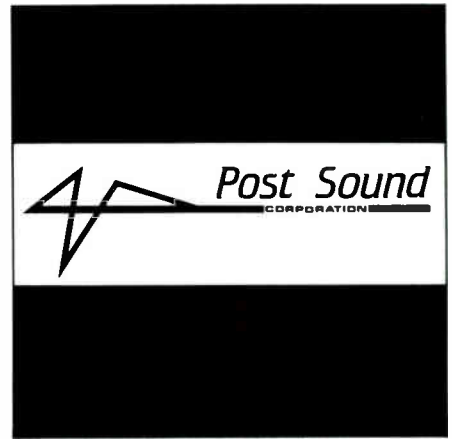
VPF, OLVP, VPP/E
5422-A Fair Ave., North Hollywood, CA 91601
(818) 761-5192, (213) 461-0092
Owner: Paul Holman
Manager: Paul Holman
EQUIPMENT
VTRs: Sony Betacam, BVU 110, 5850, 4800, 5800, 5600
Switchers: JVC KM 2000
Cameras: Sony M-4s, JVC 110, 1900
Audio recorders: Hevox
Audio mixers: TEAC, Shure
Other major equipment: V star 5, 12" large screen video projectors, 3/4" and VHS editing systems.
Rates: Betacam \$350/day, 3/4" and CAM \$350/day, 3/4" editing \$20/hour.
Direction: Positive media will provide full service video production and video equipment rental packages and/or crews, including cameras, switchers, decks, editing systems, video projectors, SMPTE readers etc. Our Betacam delivers full network quality video at low cost. We facilitate pre-planning consultation to post production. Laser lighting and special EFX, large screen projection. We also have a 25' x 50' shooting stage. Amateur or pro we can work with you to maximize final production value.

THE POST GROUP

VPP/E
6335 Homewood Ave., Hollywood, CA 90028
(213) 462-2300
Manager: John Williams, gen mgr., Meryl Lippman-Perutz, V.P. marketing

POST SOUND

APPV, Film
6500 Sunset Blvd., Hollywood, CA 90028
(213) 462-0000



POST SOUND
Hollywood, CA

Manager: Janja Vujovich

EQUIPMENT
Synchronizer: Adams-Smith/Comsupro Custom.
VTRs: Ampex and Sony 1" C format; Film: KEM custom 16/35mm and Magnatech dubbers, multiformat.
VCRs: Sony BVU 800
Audio Recorders: Otari 48/24/4/2 track MTR.
Audio Mixers: Amek automated 4x24+6
Other major equipment: dbx, Dolby, Orban, DeltaLab, Lexicon, MCMIX, Burwen, etc.
Rates: On request.
Direction: Specializing in total post-production sound for feature films and video productions. Current projects: video series-Faerie Tale Theatre, film series Partners in Crime, Feature Films "School Spirit", "Streetwalkin'", "King's Hanson", "Necessity" Commercials and trailers. Specializing in foreign dramatics. Film scoring, dubbing, ADH, Foley and video sound mixing services available.

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INSTITUTE OF AUDIO
VIDEO ENGINEERING

*24-track, in-house automated studio. Complete video production and post-production

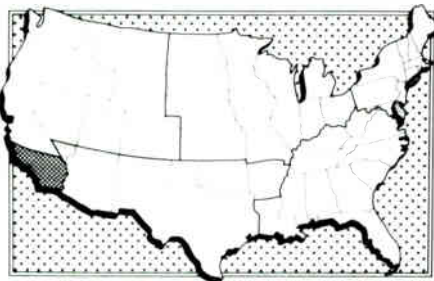
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Institute of Audio/Video Engineering
1831 Hyperion Avenue, Dept. E
Hollywood, California USA 90027
(213) 666-3003

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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).

PREMORE INC.
VPP/E, APPV
5130 Klump St., No. Hollywood, CA 91607
(818) 506-7714
Manager: Ed Henry, sales

ROCK SOLID PRODUCTIONS
VPF, OLVP, VPP/E, APPV
1907 West Burbank Blvd., Burbank, CA 91506
(818) 841-8220
Owner: David Griffin, Geoffrey Leighton
Manager: John Rauh

ROLLAND BEECH FILM PRODUCTIONS
VPF, OLVP, VPP/E, APPV
27500 Avenida Quintana, Palm Springs, CA 92264
(619) 323-8413, 323-5247
Owner: Rolland V. Beech
Manager: Irma A. Beech

RUSK SOUND STUDIOS
APPV
1556 N. La Brea, Hollywood, CA 90028
(213) 462-6477

SAMFILM
VPF, OLVP, VPP/E, APPV
P.O. Box 6616, Carmel, CA 93921
(408) 394-3800
Owner: Sam Harrison
Manager: Judith Cole

SCHULMAN VIDEO
VPF, OLVP, VPP/E, APPV
861 Seward St., Los Angeles, CA 90038
(213) 465-8110
Owner: Benjamin D. Schulman
Manager: Trudy Erickson
EQUIPMENT
Video Editing: CMX 3400 computer editing with Phase II software and DVE.
Synchronizer: BTX Softouch
VTRs: Ampex VPR 2 and 2Bs
VCRs: 4", VHS and Beta
Switchers: Grass Valley 400 3ME with E.MEM
Cameras: Ikegami HK357s with 44 1" and 17 1" lenses, Ikegami HL79s
Audio recorders: Otari MTR 12 2 and 4 track decks
Audio mixers: ADM V1603 with 12 channels (in edit bay).
Sound Workshop, Series 30 with 12 channels (in audio control room)
Other major equipment: Graphics: Dübner CBG II computer graphics and animation system, Chyron 4100 w/hard disk, MGM

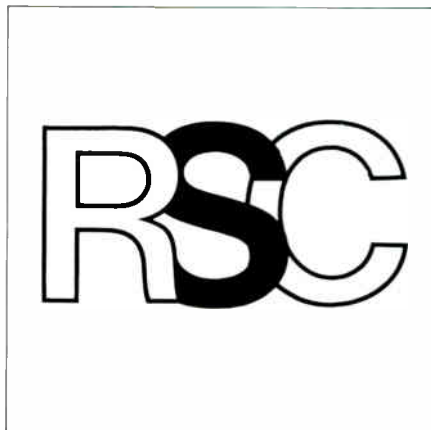
CCM and bit pad. Stages: Two video/film sound stages each with 1200 amps power and 45 tons sound insulated, air conditioning, hard and soft cycs, luxed lighting grids, makeup and dressing rooms and kitchen. Remote Truck: 40' remote truck with Ikegami HK 357 cameras, Chyron 4100, Ampex VPR 2B tape machines, 20 in 16 out audio board and Vital 114 2ME switcher.
Direction: SVC is a new and comprehensive video center located in the totally renovated former Walter Lantz Studios custom designed to provide the producer with state-of-the-art production and post production facilities under one roof and on wheels. With a spirit of innovation and support the Schulman staff is known to push it to the limit for all types of clients.

SHOAF COMMUNICATIONS
VPF
2435 N. Reese Pl., Burbank, CA 91504
(818) 842-5600
Owner: Michael E. Shoaf
Manager: Michael E. Shoaf

SKYHILL PRODUCTIONS
VPF, OLVP, VPP/E
7709 Skyhill Dr., Los Angeles, CA 90068
(213) 876-3144
Owner: Diane Sullivan
Manager: Diane Sullivan

SKYLINE PRODUCTIONS, INC.
OLVP, APPV
6309 Eleanor Ave., Hollywood, CA 90038
(213) 856-0033
Owner: Dean Gilmore, Blake Wilcox
Manager: Tim Holly

S.N.A.P. PRODUCTION SERVICES
VPF, OLVP, VPP/E
18653 Ventura Blvd., Ste 294, Tarzana, CA 91356
(818) 343-0283
Owner: Barry Seybert



RECORDING SERVICES COMPANY
Burbank, CA

RECORDING SERVICES COMPANY
APPV
2414 West Olive Ave., Burbank, CA 91506
(213) 849-6800; (818) 843-6800; (800) 451-5614 outside California
Manager: Ken Dahlmeier
EQUIPMENT
Synchronizer: Adams Smith Q1 Lock BIX Show
VTRs: 1" C format
Switchers: Sony SEC 2000A
VCRs: Sony BVU 800s, JVC CR6650
Audio Recorders: (2) Ampex MM 1200 24 Trk 8 track recorder; (4) Ampex ATR 100 2 4 track; (2) 8 track; (2) 4 track
Audio Mixers: 26 in x 24 out main console; additional inputs available if required
Other major equipment: 62 channels ED Dally noise reduction; Etcetera 224X; Etcetera 200; AMS DDE; AMS digital reverb; Emulator II; and typical complement of outboard equipment
Rates: Separate rates for live town sweetening and flyback dependent upon length and formats
Direction: RSC's comfortable audio post production facility provides a perfect complement to RSC's 24 track remote recording truck. Audio recorders in all formats are in house and fully synchronized with Adams Smith Q1 Lock and BIX Show. In addition to sweetening RSC provides audio flyback and flyback services between 1" 4" and 1/2" format.



SOUNDMASTER AUDIO/VIDEO RECORDING
North Hollywood, CA

SOUNDMASTER AUDIO/VIDEO RECORDING
VFP, OLVP, VPP/E, APPV
10747 Magnolia Blvd., North Hollywood, CA 91601
(213) 650-8000

Owner: Brian Ingoldsbay
Manager: Barbara Ingoldsbay

EQUIPMENT

Synchronizer: Audio Kinetics SMPTE

VCRs: Sony, JVC

Switchers: 6112 Crosspoint Lath

Cameras: FP21, KY2000, KY1900

Audio Recorders: MCI 24 track, 4 track, 2 track

Audio Mixers: Quad Eight 24 track

Other major equipment: 5 ton video truck, 5 ton audio truck, marine video unit

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 5-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.

SPECTRA IMAGE, INC.

VPP/E

540 N. Hollywood Way, Burbank, CA 91505

(818) 842-1111

Manager: Sue Coplin, sales manager

STARFAX, INC.

VFP, OLVP

8157 Lankershim Blvd., North Hollywood, CA 91605

(818) 768-2905

Owner: Ron Stutzman, Tom Harvey

SUNRISE CANYON VIDEO

OLVP

P.O. Box 10968, Burbank, CA 91510

(818) 845-7473

Owner: William Hughes

TAJ SOUNDWORKS

APPV

8207 West Third St., Los Angeles, CA 90048

(213) 655-2775

Owner: Hugh Benjamin Corporation & The Bellare Group, E. Bannon

Manager: Debra L. Prusa

EQUIPMENT

Synchronizer: Audio Kinetics Q.Lock 3 10 3

VTRs: Sony SLO 383 Beta I

Audio recorders: MCI JH-16 24 track, JH-110 2 track, Tascam 52, MTM 35 mm single and three stripe recorders.

Audio mixers: MCI JH-528 with B&B Audio VCAs and spec all 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 (oley), 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.

TELEVISION MATRIX

VFP, OLVP, VPP/E

1438 N. Gower St., Hollywood, CA 90028

(213) 465-9616

Owner: Frank Beacham

Manager: Frank Beacham

THIRD WAVE PRODUCTIONS

OLVP

7130 Hollywood Blvd., Los Angeles, CA 90046

(213) 851-7080, (718) 624-1357 (New York City)

Owner: Bill Murray, president

Manager: June Dante, assoc. producer

VIDEO CRAFTSMEN, INC.

VPP/E

6311 Romaine, Hollywood, CA 90038

(213) 464-4351

Manager: Henry Ball, president

VIDEO IMAGERY

OLVP, VPP/E

204 Calle De Anza, San Clemente, CA 92672

(714) 492-5082

Owner: Bob Fisher

Manager: Dawn Trujillo

VIDEO-IT, INC.

OLVP, VPP/E

1016 N. Sycamore Ave., Hollywood, CA 90038

(213) 876-4055

Owner: John Kohan-Matlick

Manager: Felisa Kohan-Matlick

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Ocean Audio is a world class source for prestige used equipment. We carry an extensive inventory — from rare condenser microphones to top-of-the-line automated consoles. Because we buy our equipment from a worldwide network, our inventory consists of the most desirable equipment at the most competitive prices.

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World Radio History

V139

SO. CALIFORNIA continued

VIDEOLADY

VPF, VPP/E

P.O. Box 2276, San Bernardino, CA 92405
(714) 882-4057

Owner: Shirley Harlan
Manager: Emerson Symonds

VIDEO PIONEERS CORP.

VPF, OLVP, VPP/E

1636 E. Edinger, Santa Ana, CA 92705
(714) 835-3330

Owner: Ting Hua
Manager: Pern Lounshury

ZIMAGE

OLVP, VPP/E

555 West Beech, Suite 400, San Diego, CA 92101
(619) 231-4465

Owner: Thomas M. Zazzi
Manager: John Vecchio

NORTHWEST

AERIAL AUDIO

APPV

P.O. Box 30131, Billings, Montana 59107
(406) 248-7548

Owner: Richard L. Haugen
Manager: Grant West

AMERICAN VIDEO LABORATORY

VPP/E

7023 15th Ave., N.W., Seattle, WA 98117
(206) 789-8273

Owner: Conrad Denke
Manager: John Wehman



AUDIO VIDEO RESOURCES, INC.
San Francisco, CA

AUDIO VIDEO RESOURCES, INC.

VPF, VPP/E, OLVP, APPV

60 Broadway, San Francisco, CA 94111
(415) 781-2603

Owner: Gary Ducos
Manager: Gary Ducos

Rates: Call for schedule of services and rates

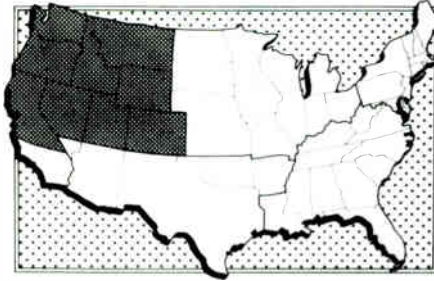
Direction: Audio Video Resources, Inc. has recently changed ownership and the new owner is proud to announce that in a move to expand the company, Carson C. Taylor has returned as consultant for audio services and equipment consultation and Jeff Mueller has returned as director of producer services for audio and video.

AUDIO VISIONS

APPV

313 Brokaw Rd., Santa Clara, CA 95050
(408) 988-2048

Owner: Leo Anthony Grazian
Manager: Leo Anthony Grazian



NORTHWEST

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AUDIO PRODUCTIONS

VPF, OLVP, VPP/E, APPV

235 E. 3rd Ave., #215, San Mateo, CA 94401
(415) 347-3417

Owner: Henry Bilbao
Manager: Chris Craun

AVID PRODUCTIONS

VPF, OLVP, VPP/E, APPV

235 E. 3rd Ave. #215, San Mateo, CA 94401
(415) 347-3417

Owner: Henry Bilbao
Manager: Chris Craun

AVSTAR INC.

OLVP

1270 Oakmead Pkwy. #315, Sunnyvale, CA 94086
(408) 733-9660

Owner: Rando Christoffersen
Manager: Rando Christoffersen



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 Escott

EQUIPMENT

Synchronizer: RTX Sottouch Slide w System (2)

VTRs: Sony VO 5800 (2), Sony BVU 800 (2)

Audio recorders: Otari MTR 90 16 track, MTR 10 2 track, MTR 10 4 track

Audio mixers: Audiotron's 700, Audiotron's 110

Other major equipment: Cypher Time Code System, Lexicon Digital Reverb, Harmonizer

Rates: Please call for rates

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.

BNS

OLVP, VPP/E, APPV

2049 East 6200 South, Salt Lake City, UT 84121
(801) 278-6735

Owner: Irv Nelson
Manager: Hoxl Blanchard

BROOKS BAUM PRODUCTIONS

OLVP

2265 12th Ave. W., Seattle, WA 98119
(206) 283-6456

Owner: William B. Baum
Manager: William B. Baum

CASSETTE PROFESSIONALS

VPF, OLVP, VPP/E, APPV

320 Stewart St., Reno, NV 89502
(702) 322-6292

Owner: Bill Stephens
Manager: Cynthia Stephens

CATALYST PRODUCTIONS

VPF, OLVP, VPP/E

1431 Center St., Oakland, CA 94607
(415) 836-1111

Owner: Joshua Horvick, Avi Starobinski
Manager: Ken White



COUGAR RUN LAKE TAHOE
Incline Village, NV

COUGAR RUN LAKE TAHOE

APPV

P.O. Box 7418, Incline Village, NV 89450
(702) 832-7711

Owner: Cougar Run, Inc.
Manager: Jody Everett Peterson

EQUIPMENT

Synchronizer: RTX Sottouch

VTRs: Sony BVU 8000 16", Beta and VHS

Audio recorders: Studer, MCI 24 tracks, Ampex 2 track, Mitsubishi X 80A

Audio mixers: Neve 8108 w/Neve automation, MCI 5288 digital 2 track

Other major equipment: Lexicon 224XL, AMS 16, Fairlight CMI, Sony 25" Profel Monitor

Rates: Please call (available daily, weekly, monthly)

Direction: This is a private three-acre estate overlooking Lake Tahoe. There is a year-round swimming pool, hot tub, and creek 24-hour maintenance. Convenient to Reno, South Lake Tahoe, North Shore Lake Tahoe, world-class ski resorts and world-class hotels/casinos. Also, close access to Reno International Airport and Truckee Tahoe Airport. (Excellent I.A. and S.F.O. rental connections)

THE NEXT STEP...

...for Bob Berke's studio was a new multi-room complex with computer controlled editing. Bob looked to Sound Genesis. Just as he has for the last 10 years.

ROBERT BERKE SOUND specializes in audio for video – soundtracks and commercial recording. Bob knows that besides having the right system designs, the right equipment, the right service, and the right prices, Sound Genesis has the experience with SMPTE time code based synchronizing and editing systems to tie it all together.

Congratulations on your next step, Bob.
Here's looking at you!

ROBERT BERKE SOUND features Otari tape machines, Auditronics mixing consoles, JBL studio monitors, a Softouch audio editing system, and a host of signal processors from the finest names in the business.



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July 15-July 28
July 29-August 11
August 12-August 25

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For further information write:

The Aspen Audio Recording Institute
The Aspen Music Festival
1860 Broadway Suite 401
New York, New York 10023

The Aspen Music School admits students of any race, color, national or ethnic origin

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THE BERTECH ORGANIZATION

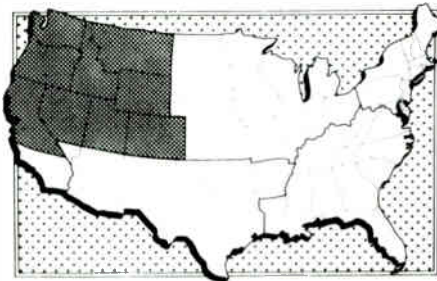
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and
BUDDY FRISBEE

to our growing national sales and service staff. Bertech has moved to new, larger facilities to serve your needs. We are distributors, brokers, and custom fabricators of fine video and audio equipment. And we're your national clearinghouse for used audio and video gear.

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6804 Foothill Blvd., Tujunga, CA 91042 • (818) 352-3181

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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).

CREATIVE PRODUCTIONS
VPF, OLVP, VPP/E, APPV
N. 2610 Van Marter Rd. Suite #1, Spokane, WA 99206
(509) 922-2885
Owner: Steve Elison
Manager: Steve Elison

DESIGN MEDIA
OLVP, VPP/E
327 17th St., Oakland, CA 94612
(415) 832-0848
Owner: Pamela May, marketing director

DIFFERENT FUR RECORDING
APPV
3470 Nineteenth St., San Francisco, CA 94110
(415) 864-1967
Owner: Stuart Scott, Howard Johnson
Manager: Susan Skelton

DOLPHIN MULTI MEDIA, INC.
VPF, OLVP
1137D San Antonio Rd., Palo Alto, CA 94303
(415) 962-8310
Owner: Kondratoff
Manager: Elms

DUDKOWSKI-LYNCH ASSOCIATES, INC.
VPF, OLVP, VPP/E
150 Shoreline Hwy., Bldg. E., Mill Valley, CA 94941
(415) 332-5825
Owner: Ed Dudkowski, Marjane Lynch

ESPRESSO PRODUCTIONS, INC.
VPF, VPP/E
4560 Horton St., Emeryville, CA 94608
(415) 658-1415
Owner: Charles B. West, Samuel B. Shore

EVESLAGE FILM & VIDEO
VPF, OLVP, VPP/E
39 Dorman Avenue, San Francisco, CA 94124
(415) 821-7979
Owner: Robert Slipp
Manager: Peter Slipp, production manager, Terry Lewis
EQUIPMENT
VTRs: Sony BVU-1000, BVU-100, BVU-1000, BVU-1000
Switchers: ETC-1000, 2000
Cameras: Sony BVU-300, BVU-1000
Audio mixers: Sony MXP-21, 2100, 2100
Other major equipment: Complete portable computer system with Sony 2000 software, 16mm movie camera, 16mm film, 16mm projector.
Direction: film and video production with location and studio facilities for commercial and industrial and music videos. Complete on-line and off-line editing facilities. Production of SEX emblems and miniature photography. Award winning director/writer and full scale production management.

FANTASY STUDIOS
APPV
10th & Parker St., Berkeley, CA 94710
(415) 549-2500
Owner: Fantasy Studios
Manager: Nina Bombardieri
EQUIPMENT
Synchronizer: O'Clock
VCRs: RVH 800
Audio Recorders: 4 track, 8 track, 10 track & 24 track
Audio Mixers: Neve R10R, Trident 80
Other major equipment: Large inventory of outboard gear
Rates: Call for information

FAST TRACK RECORDING
APV
1906 E 115 Place, Northglenn, CO 80233
(303) 457-0730
Owner: Technical Sound, Inc.
Manager: Wayne Gerhardt

GANNETT PRODUCTION SERVICES/DENVER
VPF, OLVP, VPP/E, APPV
1089 Bannock, Denver, CO 80204
(303) 893-4420
Owner: Gannett Corporation/KUSA TV
Manager: Dennis Mumenteller

GOLDEN BAY VIDEO
OLVP, VPP/E, APPV
61 Camino Alto #108, Mill Valley, CA 94941
(415) 381-2566
Owner: Vinton Medbury, L. Lee Buschel
Manager: Vinton Medbury

HIGH COUNTRY FILMS
OLVP, VPP/E
6865a East Arizona, Denver, CO 80224
(303) 756-8030
Owner: John R. Lenman, Ph.D.
Manager: Mary L. Lehman

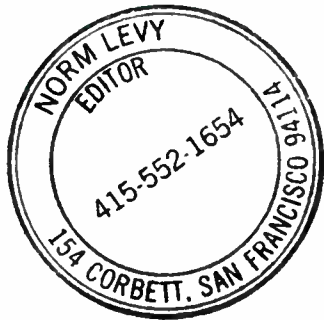
INSIGHT PRODUCTIONS
OLVP
4316 SW Cullen Blvd., Portland, OR 97221
(503) 246-9507
Owner: Jim Schwartz
Manager: Jim Schwartz

KENNEN PUBLISHING
VPF, OLVP, VPP/E, APPV
150 Shoreline Hwy, Bldg. E, Mill Valley, CA 94941
(415) 332-5825
Owner: Ed Dudkowski, Marjane Lynch
Manager: Gail Ward, marketing director

KOSTOV & ASSOCIATES/MULTI-MEDIA STUDIOS
APPV
221 First Avenue West - Suite 120, Seattle, WA 98119
(206) 285-2797
Owner: Michael M. Kostov
Manager: Rex West

KTEH VIDEO SERVICES
VPF, OLVP, VPP/E
100 Skyport Dr., San Jose, CA 95115
(408) 947-6654
Owner: Santa Clara County Office of Education
Manager: Terry Phillips

NORM LEVY VIDEO
OLVP, VPP/E, APPV
154 Corbett St., San Francisco, CA 94114
(415) 552-1654
Owner: Norm Levy



VIDEO POST PRODUCTION

*NORM LEVY VIDEO
San Francisco, CA*

LIVE OAK PRODUCTIONS
APPV
1300 Arch #2, Berkeley, CA 94708
(415) 540-0177
Owner: Priscilla & Jim Gardner
Manager: Priscilla Gardner

M ENTERTAINMENT
OLVP
1601 42nd Ave. E, Seattle, WA 98112
(206) 329-9039
Owner: Dan O'Brien, Richard Roberts
Manager: Dan O'Brien

MADNESS LTD.
OLVP
848 Lovell Ave., Mill Valley, CA 94941
(415) 388-8842
Owner: Lynn Stevenson

MANTRA SOUND
APPV
P.O. BOX 3072, Lihue, Kauai, Hawaii 96766
(808) 822-9466
Owner: Michael Sena
Manager: Michael Sena

MARIN VIDEO VISIONS PRODUCTION SERVICES
VPF, OLVP, VPP/E
300 Poplar Ave., Mill Valley, CA
(415) 381-4230
Owner: Fiske Smith
Manager: Lee Lusted

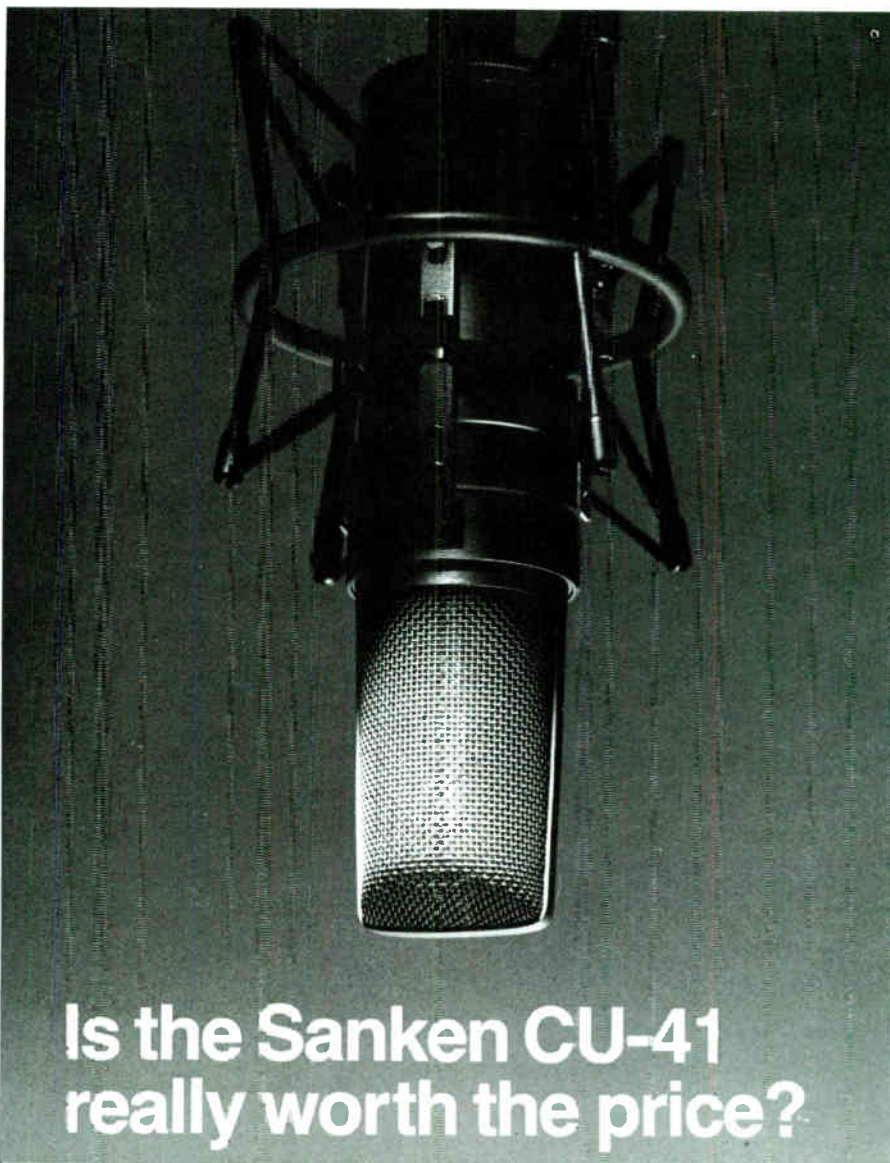
McCUNE SOUND SERVICE
VPF, OLVP, VPP/E, APPV
951 Howard St., San Francisco, CA 94103
(415) 777-2700
Owner: Harry McCune
Manager: Jim Draper

MINCEY PRODUCTIONS INC.
VPF, OLVP, VPP/E
116 N. Page, Portland, OR 97227
(503) 287-1931
Owner: John W. Mincey
Manager: John W. Mincey

MUSIC ANNEX
VPF, APPV
970 O'Brien Dr., Menlo Park, CA 94025
(415) 328-8338
Owner: Music Annex, Inc.
Manager: David Porter, Sharon Smith, trading

EQUIPMENT
Synchronizer: Q Lock 310
VTRs: Sony U-matic "4"
Switchers: Shuntron
Cameras: Ampex BC 714
Audio recorders: MCI
Audio mixers: Amek 2500, Neve 8036
Other major equipment: Sound stage and video control room attached to audio control room

LISTING CONTINUED ON PAGE 144



Is the Sanken CU-41 really worth the price?

The Sanken CU-41 is the most expensive microphone of its kind. Its breakthrough double-condenser design gives you textbook performance: a flat frequency response from 20Hz to 20kHz; an inherent noise level less than 15dB; and a dynamic range of 125dB.

But specs alone aren't reason enough to invest in the CU-41. Neither is the fact that leading sound engineers from LA to London, including Doug Perry, Eric Prestidge, Steve Levine and Tony Faulkner, are using the CU-41 to record the likes of Dolly Parton, Anne Murray, Culture Club, and the London Symphony Orchestra.

To really evaluate and appreciate one of the world's first microphones able to capture the full potential of digital recording, you must try the CU-41 yourself. **Call the Sanken dealer nearest you to arrange a free trial.**

The CU-41 by Sanken. Discover the new standard.



Japan's most original microphone maker.

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Martin Audio Video Corp.
423 W. 55th St., New York, NY 10019 (212) 541-5900
Studio Supply Company, Inc.
1717 Elm Hill Pike, Suite B-9, Nashville, Tenn. 37210, (615) 366-1890
Audio Industries Corporation
1419 N. La Brea Ave., Hollywood, CA 90028 (213) 851-4111

Sole agent: Pan Communications, Inc. 5-72-6 Asakusa, Taitoh-ku, Tokyo 111 Japan Telex JZ7803 HiTech/Phone 03-871-1370

Circle #097 on Reader Service Card

FROM PAGE 143

Rates: \$50-\$125/hour

Direction: In our eleventh 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 Auerstatter, 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.



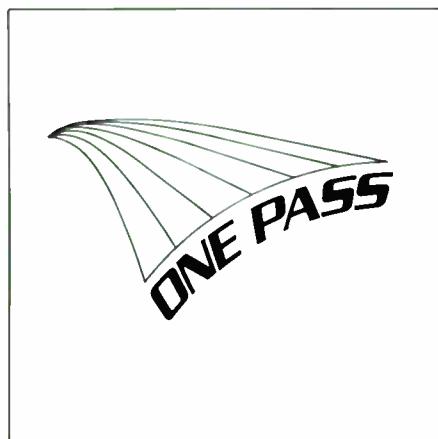
MUSIC ANNEX
Menlo Park, CA

NIGHTSPORE STUDIOS

APPV
503A Divisadero, San Francisco, CA
(415) 922-4382
Owner: Jack Cutter
Manager: Jack Cutter

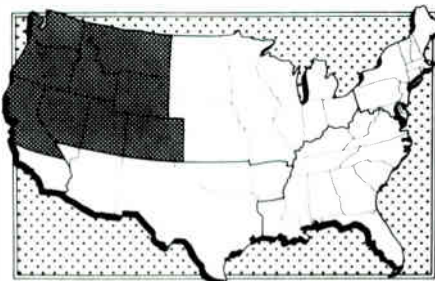
NORTHWEST MOBILE TELEVISION

OLVP
7867 South 180th St., Kent, WA 98032
1 (800) 251-0560
Owner: King Broadcasting Co.
Manager: Tim Ashold, Thom Kroon



ONE PASS FILM AND VIDEO
San Francisco, CA

ONE PASS FILM AND VIDEO
VPF, OLVP, VPP/E, APPV
One China Basin Bldg., San Francisco, CA 94107
(415) 777-5777
Owner: A One Pass Company
Manager: Client Services
EQUIPMENT
Synchronizer: CMX Adam Smith



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).

VTRs: Ampex VPH 4, Sony BVH 2000, 1000
Switchers: Grass Valley 300, 1680, 1600
Cameras: Ikegami HK 357, HL79, BCA TK145
Audio Recorders: Otari MTR 9011, MTR 12
Audio Mixers: Harrison 3232, Audiotronics 710
Other major equipment: Sound stages, film bank, Cintel, 45' multicam trailers
Rates: Competitive
Direction: Complete facilities for production, post production, audio mixing in film and video. Clients include Warner Bros., Columbia, ABC, PBS, NBC, The Rolling Stones, MTV.

PACIFIC VIDEO RESOURCES

OLVP, VPP/E
2339 Third St. M-4, San Francisco, CA 94107
(415) 864-5679
Owner: Jim Farney, Steve Kotton
Manager: Liz Inart

PHOTO NORTHWEST VIDEO PRODUCTIONS

VPF, OLVP, VPP/E
424 Broadway, Tacoma, WA 98402
(206) 759-6639
Owner: Margaret H. Doman
Manager: Don Doman

KELLY QUAN RECORDING

APPV
Office: 55 White Street, San Francisco, CA 94109
(415) 771-6716
Owner: Kelly Quan
Manager: Marie Davaloz

RAINBOW PARK

VPF
1033 Battery St., San Francisco, CA 94111
(415) 421-2875
Owner: P. W. Dekramer
Manager: Frank Crum

REALTIME VIDEO PRODUCTIONS

VPF, OLVP, VPP/E, APPV
1717 17th Street, San Francisco, CA 94103
(415) 864-1444
Owner: Will Hoover
Manager: Will Hoover

R.O.P. VIDEO

VPF, OLVP, VPP/E, APPV
Redwood High School, Lucky Dr., Larkspur, CA 94939
(415) 927-1530
Owner: Marin County Office of Education
Manager: Steve Kupper, instructor

RUSSIAN HILL RECORDING

APPV
1520 Pacific, San Francisco, CA 94109
(415) 474-4520
Owner: Jacky Leahy, Bob Shofland
Manager: Gaynell Rogers, studio manager

EQUIPMENT

Synchronizer: Q Lock, CVC Intelligent Controller
VCRs: JVC R250, 6650, 6400, Sony SLO 884, Sony BVU 800
Cameras: Sharp XC 800 (film transfer)
Audio Recorders: MCI 24, 17, 4, 2, 16000
Audio Mixers: Helios 52x24, Neotek 28x24
Other major equipment: Film/tape suite
Rates: Call for rates
Direction: Russian Hill is making the latest advances in electronic camera services available to all filmmakers and video producers including scoring, ADR, SFX assembly mixing to picture, and 16 & 35mm film to tape transfer w/couple system and any code for mat.



SAN FRANCISCO PRODUCTION GROUP
San Francisco, CA

SAN FRANCISCO PRODUCTION GROUP

VPF, OLVP, 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" Sony BVH 2500, 2000E, BVU 820E, 800E
Switchers: Grass Valley 1600 1X, CIV 100
Cameras: Ikegami HL 79 DALIS
Audio Recorders: Otari MTR 90
Audio Mixers: Various
Other major equipment: Ampex A100, NEC E-Flex DVE Ultimate, CGC Imagos II
Rates: On request
Direction: Video post production and special effects, computer graphics. New equipment to be installed in 1985 state-of-the-art video editing suite, sound recording room featuring Otari MTR 90.

SFO PRODUCTIONS

OLVP
1079 Tennessee Street, San Francisco, CA 94107
(415) 621-3434
Owner: Jeff Daly, Robin Hirsch

SHORT CUTS VIDEO POST PRODUCTION

VPP/E
532 Emerson Street, Palo Alto, CA 94301
(415) 332-1616
Owners: Matt Adams, Elliot Porter
Manager: Adda Fleiner

THE SOUND SERVICE

VPP/E, APPV
330 Townsend St., San Francisco, CA 94107
(415) 433-3674
Owner: David Dobkin, Steven Prusky
Manager: David Dobkin

EQUIPMENT

Synchronizer: Audio Kinetics Q Lock 410
VTRs: JVC R500, Sony BVU 800, 1" MCI/Sony Layback
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)
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, we offer the following services: scoring to picture, Foley, ADR, film to tape synchronizing, 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.

SOUNDTRACKS

OLVP, APPV
 1250 Huff Lane, Box 2735, Jackson Hole, WY 83001
 (307) 733-4880
 Owner: Jeff McDonald
 Manager: Jeff McDonald

SPECTRUM STUDIOS, INC.

APPV
 905 S.W. Alder St., Portland, OR 97205
 (503) 248-0248
 Owner: M. Carter, L. McGill
 Manager: Michael Carter
EQUIPMENT
 Synchronizer: Audio Kinetics Q Lock 3 10C, with V.A.P.P., ADH, SFX & Genlock software
 VTRs: Sony BVH 1100 1" type C with Dolby A, JVC CR8250U
 Audio Recorders: Otari MTR 90 24 track, Ampex ATR-102/104
 Audio Mixers: Custom built API-inspired consoles
 Other major equipment: Dolby-A NR, Harris CU590 TBC.
 Rates: \$135/hr
 Direction: Spectrum is a full service audio studio, with music recording, broadcast and multi-image production rooms, 16mm dub down theater, location sound capability and an award-winning staff

SPEED OF LIGHT

VPF, OLVP, VPP/E, APPV
 2430 Jones St., San Francisco, CA 94133
 (415) 441-7806
 Owner: Lou CasaBianca, Joe Van Witsen
 Manager: Joe Van Witsen
EQUIPMENT
 VTRs: Ampex 1"
 VCRs: Panasonic & Sony 3/4"

LISTING CONTINUED ON PAGE 146

ADR • MIXING FOR FILM AND VIDEO • SCORING • FOLEY
 ELECTRONIC EDITING • SOUND TRANSFERS • FILM TO TAPE
 TRANSFER • SMPTE TIME CODE • SOUND EFFECTS • ADR
 • SCORING • SOUND TRANSFERS
 FILM TO TAPE TRANSFER • MIXING FOR
 FILM AND VIDEO • FOLEY •
 ELECTRONIC EDITING • FILM TO TAPE
 TRANSFER • SMPTE TIME CODE • ADR • MIXING FOR FILM
 AND VIDEO • SOUND EFFECTS • FILM TO TAPE TRANSFER •
Russian Hill Recording
San Francisco
415 474 4520
 ELECTRONIC EDITING • FILM TO TAPE TRANSFER • SCORING
 • FOLEY • SOUND EFFECTS • MIXING FOR FILM AND VIDEO
 ADR • SOUND TRANSFERS • SMPTE TIME CODE • FOLEY •
 SOUND EFFECTS • SCORING • MIXING FOR FILM AND VIDEO
 • SOUND TRANSFERS • FILM TO TAPE TRANSFER • SMPTE
 TIME CODE • ELECTRONIC EDITING • SCORING • FOLEY •
 SOUND EFFECTS • MIXING FOR FILM AND VIDEO • FILM TO
 TAPE TRANSFER • SMPTE TIME CODE • SOUND TRANSFERS

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BERKELEY, CA 94706

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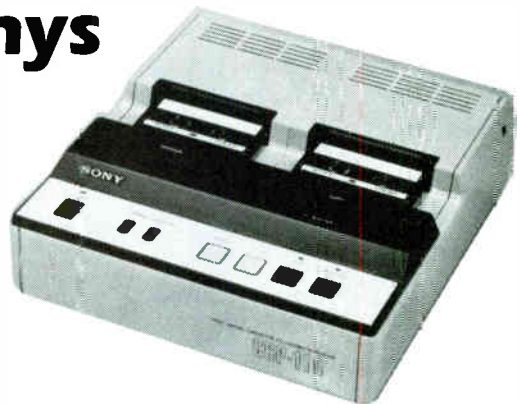
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COMPANY _____

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CITY _____

Sony
Out-Sonys
Sony



That's right, Sony's new CCP-110 audio cassette copier packs more features in a smaller and lighter package than its predecessor, the Sony CCP-100. Sony's electronic wizardry tells you if the recording cassette is too short, but only when there is a signal on the master. If in doubt, the CCP-110 stops right there so you can check the copy. End of audio sensing and track select let you combine and edit masters simply and automatically. And there's more: You can add a two-copy slave (CCP-112) and both models include the exclusive Sony brushless and slotless (BSL) motors and, of course, the record and playback heads carry the **EXCLUSIVE SONY TWO-YEAR WARRANTY** against head wear. Call us for the name of the Authorized Sony Dealer near you.

SONY AV PRODUCTS
 NATIONAL DISTRIBUTOR
educational electronics corporation
 P.O. BOX 339 • INGLEWOOD, CA 90306-0339 • (213) 671-2636

Circle #099 on Reader Service Card

FROM PAGE 145

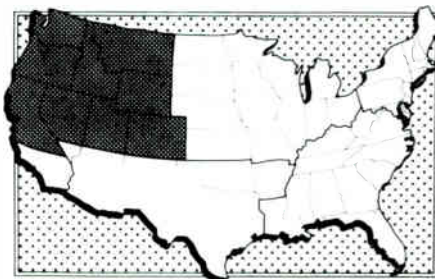
Switchers: 3M
Cameras: Ampex Dugicam, Sharp
Audio recorders: Otari 8 track, TEAC 4 track
Audio mixers: TEAC 8 channel
Other major equipment: Ampex TBC, AlphaSyntra synthesizer
Rates: Upon request
Direction: Music video and long form programming. Creative direction and scripting. 16mm, 35mm, special effects and animation. Can assist in marketing and distribution

STUDIO C
VPF, VPP/E
1338 Mission St., San Francisco, CA 94107
(415) 864-2825
Owner: Luther Greene, Will Haney
Manager: Luther Greene, Kathleen McGarr

TECHNICAL THEATRE & STAGING INC. (TTS)
VPF, OLVP
2177 S. Cherry St., Denver, CO 80222
(303) 758-8082
Owner: Rick Warpol
Manager: Randy Gale

TELEMATION PRODUCTIONS/DENVER
VPF, OLVP, VPP/E
7700 E. Iliit Ave., Denver, CO 80231
(303) 751-6000
Owner: Terry Hoffmann
Manager: Michael Thies

TELEMATION PRODUCTIONS
VPF, OLVP, VPP/E, APPV
1200 Stewart Street, Seattle, WA 98101
(206) 623-5934
Manager: Lance Kyed



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).

TIESSO PRODUCTIONS
VPF, OLVP, VPP/E, APPV
55 Sutter St., Suite 482, San Francisco, CA 94104
(415) 434-2718
Owner: William F. Schmeltzer
Manager: Jon Drue

TOTAL VIDEO
VPF, OLVP, VPP/E
220 E. Grand, Ste. B, South San Francisco, CA 94080
(415) 583-8236
Owner: Aldo J. Panattoni
Manager: Aldo J. Panattoni

TRANSPARENT RECORDINGS
VPF, OLVP, APPV
883 Golden Gate Ave., San Francisco, CA 94102
(415) 563-6164
Owner: Lolly Lewis
Manager: Lolly Lewis
EQUIPMENT
Audio Recorders: Nagra I, 4 channel, 8hp, 1/4 with SMPTE center track
Audio Mixers: Studer 169 10x2
Direction: Transparent Recordings offer the highest quality in live remote recording

TRANSTAR PRODUCTIONS, INC.
VPF, OLVP, APPV
750 W. Hampden - Suite 170, Englewood, CO 80110
(303) 761-0595
Owner: Doug Hanes, Larry Wilson
Manager: Lorette Nixt

TRES VIRGOS STUDIOS
APPV
1925 Francisco Blvd., San Rafael, CA 94901
(415) 456-7666
Owner: Hoban Yeager, Jerry Jacob, Allen Hux, Mike Stevens
Manager: Hoban Yeager

TRI VIDEO TELEPRODUCTION
OLVP
P.O. Box 8822, Incline Village, NV 89450
P.O. Box 6784, Tahoe City, CA 95730
(702) 323-6868, (916) 546-1111 (Note: we are on the Cal/Nev State line with offices in both states)
Manager: Director: Jon Paul Davidson, Production Manager: Bob Davidson

VARITEL VIDEO
OLVP, VPP/E
350 Townsend St., San Francisco, CA 94107
(415) 495-3328
Manager: Michael Cunningham, General Manager

VIDEO EFFECTS
VPF
1111 Second St., Suite B, San Rafael, CA 94901
(415) 459-5907
Owner: Bruce D. Chapman

VIDEO IMAGES
VPF, OLVP
2111 Research Dr. #2, Livermore, CA 94550
(415) 443-3875
Manager: Mark Trujillo

VIDEO PRESENTATIONS
VPP/E
2326 Sixth Avenue, Seattle, WA 98121
(206) 624-9241
Owner: H. Velle Wright
Manager: Paul Forrest

VIDEO WEST
VPF, OLVP, VPP/E
Broadcast House, Salt Lake City, UT 84180
(801) 575-7400
Owner: Division of KSL, Inc.
Manager: Brent Foulmer

VISUAL IMAGES VIDEO
VPF, OLVP, VPP/E, APPV
1500 Wyatt Street, Santa Clara, CA 95054
(408) 970-8855
Manager: Executive Producer: Larry Fells, Associate Producer: Richard Tinsley

WATERLINE PRODUCTIONS
OLVP
123 Barbaree Way, Tiburon, CA 94920
(415) 383-0315
Owner: Alan G. Steel
Manager: Alan G. Steel

WAVE PRODUCTIONS
OLVP
421 36th Avenue, Santa Cruz, CA 95062
(408) 475-2742
Owner: Daniel Newman

RECORD PLANT RECORDING STUDIOS TRUCK FOR SALE

Mobile Unit #1

This truck was recently returned to us from its 3½ year "remote" with Stevie Wonder. We built a replacement truck while Stevie recorded "Secret Life of Plants", "Hotter Than July" and "Original Musiquarium", so now it must go. This legendary truck is priced for immediate sale.



1978 GMC 6500 chassis
ABC aluminum box
Waltco lift gate
Full A/C and heating
240v single-phase power
90 amp system
A/C and technical power on separate breaker panels
L: 29'2" (add 5' for lift gate)
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W: 8'4"

API 32 x 24 Automated Console with Allison 65K
2-JBL 4333 Monitors with White 4000 EQ
2-Phase Linear 700 Power Amps
1-Crown 150 Amp
1-Soundcraftsman RA 5502 Amp
1-Yamaha P2100 Amp
1-3M 79 24 Track Recorder
1-3M 79 2 Track
1-Panasonic Video Monitor
1-Sony B & W Video Camera with Case and Tripod
1-RTS Intercom System with Power Supply, Biscuit 1 belt pak
2-150' A.C. Cables/Extra Road Cases & Misc. Equip.

Truck available with equipment, or to your specifications.
For Information Call (213) 653-0240

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Back Issues

- 1982 January, Northwest Listings. Mixing Consoles. Grateful Dead's Studio. Lindsey Buckingham.
- 1982 February, Southeast Listings. Digital Synthesizers. Dave Edmunds. John Meyer.
- 1982 March, Northeast Listings. Car's Studio. Microphones. Phil Harmonie.
- 1982 April, Video Focus. A/V Studio Listings. Video Music Satellite. Mike Nesmith. Topical Issues in Video. John Boylan.
- 1982 May, Southwest Listings. Quarterlash. Charlie Price's Studio. Digital Recording. Fantasia Digital Soundtrack.
- 1982 June—SOLD OUT
- 1982 July, Studio Design. Listings of Designers, Suppliers. Power Amp Report. Quincy Jones. Willie Nelson's Studio.
- 1982 August, 5th Anniversary Issue. History of Recording. Bill Porter. Grateful Dead Technology. Beatles Console. Oscar Peterson.
- 1982 September, Southern California Studios. Film Sound. Video Synchronization. Supertramp Studio. The Drugs. Digital Discussions I.
- 1982 October, North Central Studios. Studio Monitors. Maurice White. Digital Discussions II. Devo.
- 1982 November—SOLD OUT
- 1982 December—SOLD OUT
- 1983 January, Northwest Studios. Multitrack. Analog Tape Recorders. Record Restoration. Michael Palin. Narada. Michael Walder.
- 1983 February—SOLD OUT
- 1983 March, Southeast Studios. Echo, Reverb & Delay I. Electronic Religion. Phil Durean. Tom Petty.
- 1983 April, Video Production/Post Production Listings. Echo, Reverb & Delay II. Missing Persons. Toto.
- 1983 May, Northeast Studios. Mixing Console Forum I. Donald Fagen. Echo, Reverb & Delay III. Harry Nilsson. Randy Newman.
- 1983 June, Remote Recording & Concert Sound Listings. Sound Reinforcement Forum. Consoles II. Showbiz. Papa John Creach. Zappa.
- 1983 July, Southwest Studios & Recording School Listings. Education Update. Audio Spatial Effects. Timothy Leary. Josef Zawul.
- 1983 August, Studio Design Listings. Bill Putnam. Bee-Gee's Studio. T Bone Burnett. Phil Collins.
- 1983 September—SOLD OUT
- 1983 October, Fall AES New Products. Video Production Supplement. Women in Audio. The Crusaders. Joe Jackson.
- 1983 November, North Central Studios. Compressors/Limiters. Canadian Recording. Vocal Mixing. Herbie Hancock.
- 1983 December, Tape to Disk Listings. Stereo Mastering Recorders. Audiophiles. Stan Freberg. Godley and Creme.
- 1984 January, Northwest Studios. Reference Monitors. Michael Sembello. Video Hardware/Software. Huey Lewis. Steve Smith Studio.
- 1984 February, Independent Engineers & Producers. NAMM Show. Allan Holdsworth. Keyboard Artists Forum. Bonnie Lane.
- 1984 March, Southeast Studios. Microphone Techniques. Sound in Australia. Religious Recording. Oak Ridge Boys.
- 1984 April, Video Production & Post Production Facilities. Video Supplement. Time-Code Special. Jeff Baxter Interviews. Brian Setzer.
- 1984 May, Northeast Studios. Digital Recorder Forum. Studio Computers. Roger Nichols. NASA Sound. Robert Moog. Jim Boyer and Billy Joel.
- 1984 June, Remote Recording & Sound Reinforcement Listings. Computer Music. Big Country. Chrissie Hynde. George Benson Studio.
- 1984 July—SOLD OUT
- 1984 August, Studio Design Special. Danny Kootch. Korichmar. Sound for The Olympics. Computerized Music. Thomas Dolby.
- 1984 September, Southern California Studios. Film Sound 85. Digital Resource Guide. Interactive Disks. Jeff Beck.
- 1984 October, Fall AES New Products. New York Soundstages. Lindsey Buckingham. Optical Disk Update. Steve Miller. Amadeus.
- 1984 November, North Central & Canadian Studios. Video Supplement. SMPTE Conference. Canadian Spotlight. Fur. Waybill.
- 1984 December, Tape to Disk Listings. Mastering Engineers Forum. Bell Labs. Compact Disks. Hal Blaine. Rupert Hynes.
- 1985 January, Northwest Studios. Superbowl Sound. Springsteen on Stage. Ray Parker Jr. Leon Russell.
- 1985 February, Independent Engineers & Producers. Brian Eno. The Art of Touring. Roger Powell on MIDI. Les Paul.
- 1985 March, Southeast Studios. Loudspeaker Technology. Martin Hushert. "Cotton Club" Sound. John Fogerty.

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NORTHWEST continued

WESTERN VIDEOTAPE PRODUCTIONS

VPF, OLVP, VPP/E

101 Howard St., Suite B, San Francisco, CA 94105

(415) 543-2810

Manager VP, Linda Hannan; Marketing, Kristin McGuire

OUTSIDE U.S.

ANDRE-PERRY VIDEO

VPF, VPP/E

C/O Le Studio

201 Perry, Morin Heights, Quebec, Canada JOR 1H0

(514) 226-2419

Owner: Andre Perry

EQUIPMENT

Synchronizer: ISC Superedit 41

VTRs: 6 Ampex VPH 2B

Switchers: Ampex AVC 33

Cameras: Hitachi

Audio recorders: Studer B 67

Audio mixers: Studer

Other major equipment: Computer graphics with Bosch

FGS 4000, Quantel Paint Box For sound see listing Le Studio

Morin Heights

Rates: On request

Direction: Complete graphics and on line post production For

music recording/mixing see Le Studio Morin Heights listing.

November 1984 Mix

AIRLAB STUDIOS

APPV

109B Portland St., Toronto, Ontario M5V 2N3

(416) 361-0562

Owner: Ken J. Kroeker

Manager: Paul Knight

ANC-PRODUCCIONES

VPF

Avenida Reforma 12-01, Zona 10 OF 16-01 Nivel 16

Guatemala, Guatemala C.A. 32341

Owner: Gonzalo Marroquin

Manager: Roberto Leva

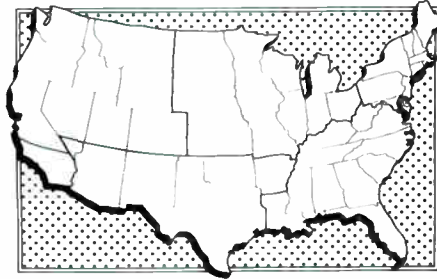
THE MIX BOOKSHELF CATALOG

is a complete selection of the best audio/video/music books and tape courses available from more than forty leading industry publishers.

The Bookshelf Catalog is free to MIX readers. Call or write for more information or read the catalog excerpt on page V117.

MIX BOOKSHELF

2608 Ninth Street
Berkeley, CA 94710
(415) 843-7901



OUTSIDE U.S.

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).

BACKSTAGE

VPF

Gabelsberger Str. 34, D-8000 Munich 2, West Germany

089/525221

Owner: Backstage GBR

Manager: Peter J. Scholler

CAPTAIN AUDIO RECORDING STUDIOS

APPV

133 Hazelton Ave., Toronto, Ontario, Canada M5R 2E4

(416) 922-9479

Owner: Ben McPeck, Jerome McPeck

Manager: Ben McPeck

CHAMPAGNE PICTURES

VPF

65 Lombard St., Toronto, Ontario, Canada M5C 1M2

(416) 863-6068

Owner: Robert F. Quarly

CRESCENDO AUDIO PRODUCTIONS, INC.

APPV

4 Constitucion, 707, Puerto Nuevo, P.R. 00920

(809) 792-1970

Owner: BFC Enterprises, Inc.

Manager: Maya Acciani

WAYNE FINUCAN PRODUCTIONS

VPF, OLVP, APPV

697 Sargent Ave., Winnipeg, Canada

(204) 786-5578

Owner: Wayne Finucan

Manager: Shirley Schmitt

GUASTELLA FILM PRODUCERS, INC.

VPP/E

G. P. O. Box "V", San Juan, Puerto Rico

(809) 754-7272

Owner: Roberto Guastella

Manager: Jose I. Canzarez

INNOVASSON enr.

APPV

1207 Saint-Andre (400), Montreal, Quebec H2E 2A5

(514) 844-2122

Owner: M. Roger Guerin

Manager: M. Roger Guerin

INTERNATIONAL IMAGE

VPP/E

29 Prince Andrew Place, Don Mills, Ontario, Canada

(416) 449-3033

Manager: Mike Ferkrans

LITTLE MOUNTAIN SOUND STUDIOS

APPV

201 W. 7th Ave., Vancouver, BC, Canada V5Y 1L9

(604) 873-4711

Owner: Bob Brooks, president

Manager: Roger Monk

MASTER'S WORKSHOP CORP.

APPV

306 Rexdale Blvd. #7, Rexdale, Ontario, Canada

(416) 741-1312

Owner: Doug J. McKenzie

Manager: Bob Predouch, Paul Massey

MARTOONS

APPV

5647 6th Ave., Montreal, Quebec H1Y 2R1

(514) 728-5907

Owner: Marti Garaughly

Manager: Janine Fournier

MASTERTRACK LTD.

APPV

35A Hazelton Ave., Toronto, Ontario, Canada

(416) 922-4004

Owner: Ian S. Jacobson

Manager: Ian S. Jacobson

EQUIPMENT

Synchronizer: Q Lock 3 10, (2) Adams Smith

VTRs: Ampex VPR 80, (2) Sony BVU 800

Audio recorders: MCI JH 24, (2) Tascam 85 16Bs, (2) Ampex

ATR 102s, MCI JH110 4.

Audio mixers: Audiotronics, Neve, Yamaha.

Other major equipment: Film dubbing facility, (9) dubbers

(35/16 mm) 3 track recorder, Videola film to tape transfer, sound

effects lay up suite

Rates: Call

Direction: All areas of film and television audio post-production,

specializing in T V commercials and T V series. Ideal for music

video post production

MOTION PICTURE VIDEO CORP.

VPP/E

189 Church St., Toronto, Ontario, Canada

(416) 863-6414

Owner: Bob Sher, president

NORTHWEST COMMUNICATIONS LTD.

VPF, OLVP

5381 - 48th Avenue, Delta, B.C., Canada V4K 1W7

(604) 946-1146, 270-2291

Owner: W. S. Thomas, president

Manager: Douglas G. Franks, production manager

PEDAL PRODUCTIONS

VPF, OLVP, VPP/E, APPV

212 Hamilton St., Toronto, Ontario, Canada, M4M 2E2

(416) 466-5815

Owner: James Kay

Manager: Frank Szabo

SHAW CABLE SYSTEMS

VPF, OLVP

7621 - 50 St., Edmonton, Alberta, Canada

(403) 465-9561

Owner: Jim Shaw

Manager: Peter Malany

STUDIO PLACE ROYALE INC.

APPV

141 St. Paul St., West, Montreal, Canada H2Y 1Z5

(514) 844-3452

Owner: S. Brown, N. Rodrigue

EQUIPMENT

Synchronizer: BTX

VTRs: IVC 3/4"

Audio recorders: 8 tracks

Audio mixers: Synron

Rates: \$100/hour

Direction: Documentary, A/V and commercial sound tracks

WATERSTREET SOUND

APPV

342 Water St., 5th Floor, Vancouver, B.C. V6B 1B6

(604) 689-4333

Owner: George McNeill

Manager: Marty Hasselbach

WESTERN VIDEO LTD.

VPF, OLVP

30 E. 6th Ave., Vancouver, B.C., Canada V5T 1T4

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Manager: R. F. Rose

—FROM PAGE 5, FEEDBACK

school that has earned the respect through the quality of their training and involvement in contributions to the local industry.

6) HAMBURGER STAND EDUCATION

Education is not a franchise affair. The best schools in North America are in "one" location. They've been too busy and too good to bother with having to establish chain operations across the country. Franchises are established to reap profits. Schools are designed to educate. Be aware of the difference! Do not be hyped by flashy advertising campaigns. Chances are if the school you're applying for has locations in more than one city, it's because the management are opportunists. Franchises for one particular school are for sale to anyone with an eight track studio or larger. Instructors do not meet any qualifications. Beware of schools that promise they can teach you in 10 weeks what professionals require 10 years to learn. The so called glitter industries (music, acting, television and film, radio, modeling, etc.) are notorious for their scams and rip-offs. We all know how intense the desire is to succeed in these competitive fields. Many schools are formed strictly to take advantage of this desire to garner profits for the management. Be careful out there. Buy hamburgers from franchises, not education.

7) INSTRUCTOR QUALIFICATIONS

Tradeschools sometimes hire a professional from the respective trade being instructed. This sometimes means a designated instructor has no real teaching experience. Better schools have in-house teacher training for their instructors. Ask about it!

BE CAREFUL!

1) Many so-called schools that instruct record engineering courses, do so only to increase the consumption of studio hours of their studio. Running a school was never their intention. Selling studio time is. Other recording studios are not likely to employ an individual trained for profit by their competitors. Think about it!

2) An I.C.A. study of 98 schools instructing audio/video and music industry courses turned up one Canadian based school (with 4 locations across the country) which included estimated homework hours as part of the total hours of training received for the tuition. Read all literature thoroughly and if claims are not in writing, be wary of them. The same school literally broke down every major topic in what should be a general industry course into separate courses in their brochure. Thus making it appear as if they had hundreds of courses when in fact the content was less than most similar schools, i.e. instead of carpentry 101 you would see Nails

101.1, Plywood 203.2, Tablesaw 201.2, etc., etc. Interesting gimmick but pretty sad if you happen to be one of the deceived students.

We hope this information will be useful to you in selecting a school to meet your needs. It may seem strange to have this information provided to you by a school but because of the high level of deceptive practices and scams evident in the audio/video, acting, modeling, television and film industries, we find we are working against these type of schools. They are bad for the reputation of training in these fields and are also extremely harmful to the industries we service.

Sincerely,
Niels Hartvig-Nielsen
President, I.C.A. Institute of
Communication Arts
Vancouver, B.C.

Corrections and Apologies: In the article on Bob Margouleff, we incorrectly stated that he owns Crystal Sound. In fact the studio is owned by Andrew Berliner. Our January Studio Index listed Santa Rosa's Ocean Breeze as an eight track studio. They are actually a 16 track facility.

Also in our story on the Park West club in Chicago, we neglected to credit photographer Phil Moloitis for his contributions. It isn't pretty, but it happens.

—FROM PAGE 32, PHONE LINES

work feeding is used, there is about 1/2 second delay. In any case, this provides for more difficulty in monitoring. The remote site cannot simply monitor off-air of the network affiliate in that town. More lines—terrestrial ones—must be used for "backfeeding" the remote site with a "mix-minus" program feed and any IFB (interruptible foldback) or other cueing. Again, these are usually Telco lines of a lesser quality (5kHz or non-eq).

Placing Your Order

In terms of ordering lines, and how they are billed, procedures and rates will vary around the U.S. Moreover, at this writing (mid-January 1985) nothing is certain about how things will stand, as the FCC prepares to allow new, post-divestiture tariffs to finally go into effect for broadcast lines. In any event, it behooves the broadcaster to become familiar with local and AT&T rates and procedures when the changes do occur. AT&T is now reachable only in New York and L.A., and both they and the local companies will have newly printed brochures and

price schedules on post-divestiture services available. There may be considerable differences in terms of the complexity of what has been known as "interexchange" or long distance service especially, so order these carefully, or consider other alternatives (i.e. satellite service for the long distance portions, supplied by non-Telco firms). Terminology will change as well, so keep up with it. Chief among those changes will be the term "access" referring to local connections to and from AT&T's Long Lines network. The rates will go up, possibly by large amounts, with special construction charges (when actual lines and hardware must be installed at a location, because it does not yet exist there, or is in insufficient quality or quantity) and standard installation charges seeing the largest increases. Meanwhile, the FCC is looking into deregulating the special construction area, which might ameliorate some of these expected cost increases for broadcasters, who make up the largest number of customers requiring special construction from Telco.

What Next?

Aside from the price increases, the future holds great promise for this technology. Copper wire is being replaced by fiber optic in many areas, improving fidelity and reliability, and providing much greater capacity to areas of high traffic. (The most obvious improvement is in terms of freedom from hum, buzz, impulse noise and crosstalk in downtown areas, due to the system's operation in the digital and optical domains, rather than the analog and electrical). Cellular phones are beginning to be used for com-links and back-feeding, along with more sophisticated RF equipment, replacing the traditional dial-up phone at the remote site. Noise reduction on Telco lines has been in use by some broadcasters for years (with varying results), but more recently, stereo radio remotes using PCM or CPDM digital encoding on a single NTSC video circuit have provided excellent results, albeit at a higher cost for the line and the hardware. The work gets harder, the costs go up, but the results improve. Another chapter in the saga of technological advancement and progress. Stay tuned. ■

Part two of this article will appear next month.

Skip Pizzi is technical director for music and arts programming at National Public Radio headquarters in Washington, D.C., and a freelance engineer and instructor in audio technology.



The DSP console in studio 1 control room, CTS Wembley.

Digital Mixing: A Reality at Last

by Richard Dean

After several years of expensive and difficult development, the world's first fully integrated digital mixing console from the Cambridge firm Rupert Neve & Company began commercial service with music soundtrack specialists CTS at The Music Centre in Wembley, North London in January.

Neve's DSP (Digital Signal Processor) technology was first demonstrated to a selection of recording studio managers under its "F3" development codename at Broadcasting House early in 1982. The BBC had already decided to back the project after offering Neve COPAS (Computer Processor for Audio Signals), the digital channel processor conceived by the corporation's research department at Kingswood Warren in a collaborative agreement clinched at IBC '80.

Despite a generally favorable response, CTS was the only independent to place an order, under a Depart-

ment of Trade and Industry scheme offering a year's interest-free loan on the central processor—or roughly two-thirds of the desk's cost—provided that progress and technical reports were filed with the DTI.

The BBC's DSP is destined for its Digital Stereo Control Vehicle, a custom-built OB radio truck from CMA Coachbuilders that uses hydraulic rams to expand floor width to a maximum of 3.7 meters when parked. This desk, the smaller of the two and which the corporation claims was delivered first, is still waiting at Neve's Royston plant, although the original collaborative agreement presumed that the Corporation's desk would be launched into service first. Heavy pressure on Neve bordering on litigation from outside-customer CTS forced Neve to give the Wembley firm priority on its \$400,000 investment. Work on the BBC version will now resume.

After a series of operating software difficulties that delayed launch for more than six months with Neve staff in constant attendance, the original Neve analog desk was finally replaced at the end of 1984.

HOW DSP WORKS

All the microphones—and any auxiliary analog inputs such as tape decks—are converted to 16-bit digital by

scanning (or sampling) at 48kHz. These split-second sound fragments shoot through the entire system in larger-bit groupings of all the inputs together. By a mammoth process of number-crunching these emerge in correct proportion as the final mix, to a variety of user-defined digital or analog outputs and monitor feeds from multitrack to mono.

Particularly clever time-processing allows all the patching and routing of signals to be made under software control—there is no physical "patchbay". Similarly, a vast number of break points can be defined at will on the color monitors "routemap" by the operator for ancillary effects units without a 1/4-inch jackplug in sight. Signals pass from the console to the air-conditioned processor room containing DSP's towering processor racks via two hair-thin infra-red fiber optic links.

But probably the most controversial innovation is the DSP's "assignability". This allows all channel settings to be made on a master stereo channel by pressing "access" buttons above each fader in turn. In theory this doctrine could be extended to the faders, raising the spectre of the single-fader console. But nobody seems to be proposing this yet—all faders are accessible at random as with a normal console.

Each fader is identified by 4-digit electronic abbreviations taken

from the monitor screen like "V101" and "BDRM", "SNRE", "CMBL" and so on—a move designed to replace the ubiquitous China pencil, though the scribble strips remain. These are repeated above sockets in the studio during recording. Wax lovers note that scribbling continues unabashed for take numbers and other odd notes, a refreshing point observed on my visit to the first mixing session, which was for Maurice Jarre's Royal Philharmonic Orchestra score of *The Bride* starring Sting of The Police.

Neve is hoping to incorporate a reset feature by the middle of this year where any change made on the console—from fader and channel settings to the studio red light—is memorized for "re-enactment" in real-time. This compares to existing memory features on the more common automated mixing systems covering fader and mute only, to "Total Recall" on the SSL4000 and 6000 (showing previous and actual settings of all major controls for manual realignment), to the same company's "Total Reset" on their broadcast 5000 series consoles. Here reset is made automatically, for a selected moment in a mix.

WHY DSP?

Having nursed DSP through agonizing design development with top staff at CTS—notably chief technical



PHOTO: RICHARD DEAN

The newly 'Eastlaked' studio 1 at CTS holds up to 130 musicians.

engineer Henry Edwards and senior recording engineer Dick Lewzey—recording veteran and CTS manager Peter Harris hopes to use DSP for recording film and TV music, and especially all-digital Compact Discs. Until now this has been possible only by recording directly to CD's U-Matic-

based 1610 format. The US-developed system is the de facto standard for digital discs, but will only run with NTSC video, not European PAL.

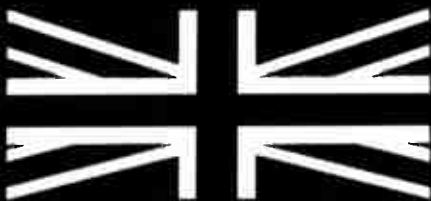
Harris looks forward to the impending two-track DASH (Digital Audio Stationary Head) format backed by Sony and Studer among others, as a

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SOUNDCRAFT 24-track machine — 1 year old	\$17,000
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TRIDENT TSR 24-track machine — 1/2 year old with autolocator	\$25,000
NEVE 8128 32 input non-automated board	\$78,000
HELIOS 32/16/24 board, 8 aux	\$15,000
API 32/8/32 frame board fitted 24/3/24 550A EQ. Automated faders with Allison programmer	\$25,000
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NEVE 40-channel NECAM 1 system	P.O.A.

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Now you can digitally record and play back any sound musically with an Apple II computer! The DX-1 Sound Sampling System turns an Apple into a sound source for any musical instrument — or a sound effects machine capable of recording and reproducing any natural sound in many creative ways.

- Plays effectively ANY sound musically over at least five octaves
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- On-board high fidelity pre-amp lets you record any signal source
- Excellent for musical and sound effects applications



DX-1 System Price: \$349.00

Requires a 48K Apple II+, IIe, III, or Franklin, and one disk drive

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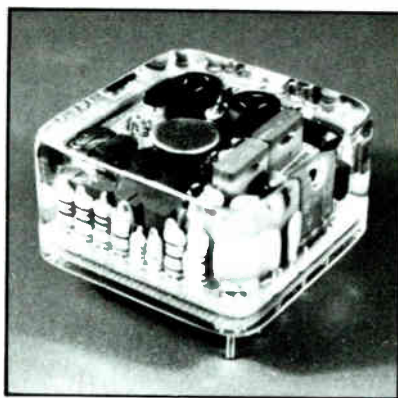
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990 Discrete Op-Amp



*Electronic Design by Deane Jensen
Packaging & Production Design by John Hardy*

- **Fast:** 18V/ μ S @ 150 Ohms, 16V/ μ S @ 75 Ohms
- **Quiet:** -133.7 dBv E.I.N. (20—20kHz, shorted input, unweighted)
- **Powerful:** +24 dBv @ 75 Ohms (Ref: 0dBv = .775 V)

AND IT SOUNDS GREAT !

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Circle #103 on Reader Service Card

future master format which is PAL-compatible for video work, in common with many European studios involved in video work. Major synchronizer manufacturer Audio Kinetics has shelved plans to introduce a PAL 1610 interface and besides, 2-track DASH would perfectly match Harris' digital multitrack—the Sony DASH 3324 with a total of 28 tracks including two time-code and two analog tracks.

OUTSIDE WORLD INTERFACE

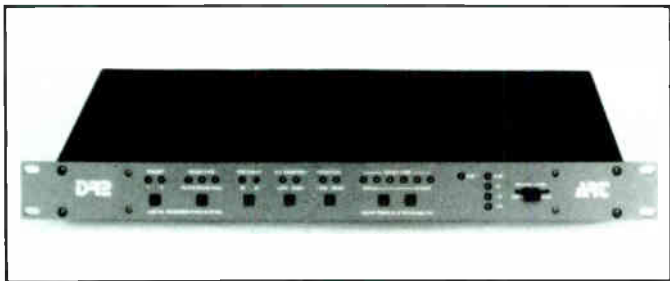
Ironically, film music uses 35mm three-channel analog sprocketed magnetic film to match the dubbing where final integration of music with original and voiced-over dialogue plus effects takes place, which rather wastes the DSP's more immediate quality benefits—although sound can be "bounced" between tracks ad infinitum without degradation in the digital domain. Harris hopes this quality imbalance will change in both film and TV soundtrack work, with the industry-standard of magnetic film dubbers eventually being replaced by careful use of digital multitrack.

Although DSP offers a total of 2.5 seconds of delay on a single stereo pair (arithmetically divided among a greater number of tracks), this is likely to be used for special effects or phase correction on channels rather than to emulate the enormous track advancing and retarding freedom offered at present by film dubbers.

Another odd thing is that reverb send signals currently have to be digital-to-analog (D to A) converted from the DSP—despite the fact that the most widely used reverb units like the Sony, Lexicon, EMT, Quantec and others all use digital processing techniques. To make matters worse, these devices convert back to analog for output, which is then A to D'ed through analog ports on the digital console. Each conversion costs quality, and Neve hopes that a standard digital protocol will be developed so that digital mixers and recorders can be interfaced with ancillary effects exclusively in the digital domain.

"The desk follows over five years of close collaboration between the BBC and Neve, and is another example of co-operation between the BBC and British Industry," boasted a corporation spokesman early last year. But some engineers at Neve, and indeed CTS, who have worked independently on the system's series of software "building blocks" that control signal processing and configuration, feel that while the BBC may have laid the foundations, most of the project work has been completed since. As the BBC has no formal agreement with the company over DSP, it is not clear what, if any, proprietary rights the corporation holds now that the system has been officially unveiled. ■

PREVIEW



ART DR2 Digital Reverb

The DR2 digital reverberation system from Applied Research & Technology, Rochester, NY, has many of the features of their O1a unit, but at a lower price. User-adjustable parameters include; three room choices (plate, medium-sized room, and a large hall), two user presets and "kill" function (reverb out mute); four predelay settings, 0, 25, 50, 75ms; high frequency damping; room position, to control the mix between early reflections and later reverberation; and six settings of decay time per room, ranging from 0.1 to 12.8 seconds depending on the room program selected.

Other features include balanced mono input and stereo outputs; reverb mix control; footswitch jack for remoting the reverb kill; and software controlled reverb parameters allowing future updates. The single rack space DR2 comes with a one-year limited warranty and is priced at \$1,095.

Circle #104 on Reader Service Card



Nakamichi Pro Cassette Deck

Nakamichi U.S.A. Corporation of Torrance, CA, has introduced the MR-1 discrete, three-head stereo cassette deck designed for professional recording studio and broadcast applications. Features specifically tailored to these users include: balanced ± 4 dBm, 600 ohm XLR inputs/outputs (unbalanced $\frac{1}{4}$ " connections are also provided); self-contained Dolby B and C noise reduction with a connection loop for external processors; 16 segment LED meters calibrated in 2 dB steps; $\pm 6\%$ playback pitch control; and an EIA 19" rack mount adapter with carrying handle. Also standard on the machine are sub-sonic (12 dB/octave below 18Hz) and 19kHz multiplex filters;

tape/ source monitor switching; long wearing Crystalloy heads; three motor drive; four digit LED tape counter; memory return; 100 mw headphone amp; and a rated frequency response of 20 to 20k Hz, ± 3 dB.

The Nakamichi MR-1 is priced at \$895, and an optional remote control is available.

Circle #105 on Reader Service Card

Eddor Digital Amplifier

Eddor, of Irvine, CA has released the first in their series of five PWM (pulse width modulated) class D audio power amplifiers. The 16-pound unit packs 240 watts RMS of continuous power into a 3½-inch high cabinet. Power efficiency is rated at 95 percent. The amplifier accommodates both balanced and unbalanced inputs, and includes 4, 8, and 16 ohm as well as 25 and 70 volt line outputs, making it ideal for fixed installation applications.

Circle #106 on Reader Service Card



Audio Precision System One

System One, from Audio Precision, Inc., a new company based in Beaverton, Oregon, is an audio test system that performs tests three to ten times faster than equipment previously available. Nearly all common audio tests are run automatically by simply selecting the test from a menu. Results are graphed during the test. The ease of operating the system is due to its personal computer-based architecture and the extensive software bundled into the product.

System One can be ordered in a number of different configurations, and modules and options can be added later by the customer. The price of a typical configuration including high-level balanced generator and measurement modules for level, frequency, noise, and harmonic distortion is \$5,225. System One requires an IBM-PC or fully compatible computer such as the Compaq Portable. Suitable computers typically retail at \$1,900 and up, bringing the total system cost (including graphics printer) to approximately \$7,500.

Circle #107 on Reader Service Card

Marshall Ambience Effects System

The AES-357 Ambience Effects System from Marshall Electronic of Lutherville, MD, uses new technology to create room simulation, ambience generation, stereo field generation, and more. According to the manufacturer, each output tap is

converted to analog audio with its own DAC circuitry, allowing specialized processing to be dedicated to each, thus maximizing control over frequency response, frequency curves, panning, amplitude, and transient power responses. The relative and absolute phase relationships of each of the outputs are further controlled to a high degree of resolution. A fully processed output matrix is re-injected into another matrix at several chosen points simultaneously for the generation of smooth, soft reflections.

The AES-357 has a large display of the parameters of the 1,000 rooms and ambient environments it can generate, combined with two multi-function bar displays. The device can be used alone for ambience/room simulation, stereo synthesis and image manipulation, or in a special mode that adds room simulation to current digital reverbs. Specifications state a full 20 kHz frequency response with resolution exceeding 16 bits. The unit's price was not available at press time.

Circle #108 on Reader Service Card



DigiTech Delays from DOD

DOD Electronics of Salt Lake City, Utah, have introduced the first entries in their new line of DigiTech audio processors. The line includes two foot-pedal and three rack-mount digital delays. The rack mount units all include controls for VCO effects (speed, width); feedback; repeat hold; input level (with LED headroom indicator); coarse and fine delay time settings; bypass; and output mixing. The RDS 900, priced at \$259.95, has 900ms of delay at a bandwidth of 8kHz; the \$299.95 RDS 1900 features 1900ms of delay at a bandwidth of 15kHz; and the \$399.95 RDS 3600, with a 15kHz bandwidth delay of 1900ms, also offers reduced bandwidth (4kHz) delays of up to 7200ms, a four digit display of delay time, as well as a drum sync input.

Circle #109 on Reader Service Card



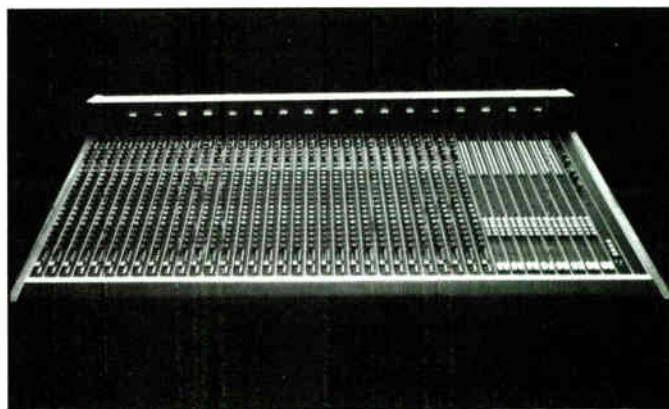
Gentle Electric Pitch and Envelope Follower

The Model 101 pitch and envelope follower from Gentle Electric of Delta, Colorado, is a versatile interface that allows the control of a synthesizer from microphones; instrument pickups (especially with wind and brass instruments); or recordings of voices, instruments, sound effects, etc. The 101 converts the subtleties of pitch, loudness and articulation into voltages to accurately affect any parameters of most synthesizers, and built-in preamp, compressor and pulse wave outputs further increase the system's versatility. This monophonic unit requires a synth that is equipped to accept a few external control voltages: pitch, and either a loudness input, gate/trigger input or both. Best re-

sults are achieved with keyboards having exponential (1 volt/octave) pitch control, rather than those using linear pitch control.

The Gentle Electric Model 101 is available in both fully assembled (\$749) and semi-assembled kit versions (\$499). A 49-page detailed manual is included.

Circle #110 on Reader Service Card



Audioarts M16 Stage Monitor Console

The M16 from Audioarts Engineering, of Bethany, CT, is a 16 mix monitor console with programmable mutes, optional buss switching matrix, and complete output VU metering. The console comes in a standard 32 input configuration, but other frame sizes are available.

Input features such as sweepable high pass filter, four-band parametric equalizer, input phase reverse, channel dim, illuminated channel on/off, direct out and patch points give the engineer total control. Outputs include talkback, output phase reverse, illuminated prefader, after fader listen and on/off. The engineer's control module provides cue speaker level, master solo level, and illuminated mute masters.

Circle #111 on Reader Service Card



MARC MX1+

MARC, of Villa Park, Illinois, have updated their popular MX1 triggering system in a new version, the MX1+. The unit now incorporates a versatile modular approach via expansion jacks for simplified hookup to trigger any MIDI instruments. The MX1+, which also features increased sensitivity and extended dynamics over its predecessor, is priced at approximately \$1,000.

Circle #112 on Reader Service Card

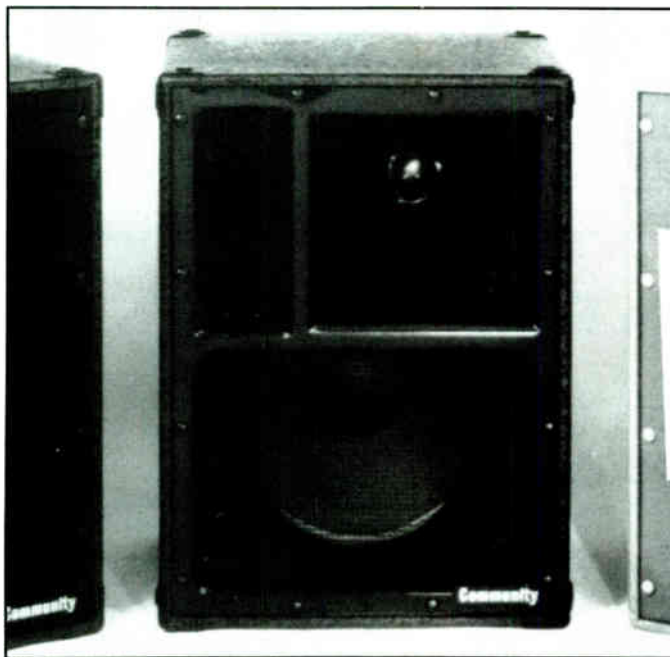
Mimetics Line Debuts

Mimetics, a new computer-based music synthesis firm comprised of former senior staff members of Syntauri Corp., announced their first lines of hardware and software products at the Winter NAMM Show. The Palo Alto, California company's range of Apple II driven, polytimbral synthesis systems include: Metatrak, for 16-track recording and synthesis; MetaEd, an

editor for adding, deleting, or modifying note information in a Metatrak format notes file; Proxima, which is similar to Metatrak, but adds MIDI in/out capabilities and a 30,000 note capacity can be had via an optional expander board; and the Genesys 1 synthesizer board, a 16 oscillator (16-bit), 32 kHz sample rate digital system.

Also available are two utility programs designed for use with the Yamaha DX7: Data/7, a computer assisted system for streamlining the sound development process, displays the six operator envelopes, and high frequency envelope, and saves to or loads voice/function parameters to disk; and Performance/7, which stores up to nine banks of 32 voices in the computer's RAM for storage, or transfer to the DX7's RAM. The price for either program is \$125, and are available for the Apple II series (or compatibles) equipped with a Roland MPU-401 or Passport Designs/Yamaha MIDI card; for the Commodore 64 with a Passport/Yamaha MIDI interface; or for the IBM PC with the Roland MPU-401.

Circle #113 on Reader Service Card



Community RS325i

Engineered to deliver high levels of sound pressure and projection from a lightweight and portable cabinet, the new RS325i three-way system from Community handles 400 watts of continuous program power from 60 Hz to 18 kHz. At the heart of the RS325i lies Community's M200 midrange driver and exponential pattern control horn, covering 450 Hz to 3 kHz. For frequencies above 3 kHz, a pair of piezo-electric drivers mounted on a pattern control horn were chosen, while low frequencies are channeled through a 15" woofer attached to an exponential coupler with reflex tuning ports on its sidewalls.

The RS325i's coherent wavefront design incorporates a one-piece fiberglass faceplate that maintains correct driver positioning and phase alignment at each crossover point. The RS325i is enclosed in a rugged plywood cabinet with a textured black finish, stacking corners, recessed handles, and a black grille. A version without handles and stacking hardware is also available. Accessories include an auxiliary woofer (VB990) that boosts low frequency performance and a line-level frequency equalizer (320-EQ). The suggested retail price for both the RS325i and the GP version is \$549.

Circle #114 on Reader Service Card



3M Tape Catalogs

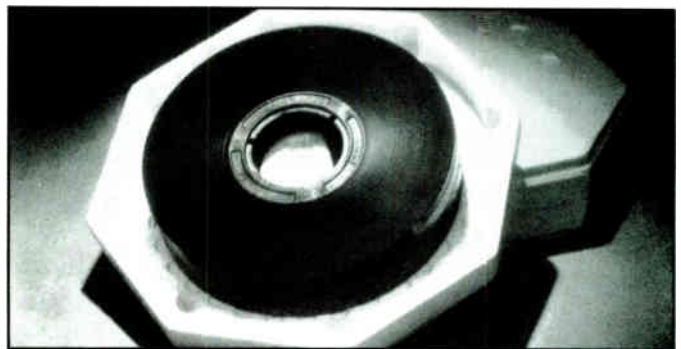
Scotch brand professional video and audio tape products and accessories are featured in two new color catalogs available from 3M's magnetic audio/video products division. Each of the catalogs contains product listings and descriptions of 3M's extensive line of professional broadcast-quality videotapes, audio recording tapes, magnetic films, diskettes, accessories and other items. Reply cards are included with each catalog to enable readers to obtain more specific, detailed information on any of the products listed.

Circle #115 on Reader Service Card

Patchbay Cleaning Tools

Vertigo Recording Services, of North Hollywood, CA, have introduced their line of tools designed for cleaning patchbay contacts of accumulations of dirt, smoke, moisture, spills and tarnish. Priced at \$29.95 each, and available in 1/4-inch, TRS, and TT versions, these useful tools are constructed of chrome-plated hard steel with a special burnishing surface at the tip for the easy maintenance of patchbays. Used in conjunction with spray solvents, normalised breaking contacts can be cleaned without disassembling the patchbay.

Circle #116 on Reader Service Card

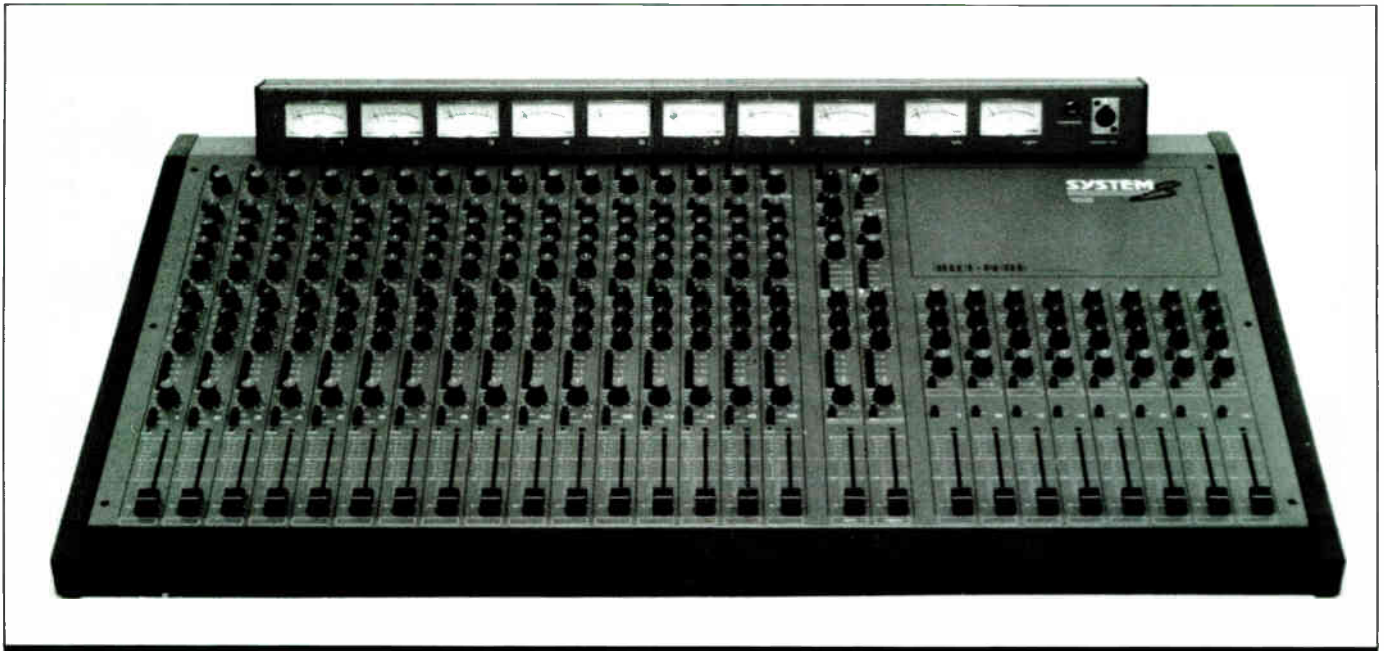


New Ampex Duplicator Tapes

The Ampex Magnetic Tape Division has introduced the first tapes in a new generation of products for the duplication industry. Ampex 615/616 is a music quality product that is being made available for a voice-grade product price, and replaces Ampex 603/604 formulations. Available in C60 (8,200 foot) and C90 (11,500 foot) lengths, 615/616 features color coded hubs for easy operator identification, and a new stackable hub design that eliminates hub drops and improves handling. Electrical characteristics are also improved, with a new oxide and binder system that delivers excellent performance.

Circle #117 on Reader Service Card

FIELD TEST



Allen & Heath System 8 Model 1616

Manufacturer Specifications:

AHB System 8 Model 1616

Input channels: 16
Outputs: 8 and stereo
Monitoring channels: 16
Operating level: +4 or -8 dBV
Maximum output level: +18dBV into
600 ohms, +21dBV into 5k ohms.
Frequency response: 20 to 20k Hz,
ref 1kHz
Meters: VU type
Peak indicators: 3dB before overload

Equalization: 3 band; shelving LF and
HF, peak/dip MF
HF EQ: $\pm 16\text{dB}$ @ 8 or 12 kHz
MF EQ: $\pm 12\text{dB}$ @ 400-8k Hz
LF EQ: $\pm 12\text{dB}$ @ 80 or 120 Hz
Dimensions: 42" x 26.5"
Shipping weight: 103 pounds
Price: As tested, \$4,800; 24 input
model 2416 is \$5,900; EX-8 eight
channel expander, \$1,800; model
168-D 16x8x2 console with eight track
monitoring is \$4,200.

by Joe Van Witsen

We recently field tested the Allen & Heath Brenell System 8 model 1616 which features 16 input channels, 8 outputs plus stereo mix, and 16 track monitoring. The System 8 series is based around semimodular electronic circuit assemblies incorporating IC opamps and a transformerless design in a compact steel frame. The semimodular design philosophy places eight additional input channels in an add-on frame module with system expandability in groups of eight inputs, rather than customizing a larger mainframe with individual input modules. The frame is very sturdy and torque-free while remaining light enough to be carried by two persons (impossible with some 16 track boards). The power supply is also surprisingly light and compact while delivering ample power to the board to insure steady operation in a broad range of operating environments.

The 1616 measures 42 inches long by 26.5 inches deep with the monitor bridge measuring 9.75 inches, which easily fits on most desks or tabletops with the power supply sitting beside it or on the floor.

The board features a straight-forward, logical layout. Each input module has a pad, line/mike select, input

"TREAT YOUR EQUIPMENT"

gain trim pot, three-band EQ section with high and low bandwidth controls switchable to two different frequency ranges. Three aux sends for effects, output channel select switch group, pan pot, mute select and input fader (these are standard carbon faders—optional Penny & Giles 3000 series conductive plastic faders can be pre-ordered or retro-fitted anytime.) Each channel also has a switch marked PFL for Pre-Fade Listen, allowing the user to solo a channel signal on the monitor speakers while its level is displayed on the left and right output meters.

The track monitor panel, located on the right side of the board allows setting up a stereo monitor mix with cue and echo. Each output has a track monitor section which can be switched to monitor either an output group or a solo track. Each track monitor has a level pot, pan pot, two aux sends, group/tape select switch and an aux select switch. The System 8's cue system provides two mono cue mixes or one stereo cue mix, and a "talk to cue" facility for communication with talent. Cue mixes may be set up from a variety of sources such as the inputs, the track monitors, a combination of both, or the left-right stereo mix may be selected as a cue source.

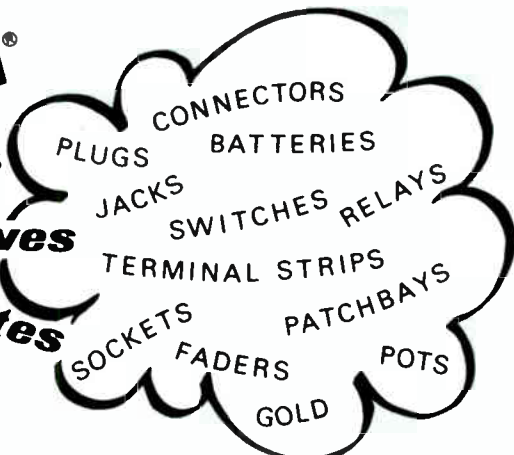
In the central part of the board are the master controls containing three aux send busses. Aux 1 is a pre-fade send fed by the aux 1 pots on the channels and track monitors. Aux 2 is a fixed post-fade send from the track monitors, but is fed from the channels either pre-fade or post-fade. Aux 3 is a fixed post-send from the channels and track monitors.

Two separate returns are provided which are located above the left and right output faders. Controls include output channel select, pan, return level, and master monitor select. Each echo return has two aux send pots which are pre-fade.

The master monitor section contains a talkback section with an XLR microphone socket provided on the panel, level control, and slate and cue buttons. Push slate and the talkback signal will appear on group 1-8 before the faders allowing vocal identification of tracks. The latching 1kHz slate places a 0dB tone onto groups 1-8 at a prefade stage.

The System 8 model 1616 from Allen & Heath Brenell is an extremely flexible mixing board for its size and weight and is well suited to both 8 and 16 track environments and concert/club sound reinforcement applications with studio sends being used for onstage monitoring. The sound quality was excellent: quiet and color free. With its compact and roadworthy construction, the System 8 would be equally well suited in a video production van or in a remote recording truck. ■

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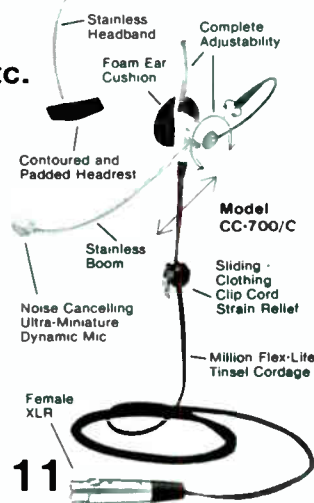
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STUDIOSCOPE

by Edgar F. Coudal

While the melody at Rounder Records Corp. is the pastoral art of folk music, the bass line is computerized management of key sections of operations and management.

According to William Nowlin, Jr., Owner/Director of Rounder, one benefit of computerization is the time

Marian Leighton and Kenneth Irwin, started the company after graduation in 1970 from Clark University (Leighton) and Tufts University (Nowlin and Irwin). They perceived that American Folk music was being largely ignored by the major record companies, five of whom account for approximately 95% of all album sales, according to Nowlin.

Rounder's success is evident in

operations to cope with the paper flow.

The computation of royalties is a particularly important use for the CompuPro System 816/C microcomputer at Rounder. Deductions, rate differences for foreign artists, and foreign sales, among many other details, make this a formidable task. Previously, Nowlin computed all royalties by hand.

Nowlin said, "For the 450 active albums we stock there are more than 4,000 artists who collect royalties. Ten separate calculations are necessary to determine each royalty payment. Using the computer, I save approximately a month out of every year of my own time. If we used the system for nothing else, this would make its purchase worthwhile."

THE SEARCH FOR A COMPUTER

Nowlin said that he chose the System 816/C, manufactured by CompuPro, a microcomputer systems manufacturer based in Hayward, CA, after "almost a year of looking at machines. We were not sure just what we would need. The adaptability and ease with which we can add memory and other capabilities is appealing."

The CompuPro 816/C uses S-100 (IEEE 696 standard) architecture, which allows a great variety of peripheral and internal devices to be added to the system at reasonable cost. The system used by Rounder has 20 million characters of on-line storage and five terminals which can be used simultaneously, each running a different program or application.

The software in use includes dBase II for database management and WordStar and its related programs, Spelstar and MailMerge, for various word processing needs.

Since its purchase in April, 1983 from the New England Electronic Exchange of Boston, "The hardware has been extremely reliable. We've never had a breakdown or crash of any kind, which is phenomenal considering that the system is in use more than eight hours a day, every day," Nowlin said.

HOW ROUNDER USES THE SYSTEM

As noted, the computer at Rounder is used primarily for royalty computation, contracts, word processing, and mailings. The benefits of royalty computation already have been detailed, but the related area of contracts and contract administration is also important to Rounder.

ROUNDER RECORDS

GOES ON LINE

saved in computation and payment of royalties for more than 4,000 tunes and artists.

Computerization of royalty computation has saved Rounder, according to Nowlin, "the equivalent of one month of one person's work out of the year." Considering just that saving, Nowlin estimates that the CompuPro System 816/C microcomputer in use at Rounder paid for itself in about 18 months.

In addition, computerization of the Cambridge, MA firm has resulted in great efficiencies in promotional and other mailings, and simplified development of artists' contracts and contract administration.

FOLK MUSIC THE FOCUS

The primary business of Rounder is the discovery and distribution of folk music recordings by new talent. Rounder's founders, William Nowlin, Jr.,

the fact that its 1984 sales were expected by Nowlin to pass one million albums for the first time. Rounder's artists include the Johnson Mountain Boys, Loudon Wainwright and George Thorogood and the Destroyers. Michael L. Henry, sales representative at Rose Records on Wabash, the largest retail record outlet in Chicago, ranked "Rounder and Folkways as the leaders in original folk music, with a number of other small companies following."

Today, Rounder also handles distribution for some 300 independent labels, including folk label Flying Fish and blues/rock Sugar Hill.

THE PAPERWORK GREW . . .

As Rounder grew, so did the paperwork. Record inventories, catalogs, mailing lists and especially the computation of royalties made up the bulk of the busy work. In mid-1982, the three owners decided to computerize internal

Nowlin said, "While most contracts are fairly standard, about 25 a year demand special or exceptional treatment. They must be tailored for individual situations. In the standard cases, the particulars are plugged into a standard contract using a word processor. Thus, the particulars that change from contract to contract—names, rates and other terms, rights, etc.—can be changed with a few keystrokes from a terminal, rather than recomposing and retyping each contract. For special contracts, more editing and word processing are done to the standard contract, which also saves us time since almost all contracts have the same basic structure."

The word processing capabilities of the system, in addition to contracts, are brought into play in the form of correspondence, information releases concerning new albums sent to distributors and retailers, and similar promotional efforts. A key word processing use is the publication of "Concentrics," the company's newsletter which goes to its artists, distributors and selected retailers, and radio and print media.

Before installation of the system, mailings were done on a card mailing machine. A special database on the System 816/C makes this mailing list easy to maintain and update. The system prints labels, sorted according to any type of information key requested by Rounder, and can selectively sort the mailing list for special mailings.

In terms of time and money saved by automating the mailing procedure, Nowlin said, "We are constantly sending mailings. The mailing application helps in two ways. First, we didn't have to add a full-time person to handle the chore, which was the alternative to computerizing the mailing task. Second, we've cut the amount of time involved in our various promotional and catalog mailings dramatically."

Even though savings in time and maintaining high productivity are important, the ability to target mailings to specific parts of the potential customer list may be even more important to Rounder.

Nowlin said, "We regularly run promotional mailings. With every new release, we send information to radio stations. The system allows us to break down the list of radio stations more intelligently, use more variables, and target the mailings better." Thus the mailings are more efficient and Rounder is able to select defined audiences for each new release, rather than using a wasteful "shotgun" approach to the radio stations.

LOOKING AHEAD . . .

Nowlin and his partners are optimistic about the future of American folk music. Independent sources indicate that this venerable subset of popular

music is growing again, perhaps equaling its growth trend of the late '50s and early '60s which made household names of Joan Baez, Pete Seeger and Arlo Guthrie. Ms. Lisa Allen, assistant manager of Laury's Records' Michigan Avenue outlet on Chicago's "Magnificent Mile," said that while folk accounts for less than 5 percent of the store's sales, "It has been growing steadily, with more and more buyers becoming aware of artists such as Buffy St. Marie, the late Steve Goodman, Josh White and Bonnie Koloc."

To further streamline operations, Rounder recently completed the entry of its entire inventory and 300-plus page catalog into the computer system—more than 10,000 items in all. The next

major step in computerization of the operation, according to Nowlin, is a combined inventory/accounting program.

This may not save Rounder a great deal of time, Nowlin said, "because the nature of the folk music business is album sales in ones and twos and tens, not thousands. Thus, the accounting and posting/entry parts of the operation are labor intensive, even with computerization. However, the analytical value is going to be enormous. By manipulating the data base, we will be able to track sales of records geographically or in any of a number of different ways, which will become extremely valuable to our planning for future operations and company directions." ■



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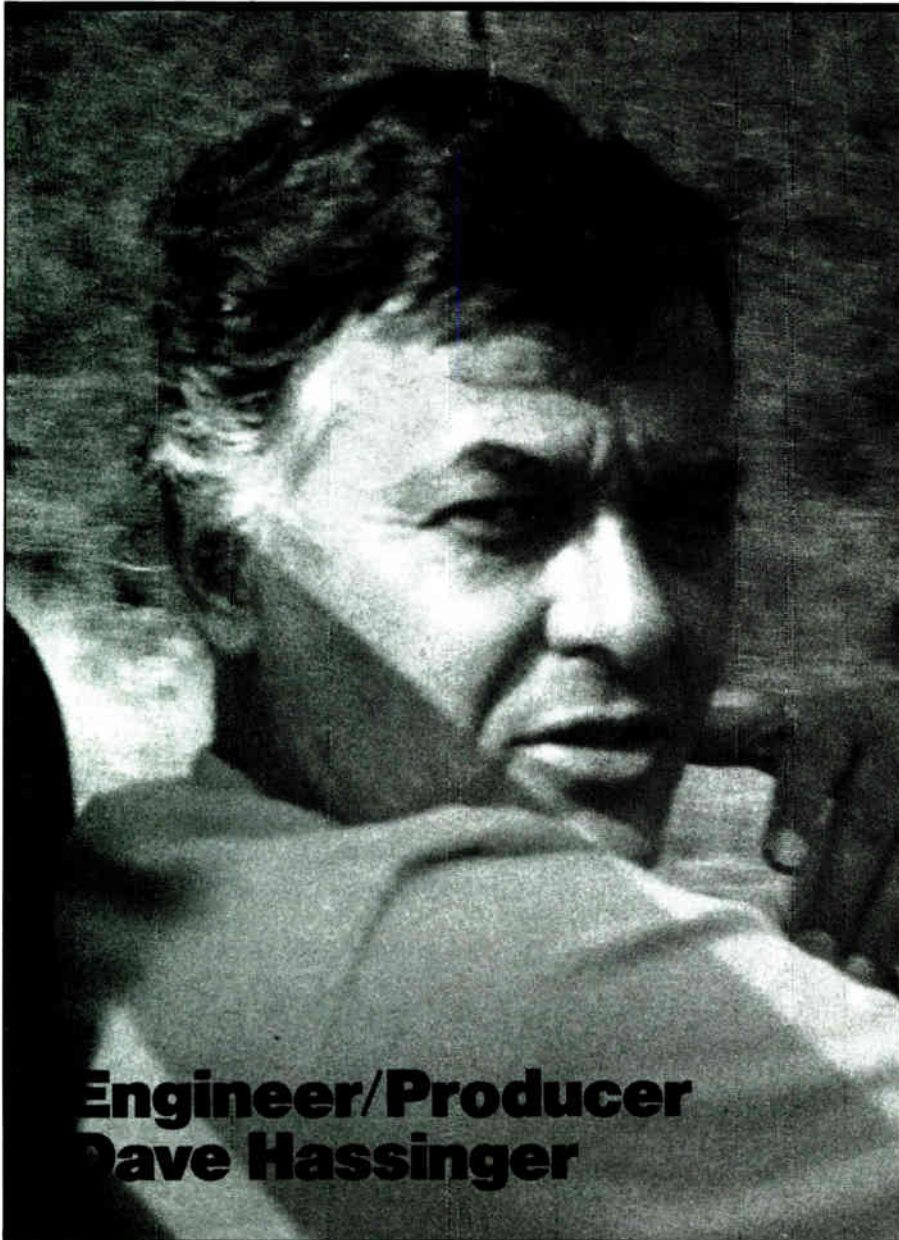
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He got his first shot at engineering when Al Schmitt, the noted engineer, became ill and had to cancel out of a Harry James session at the last minute. This was the days of three track recording and Hassinger quickly showed a knack for both the technical end of recording and the more subtle area of relating well with musicians. Through the '60s he engineered sessions with many of the greats of music, including the Rolling Stones (all their great mid-'60s material, including songs like "Satisfaction," "Lady Jane," "Paint It Black," etc.), the late Sam Cooke, the first two albums by both the Jefferson Airplane and the Grateful Dead, the Beach Boys, Elvis and many more.

He was a staff producer for Warner Bros. in the late '60s, but left eventually to open his own studio, the Sound Factory, which became the site of all the great Motown sessions of the early '70s, involving the likes of Stevie Wonder, Diana Ross and the Supremes, The Temptations, Marvin Gaye, the Four Tops, the Jackson Five and others. He continues to work actively as both an engineer and producer and recently returned to Southern California after a year and a half in Nashville. It was on the subject of "Music City" that we began our talk.

Mix: I understand you weren't very happy working in Nashville...

Hassinger: It doesn't seem very creative there for an engineer. Everything there is very formulaic and things tend to be done the same way all the time, with the same musicians even. They have a way of going about things there that seems very bland to me. Nobody wants to take any chances. You have to stay within certain guidelines so you don't offend "the country consumer."

Mix: You didn't have much experience with country before that, did you?

Hassinger: Not really, no. I'd done a single with Merle Haggard a couple of years ago. I think people like Willie Nelson, Merle Haggard, Waylon Jennings and Kris Kristofferson are all doing some interesting things with country, so I'd exclude them from my general opinions about country. There's more honesty in their music. There are a tremendous number of good artists and good songs in country, but somewhere along the way, some of the artists seem to have lost the idea of how they fit into the recording

by Blair Jackson and Carol Kaye

There are better known engineer/producers than Dave Hassinger, but virtually no one in the music business has had as varied a career and worked with as many illustrious artists as Hassinger has. Born and raised in the Los Angeles area, he got his professional start in television after the war. He helped set up KFIA television in Anchorage and later worked for the Atomic Energy Commission, setting up the AEC's first and only in-house TV station. He witnessed a num-

ber of the early A-bomb and H-bomb tests and actually thought he had gotten radiation poisoning at one point. (Fortunately, Dave's malady was just a kidney stone.) In the late '50s he landed a job at KABC-TV in Los Angeles as an audio and technical expert. Next, he entered the world of recording studios, helping to set up RCA's studio at Sunset and Vine in Hollywood (since demolished). "I got some other offers after that," he recalls, "but once I heard the music being made in the studios I felt like I had to be a part of it."

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process. They seem to wait for the producers to make suggestions and all.

Also, the way we worked back there was quite different than what I was accustomed to. We put vocals out on six or seven tracks and then combine the best of each to make the finished song. It's a very tedious process and a pretty strange way to make a record in my opinion. It's also quite different from what I've seen in the pop world. There, the artists are much more involved in every phase of recording usually. I can't imagine a pop artist completely handing over all the authority to a producer.

Mix: Do you think that the technology that allows you to make a seamless performance out of a dozen different snippets in a sense discourages musicians from seeking that "perfect take" because there's no pressure to do it right?

Hassinger: That's possible; I don't know. I do know that I'd been in Nashville for four months working that way and I realized one day that I wasn't tapping my foot at all. In fact no one was. People didn't seem that into it. You never hear that "Gee, what a fantastic take!" Again, they're great musicians, singers and songwriters, but there's something missing—enthusiasm maybe.

Mix: When you were working with people like Sam Cooke, did they tend to have much input into the music or would the producers really handle most things? For instance, did Hugo and Luigi totally dominate Cooke's sessions?

Hassinger: No, Sam was very active in his sessions. The funny thing about Hugo and Luigi is that Hugo didn't like to fly, so Luigi would do the West Coast things. But Sam would change arrangements to fit his own style and Hugo was really more of a sounding board. It was all Sam Cooke. He was a super guy to work with. He was never at all uptight in the studio and he always knew exactly what he wanted. I remember those sessions as being sort of like a party—but a party without the booze. It was a party in terms of the attitude.

Mix: Did producers have much technical knowledge in those days? It's always struck me that many of them are really just glorified A&R people who had more say in direction than technical matters.

Hassinger: I think that's true, and that's why good engineers were so important. I think that's still true today, because it gets very, very complicated with all the new technology. Certainly, producers know more today, and I think most artists also know more today than they used to.

Mix: When you recorded the Rolling Stones, how much overdubbing was involved?

Hassinger: Usually, the band would

play live and we'd get it down and then overdub the vocal, but there were also times when we'd even do the vocal live, too. As we went along, I think we did a little more overdubbing as more instruments were brought in, a guitar here or there, maybe some piano. A few songs we did a lot of overdubbing, like "Have You Seen Your Mother Baby, Standing in the Shadows?" which could have had fewer overdubs, I think.

I really liked working with their producer, Andrew Oldham, and the band was very professional. You picture the Stones as being sort of crazy—unruly and directionless—but don't you believe it. They always knew exactly what they were doing. It was very relaxed but when it came to recording, they took it very seriously. Still, they enjoyed what they were doing without wasting time goofing around.

Mix: Keith Richards was quoted as saying that when the band recorded "Satisfaction" he couldn't imagine that it would be a hit. You were there—what did you think?

Hassinger: It surprises me that he would've said that because I think everyone who was at that session knew that something special was going on. The energy in the record was just incredible. To me it smelled like a hit all over. But they weren't the kind of people to pat themselves on the back and say "This is a hit!"

Mix: Earlier in your career you'd worked with big bands and other groups of what you'd traditionally think of as great musicians. Did the relative crudeness of rock and roll as played by the Stones and others offend you in any way?

Hassinger: Oh no. I did love the big bands, but there was something about the rawness of rock that really appealed to me. For some reason, the transition into rock and roll was very easy for me. One reason was probably my involvement with black music and people like Sam Cooke. I've asked myself over the years, if I had to choose one style of music which way would I go? And the answer is: I just don't know. I love a good exciting big band and I love funky rock. I know that I like rock that has some real edge more than regular pop. I worked with the Lovin' Spoonful years ago and I felt that the energy they put forth wasn't as great as what I liked.

Mix: You engineered the first two Jefferson Airplane LPs and produced the first Grateful Dead album and half of their second album. Was it difficult for you to get into the expansiveness of that sort of jamming music, not to mention the drug-giness of their scenes?

Hassinger: I was very straight at that time still. I remember asking Marty Balin

what it was that attracted him to acid and he said to me, "Well, that person over there looks just like a skeleton to me—there's no flesh on him." After that I didn't ask any more. To be honest, though, half the time I didn't know who was high and who wasn't. I wasn't very clever at that. They didn't act weird and they were always able to play their music. I loved the Airplane; they were fantastic. They had a funk about them, but they also had such great melodies. *Surrealistic Pillow* is one of my favorite records that I've worked on. All those bands—the Airplane, the Dead, even the Byrds—needed very little producing; they needed sounding boards and people who could keep things running smoothly in the control room and translate their ideas into sound. They certainly didn't need—or want—someone telling them what to do.

Mix: Was it hard to shift gears when you were a staff producer at Warners? You'd go from working with a band like the Dead, to producing Bobby Rydell or the Electric Prunes.

Hassinger: It was hard to shift gears, because obviously you want to give each project everything you've got. You're involved deeply in one kind of music or sound and then suddenly you turn around and you have to get into something completely different. In those days you were expected to do six or seven acts and the whole tempo of putting a record out was different in those days. Everything went much faster. Until the second Dead album [*Anthem of the Sun*, 1968] I hadn't spent more than a couple of months on most projects. [In fact, Hassinger walked out in the middle of making that album.]

Mix: When you bought the Sound Factory in 1969, what was your aim—to take the best elements of the studios you'd worked in around L.A.?

Hassinger: Basically, yes. I thought Studio B at RCA was great and I also liked some of the stuff they got out of Sunset Sound. Plus I liked the punch, the fatness of the sound, at American recording. When I first bought the Sound Factory, it was that fat, punchy sound that I was most after.

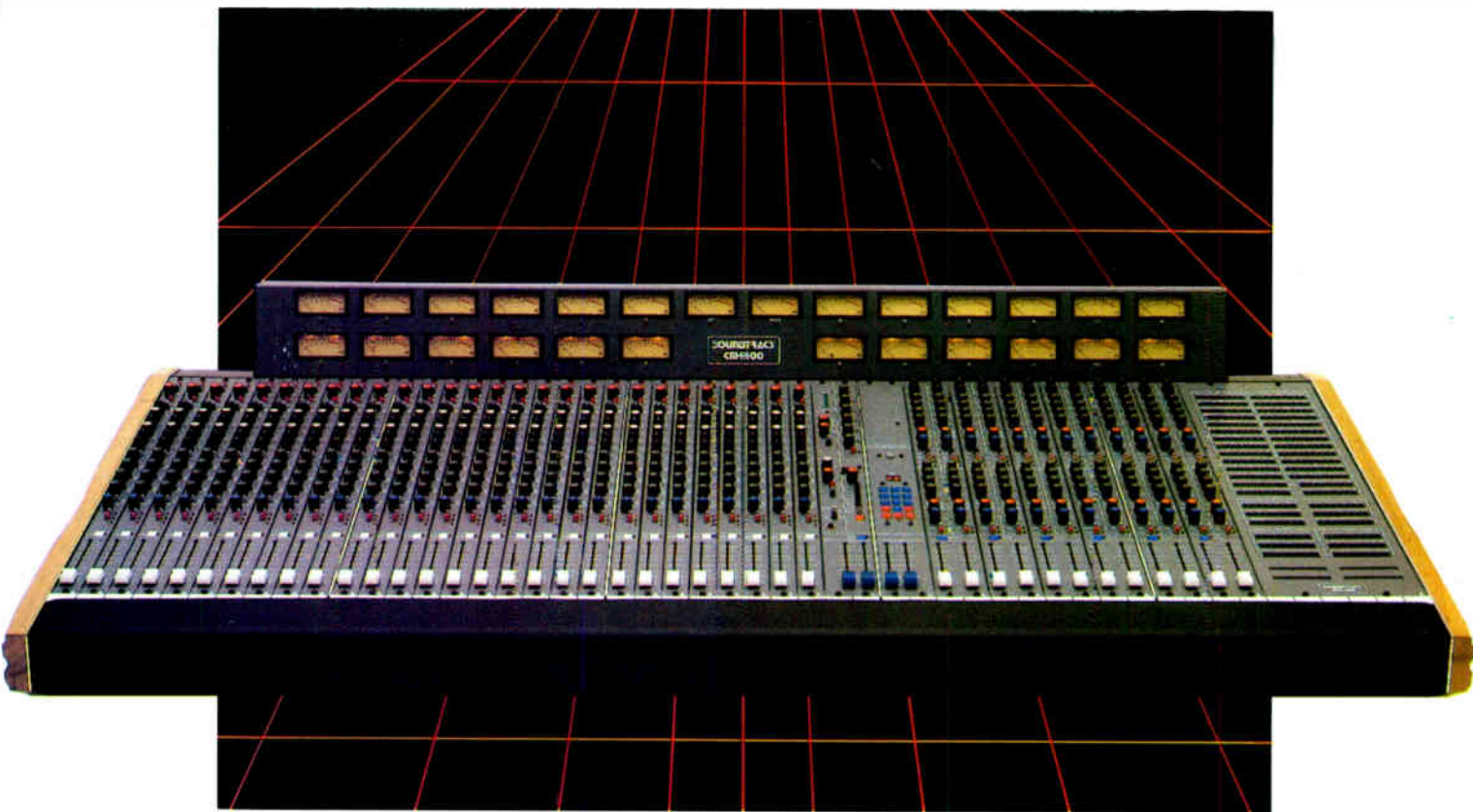
Mix: Is that the quality that attracted Motown to your studio?

Hassinger: Yes. They'd tried all the other studios in the area and finally settled on the Sound Factory. That was really an exciting time, because the musicianship on those records was really outstanding all the way. Now, of course there was already a "Motown sound" by the time they came to the Sound Factory, so what we were doing was reproducing that sound. In part, I look at a good engineer as someone who can reproduce what he hears in the studio, not a guy

—PAGE 194

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ARTIST STUDIOS

PHOTO KEVIN SHEA



The GNOME Upstairs

by Jan Loveland

The modest two-flat on Detroit's blue-collar west side looks like any other on the block. But while the lower flat does, indeed, provide musician/producer Bruce Nazarian with a comfortable living space, the upper apartment is another matter. For Nazarian has built Gnome Sound, an ambitious 24 track facility literally right over his head. "Any time I have an idea, I can just come upstairs, fire up the studio and put tracks down," he says. "My desire was to create a facility that I could live in on a fifteen-hour-a-day basis, which I have been doing for the past couple of years."

While Gnome Sound is not geared to the business of attracting clients with cosmetic amenities, its funky mix of high-tech computers and synthesizers, high quality recording equipment, and the detritus of a performing, recording, and producing career do provide a comfortable atmosphere. The studio and control room are located in

what were once the living and dining rooms of the '20s brick structure, separated by a sliding glass door that Nazarian fitted into the graceful arch between them. The space is used efficiently, a necessity since each of the rooms measures no more than 12 x 25. The corner of the control room located furthest away from the Soundcraft 1600 console contains an impressive computer and synthesizer lab. Spare bedrooms hold the studio's computerized office and extra gear. A utility kitchen holds the Soundcraft 24 track recorder, and a well-used coffee machine. At a glance, Gnome Sound does seem like the "mad producer's playhouse" that Nazarian admits to having dreamed of before he was able to design the room.

The guitarist has had an illustrious career within the two main veins of Detroit music, R&B and rock. As an R&B session player, Nazarian's work with his Ibanez Artist EQ guitar earned him a reputation that propelled him through the '70s, playing on sessions for The

Temptations, The Dramatics, Funkadelic, and even on the hit single "Disco Lady" by Johnny Taylor (which was cut at Detroit's biggest studio, United Sound). He also joined the blues-rock outfit Brownsville Station, where he lent his Stratocaster to their big hit "Smokin' in the Boys Room." Later, he formed the rock and R&B-based Automatix, creating demos from his home-based eight-track studio that led to the group's signing to MCA in 1982. The group decided to cut their first LP via an unconventional route; when the album advance arrived in late 1982, they plowed it into upgrading Nazarian's setup to a bare-bones 24 track studio.

"The studio literally flew in one day, and three days later, we were cutting," remembers Nazarian with a grin. "I lived through every hour of those 72 hours of wiring. I didn't have a lot of time to experiment with folderol and acoustical treatments. Later, I realized that the plaster walls sound good just as they are." His assistant engineer at the time, Tim Kennedy, was also part of the grueling three day marathon effort. "I owe a lot to Tim's tenacity and the fact that he's a coffee junkie like myself," he quips.

Nazarian invested in as many of the technological advances as he could afford with his limited cash flow. After the Automatix concluded their sessions, he began to hire out the studio to outside clients, a practice that he has since dropped because of his successful record production career. He was able over a period of a year-and-a-half to create an ambitious array of outboard effects, as well as a computer/synth lab rivalling any regionally. Because of his previous work in computer programming, and his avid interest in microcomputers, he kept up with state-of-the-art electronics, and particularly their musical applications.

At the same time, Nazarian was beginning to realize that his career needed expansion into fields beyond session guitar work. "My goal, after being a studio musician for 15 years, was to not end up being the world's oldest studio musician. I can't see hobbling into a studio when I'm 65, trying to stay awake long enough to cut a guitar solo. It's a very natural progression to go on to record production because you've seen so much of it. You've learned 90% of the basics you need to know by watching other producers." He had co-produced the Automatix album, *Night Rider*, with drummer Jerry Jones and began to see

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“I don't have a lot of real estate, so everything that I acquired had to be compact and very functional. Because of my computer background, I realized that MIDI would allow me to build a totally integrated system.”

the studio as a medium that would allow him to expand his career on all fronts: as a performer, producer, and songwriter.

About the same time, Nazarian fell in with the Detroit R&B lunatic fringe, Was (Not Was), led by one Don Fagenson (alias Don Was). Nazarian's fine, cutting guitar solos dot all of the group's recordings to date, including a new LP due out this spring. Originally, Fagenson had Nazarian work the overdubs at his home base, Sound Suite; eventually, Nazarian cut tracks at Gnome for the Was tribe's sessions. He also collaborated with Fagenson on several other records, including those by the 12-inch dance group Orbit, vocalist David Lasley, the theme from the film *Electric Dreams*, and an as-yet unreleased 12-inch by Mitch Ryder.

In the past year, Nazarian, along with co-producer Duane Bradley, has made his own name in the world of 12-inch records. Orbit's "Too Busy Thinking About My Baby" hit the Billboard dance charts' top 30; Midway's "Set It Out" reached #3; Larrice's "Bop 'Til I Drop" rose to #19; and at press time, his latest hit, "Slippin' Away" by Samson & Delilah had risen to #31. While the Automatrix LP made limited use of synthesizer the new dance tunes are largely electronic, concocted from rhythm bed to melody line by Nazarian, who use both live vocals and instrumentation and his intricate array of electronics to arrive at a high tech sound with a funky edge.

For the Automatrix project, he purchased his first digital keyboard, the Oberheim OB-Xa with a DSX sequencer. Since that time, he has added a LinnDrum, Roland TR808 Rhythm Composer, Yamaha DX7, Prophet 5, Mini-Moog, the Roland MSQ 700 and MSQ 100 sequencers. The sequencers' MIDI capability allows all instruments to be linked to sync track, which in turn allows Nazarian more freedom in the production process. "As a producer, it gives me an incredible amount of flexibility. I've used that ability to go back after we've cut something, wipe it out and change something and lay in something that syn-

chronizes perfectly to replace it, for example, to change a drum sound."

This is an unusually wide range of equipment for a non-synthesist, but Nazarian credits his concentration of keyboards to his interest in computer-driven instruments and his limited space: "As a guitarist, I never was into synthesizer acquisition overkill. But I don't have a lot of real estate, so everything that I acquired had to be compact and very functional. Because of my computer background, I realized that MIDI would allow me to build a totally integrated system. The ability to use all the instruments' voices in endless permutations has greatly boosted my creativity and productivity."

The Apple II+ offers Nazarian the songwriter and composer an even greater edge in using all his keyboard capability. Using a program called DX-Pro, he can save sounds into computer disk form for later use. Using software by Eventide he can make a real-time analysis of his mix.

In addition, using VisiCalc™, he can create what he calls "audio blueprints" that show the status of each of 24 tracks over the running time of a song. "It gives you the ability to scope out the entire five or whatever minutes of a production in one page of computerized print-out. It's great because it's like sitting 300 feet up and watching the production from that vantage point," explains Nazarian, adding "I haven't heard of anyone else using this application." Such technological gimmickry may seem like futuristic self-indulgence, but it also makes the composition process more efficient.

"In two or three hours of working here, I can sit down and scope out the arrangement of a five-minute pop tune before I record note one on 24 track."

It may all seem a bit like Dr. Strangelove meets Phil Spector, but Nazarian's proof of the pudding is in his commercial successes. Although you can't see the fictitious gnomes dancing among all the microchips, they do seem to provide a certain magic that accounts for charted hits. Nazarian alludes to the facility's "high-tech hospitality" that he

puts down to his home location. "Despite all these electronic gizmos, the ambience is such that it's not really intimidating to the performer. In recording there's a certain weird little magic that transfers the vibe to the tape—that's the thing about this studio: it's set up to optimize the magic factor," he says. "It's high tech equipment in a low tech environment."

Since Nazarian has encountered some difficulty in getting the latest upgrade of changing hardware or software because of his Midwestern location, whenever possible he has developed a working relationship with manufacturers. He has contributed to the LinnDrum sound library and served as a beta testing site for new equipment innovations for Lexicon and Oberheim. "I like to think that I put their equipment through a rigorous testing cycle just in day to day use. I do things to equipment that they never figured anybody would or could. I find problems that even the manufacturers don't know exist," comments Nazarian wryly.

The more conventional hardware in Gnome Sound is respectable, if less flashy. The control room uses near-field monitoring with JBL4411s. Outboard effects include a bank of Valley People Kepex IIs and Gain Brain IIs, Lexicon's 224X digital reverb with LARC, Model 200 digital reverb, and two PCM 42 digital delays. Deltalab's DL2 and DL5 effects and ADM 1024 digital delays with headroom expansion also highlight the outboard roster. Mastering at Gnome Sound is done on an Otari MTR-10 analog recorder. Nazarian is pleased with the performance of his Soundcraft 1600 console and Soundcraft SCM 762 24 track recorder: "The equipment was introduced just prior to the 24 track purchase, and salesman from my local retailer, Hy James, came back from a trade show raving about it. I'm certainly glad they did, because it has run night and day for over two years with hardly a hiccup."

Nazarian's next planned upgrade will be the purchase of the new 32 track Synclavier music system. He'd also like to get SMPTE capability so that he can work directly with video producers, although in the past year Gnome has done custom tracks for local video post-production facilities. Nazarian can see the limitations he has self-imposed by continuing to base himself in a regional market and by refusing to open his studio to outside clientele, but feels comfortable with these decisions: "One of the most frustrating things for me is having to wait for the technology to bleed into the Midwest. But would I ever move? I work with some of the finest musicians and singers in the world and there's a certain electricity in living here that doesn't exist in L.A. and is different from New York's. I think I harness that in my productions." ■

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Annie Lennox and Dave Stewart Put Heart in Their Machine



PHOTOS: RON DELANY

Nineteen eighty-four was quite a year for Annie Lennox and Dave Stewart of the Eurythmics. *Touch*, their follow-up album to their "Sweet Dreams" success story, promptly went platinum in most of the civilized world, in the process producing such hit singles as "Who's That Girl?" and "Here Comes The Rain Again" to add to their rapidly growing collection. And after a massive nine-

secretary has to answer the phone with 'Me Me Me,' quips the guitarist), and producing the likes of Tom Petty and The Ramones. Meanwhile his partner-in-crime, equally undaunted by her first taste of movie business wheeling-and-dealing, began considering many of the film role offers that have been pouring in, helped out pal Robert Gorn on his solo album, and even found time to marry a

"The way we work is basically methodless, but at the same time there is an odd kind of method to it. For a start, we're constantly writing musical ideas, and experimenting with grooves and feels, wherever we are. They just pop up all the time, and to me, that's the easy part of writing. But the carving of the actual songs out of all these raw ideas is where the hard work and the craftsmanship comes in



month world tour that took in Europe, the Far East and America, the multi-talented pair spent the latter part of the year composing and recording their first soundtrack, for the new film version of *1984*, a project that ultimately ended less than satisfactorily for them.

As if all this wasn't enough, Stewart also immersed himself in various outside recording ventures, including setting up his own label, studio and publishing operations ("They're called 'Me Records,' 'Me Studios' and 'Me Music' so that the

German artist and Hare Krishna devotee.

Mix finally caught up with the busy pair on the eve of the start of their new album in Paris, and they talked at length about their songwriting and production methods, the pitfalls of doing soundtracks, and their latest videos.

According to Annie and Dave, their songwriting methods are not the traditional ones. "By that, I mean that we don't really sit down together at a piano and write a song from start to finish," explains Annie.

—turning all the vague, meandering ideas into finished songs is the difficult part of the songwriting process."

"Like Annie says, we write stuff all the time, but we never totally finish our songs before we go in to record them," adds Dave. "The reason for that is when you have a completed song, then what happens in the studio is just technical recording of it, meaning it's just a matter of setting up the mikes right, and getting people to play all the right notes, etc. And that's not very creative to us. We like to have a song half-written, and then see how

the rest of it develops during the actual recording process."

According to Dave, such hits as "Here Comes The Rain Again" and "Sweet Dreams" were written in this fashion. "In 'Here Comes The Rain Again,' we had all the opening bit, and the first verse and the instrumental section, but we hadn't written any of the bridge and the 'Talk to me...' section," he explains. "That was all written in the studio when we were working on it. And we left it open on purpose, because I think that often when you feel 'I've got to finish this song,' you stop at your second-rate ideas, while if you leave that first piece alone, which is your best idea, and then walk away from it for a while, then the next time you try it out in the studio you also get another great idea. So you end up with two of your best ideas, rather than a great chorus and a naff ["naff" translates as "lame"] verse."

Dave adds that, "we already have about 15 to 20 songs for the next album, all half-written. Annie and I just work on the ideas wherever we are, and put bits and pieces down on tape. For instance, if we're in a hotel, we just set up the portable gear, with a piano, guitar and drum machine, and start singing away..."

DAVE THE PRODUCER

Today, Dave Stewart's skills as a producer are much in demand by other artists, all eager to have a little of the Eurythmics' "touch" rub off on them. And in recent months, he's worked with acts as varied as Tom Petty & The Heartbreakers, The Ramones and The B-52s. "Since I really got into production, it's been very interesting to work with all sorts of different people," he explains, "and of course it's always nice to be asked to produce another artist, especially if it's someone you've always admired and liked.

"So when The Ramones asked me to work with them on their new single, 'Howling At The Moon,' I was quite honored," continues Dave. "And then I also got together with Tom Petty, and we ended up writing three songs together, which I co-produced. In fact, the first single [from the *Southern Accents* LP] is one of the tracks we co-wrote called 'Don't Come Round Here No More,' which turned out great. It's a weird mixture of both our styles, but it doesn't sound like Eurythmics and it certainly doesn't sound like normal Tom Petty. But I love it!"

Dave wasn't always a top-flight producer, however, as he cheerfully admits. "It's really something that just naturally happened, more



PHOTO RON DELANEY

out of necessity than any burning desire or ambition to 'be a producer.' In fact, for years and years I was your typical stoned-out guitarist, who thought that anything to do with all the wires and knobs, was totally beyond me. So, I'd just stand there and play me guitar, and have the same 'it's a mystery to me' kind of attitude that a lot of musicians have about all the technical aspects of recording."

"But then I gradually began to become more interested in it, especially when we were in The Tourists. I could never understand, for instance, why Annie's voice would always be so low in the mix in that group, and this made me start to think a lot about it," he explains. "So when Annie and I formed the Eurythmics, one of the things I decided was to get more control over the way we sounded, and so I began to get more involved in the recording process itself."

Today, Dave credits producer Conny Plank with being both a major influence and teacher. "He was great, because when we did our first album with him at his home studio in Germany, he was really patient with me, and showed me all the basics of how to work the board. He also advised me on how to start up my own little recording operation, so when I got back to London, I bought the simplest equipment, instead of spending a fortune and going crazy. I started off with just a Revox tape machine and a small mixer unit, and began multi-tracking by bouncing the various tracks and learning what could be done."

"Later, I moved on to a Portastudio set-up, and then onto the eight track TEAC system which we used to record the *Sweet Dreams* album," continues Dave. "That was really my first proper production job,

and it really *was* done on eight track, although a lot of people just didn't believe it at the time. But it seemed simple—and that it *should* be simple. And then, when we moved into our new studio, we bought our own 24 track system, which is what we used to record *Touch* on.

"The point is, I think it's very important to understand your equipment, and that it's also great to start from nothing, and then gradually build up," emphasizes Dave. "It seems to me that a lot of producers rush straight into a massive studio somewhere, like Montserrat, and often they don't really understand the whole engineering side of it at all. Now, that may not be totally necessary, but it's good to know what sounds you *can* get—and how to use your equipment to get them. Really, it's like driving a car, and knowing what it's capable of before you zoom off down the road. If you know how your equipment performs, you can make the vocals sound better, the guitars sound brighter... That way, you can use the potential of the equipment, instead of just miking the musicians, getting them to play, and then fiddling around with the balance."

Dave and Annie are now the proud owners of their own 24 track studio complex based in an old church in the North London suburb of Crouch End. "It's wonderful, 'cause I can go in and just experiment with any ideas I get, and I've also managed to at last organize some of my production methods," he explains. "I'm always recording ideas, because I have this portable studio set-up that's with me all the time when I'm on the road—and everywhere I go, actually! So I've got bits and pieces of tape from all over the place—I'm like the Cassette King! So now I've got this whole storage area filled with these computer racks you store cassettes on, and there's racks and racks of 'em, all neatly filed and titled so I know what's what. For instance, they say things like 'Dave's hospital ideas, or 'Annie in the street in Bangkok,' or 'Annie and Dave up a hill in Scotland,' etc. There's tons of it, and we're always referring to it as well. We'll go and pick one out and put it on, and it inspires you, 'cause I don't like to get an idea, wherever I happen to be, and say 'Oh, I'll remember that in a week's time, I like to put the original idea down immediately, and that's very important for me.'"

Equipment in the studio includes JBL monitors, Studer tape machines and a much loved Soundcraft board, according to the guitarist. "I really swear by Soundcraft, and it really suits the way I work. Their

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equipment is really simplistic, and it's also got hard EQ as opposed to soft EQ, which means that if you change something just a little bit, it really affects it. I'm also a great believer in getting all the sounds right *before* they go on the tape. A lot of producers will record sounds and then try to fix them in the mix. But I've always believed that when you try to produce like that, you've always got too many things to think about on the final mix-down and it just gets too distracting. All I want to think about in the mix is the overall balance and the effects I'm putting on. If you're still worrying about the actual sound quality then, it's a real problem.

"As I mentioned before, I think simplicity is really the key to my production methods and the sound of the Eurythmics," Dave continues. "The funny thing is that most bands, as they get bigger and bigger and more and more wealthy, tend to book into a studio for six months at a time, and then not even turn up for the first few weeks—which is a ridiculous waste. Well, Annie and I always agreed that we'd never get into that sort of scene, and that's why we're actually going back to using the eight track set-up for our new album.

"When I say 'simplicity,' I don't mean simplicity in recording so much as a step back towards a more workmanlike approach. People were amazed at how we produced the *Sweet Dreams* album on eight track in a warehouse above a picture-framer's, and I've actually found a similar place in Paris where we're doing the new one. It's this youth club where a lot of musicians and artists hang out, and there's also a jazz/ballet center next door, and people there who do Chinese art restoring, and there's a cafe in the middle... It's a perfect location for us, and I've hired the entire area so that we can record at night in the cafe and then during the day, we can work in these big, empty rooms. There are also plenty of hallways with concrete floors which have a wonderful natural echo, so instead of paying thousands for some expensive echo unit, I'm just going to record Annie singing in the hallways and the bathrooms, and mike it all up from a long way away! It should sound great, and I've also got the eight track coming over from London, and we'll use the same tape deck and control board as well.

"I think the great thing about recording like this instead of just booking straight into the most expensive, state-of-the-art studio you can find, is that it really inspires you," says Dave. "It forces you to invent,

and try new things. You can't just flick a switch and say 'How about that for the Albert Hall sound?' or twiddle a knob and instantly get the Madison Square Garden sound!"

Annie and Dave produce some of the strongest and most inventive video clips of any band, and not surprisingly they both hold strong views on the medium and its possibilities.

"I feel that for us, it really is a fantastic outlet," says Annie. "But I don't think it necessarily suits or works for everyone else, and I think there's an awful lot of rubbish being made."

"We love doing them—it's actually one of our favorite things," agrees Dave. "But Annie's right—I think that 90 percent of videos are really a total waste of money, because with a little bit of imagination you can do more with ten thousand pounds than most people do with fifty thousand and all those dancers and bloody special effects! It's also such a new thing that often bands are rushing in to do them when they really shouldn't. But we definitely see video as being very important."

The Eurythmics' videos are always written and storyboarded by Dave first. "I start by doing little cartoons to show what happens, and then I add in some of the camera angles," he explains. "After that, I

usually sit down with our lighting cameraman, Chris Ashbrook, and then we go through the concept and storyboards and decide what's possible, and what might be too difficult or expensive to shoot. Then on the shoot itself, we usually work together as well as co-directing."

The band's last video, "Sex-crime," for the film *1984*, was intentionally relatively simple, says Annie. "Basically we just got tired of always turning on the TV and seeing these huge production type videos with enormous, lavish sets, millions of dancers and exploding firebombs. So we decided to do a fairly straightforward performance shoot and combine it with various sequences from the film itself."

"We also gave it a little twist by having the situation around us continually changing, instead of the other way 'round, as is usually the case," adds Dave. "So you see us performing through all these scene changes—sometimes we're outside with helicopters coming down on us, and other times we're in the studios as if we're recording the song. Really, it's as if we're being transported to different places through the power and imagination of the song."

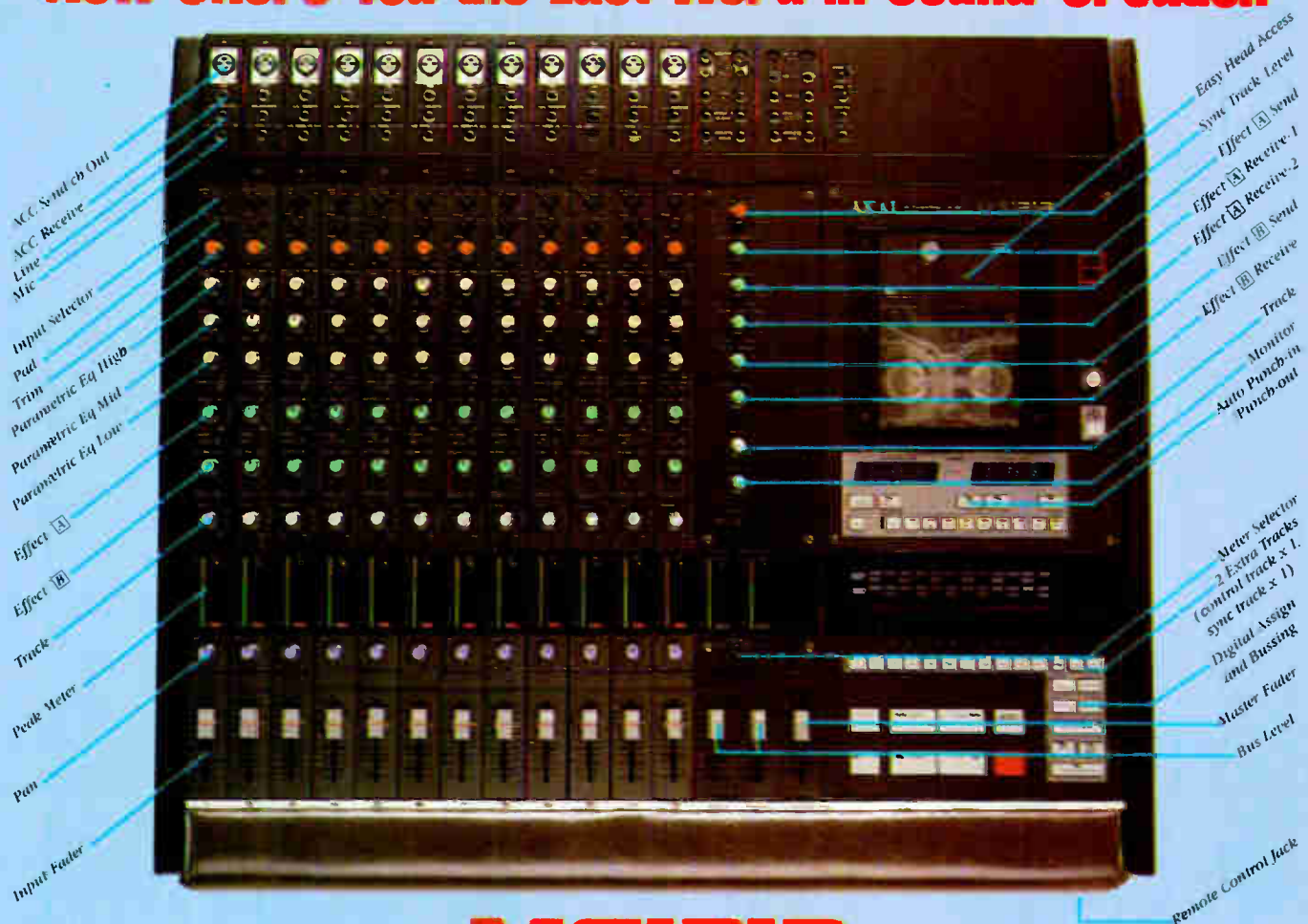
"In fact, our new video, 'Julia,' is even simpler," explains Dave. The camera is just pointing at Annie's

Eurythmics in their video for "1984."



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face for 3½ minutes and that's it. But it's really gripping the way it's shot. Our next video is going to be really funny, though. It's going to be a 45 minute mini-film to go with our new album, and it'll be a bit like The Beatles' *Help*. There's a story running through it, and it'll be like a black comedy—I can't wait to do it!"

1984: DAVE PRODUCES HIS FIRST SOUNDTRACK

In 1984, Annie and Dave composed and recorded their first film soundtrack, appropriately enough for the new British production of the George Orwell classic, *1984*. Starring Richard Burton, and John Hurt, the film has been a big success in Europe, despite the eruption of a bitter argument over the Eurythmics' involvement in the project.

"The actual recording was a lot of fun," recalls Dave, who is quick to point out that all the bickering afterwards hasn't spoiled his and Annie's attitude towards working in film again in the future. "It was great to be asked, in spite of what later happened," he says, "and we both learned a lot from the experience."

"Right from the start, I knew I didn't want it to sound anything like Kraftwerk, or that sort of thing," Dave continues. "I also knew about these really incredible island drummers on Nassau, where we decided to record. They're called Junkanoo drummers, and their drums are like big congas that they play by first heating them up on a fire so that the skin stretches, and then they beat out these great rhythms in unison. So, the moment I arrived, I asked this guy there called Blast to round up some of these musicians, and he came back with about ten of them."

"The next thing I knew, they were all lighting fires in the middle of the studio and heating up their drums," laughs Dave. "Anyway, I recorded tons of the rhythms—about ten tracks in the end—some slow, some really fast, and used it as the backbone of a lot of the songs we'd written for the film. It turned out to be perfect, because I'd wanted to mix real ancient, tribal, ritual sounds with the modern synthesizer sound and technology—the old and the new. To me, the whole thing about *1984* is that it's something that's been going on in the world to a greater or lesser extent since history began. People have always been trying to dominate and control others, and that's why I wanted to incorporate the old and the new."

Having recorded the soundtrack and delivered it on schedule as contracted, Annie and Dave were shocked by what happened next. "To



PHOTO: STEVE RAPPKOPF

our horror, we suddenly discovered—and completely by accident—that another composer had been commissioned to do exactly the same thing," says an understandably angry and upset Annie Lennox. "It turned out that the film's producer and director had intended all along to use this other score. Dave and I couldn't believe it!"

"We found out that they'd already hired this other composer, Dominic Muldowney, months before they'd asked us—but they carefully didn't tell us that," adds Dave. "What they *did* tell us was that he was only writing the 'Oceana' theme, and that they wanted us to do the rest of the score—which is what we went off and did."

The band was then further stunned to hear that producer Simon Perry had labelled their efforts as "absurdly inappropriate" and "ruinous to the film's purpose," while director Michael Radford attacked their music as "crass rubbish." The arguments became even more heated when record chief Richard Branson, head of Virgin Films, who financed the film, entered the fray and defended the Eurythmics film soundtrack by promptly re-instating it over Perry and Radford's objections.

During all the squabbling, the band themselves wisely decided to keep a low profile: "We felt like spectators in a circus of jugglers," recalls Annie. But all that changed radically when at a film awards ceremony in London in November 1984, the director apparently went out of his way to publicly attack the band and their soundtrack, alleging that it had been "foisted" on him by the film company.

The seeds for the current bitter dispute appear to have been planted towards the end of the film's production when it was revealed that Radford and Perry had gone over budget by several million pounds. This news then apparently prompted Virgin boss Branson to take a firm stand behind the band's music, in the hope that the Eurythmics' popularity would help offset some of the movie's potential losses. And as Lennox and Stewart are quick to point out, *1984* owes at least some of its success (it was the number one box-office attraction in London for a time) to the band's hit soundtrack album and single, "Sex-crime (1984)."

"While everyone was busy arguing over what music was best, our album was going up the charts all over Europe, so it was only making the situation more and more ridiculous as our score was already successful in its own right," says Stewart.

—CONTINUED ON PAGE 176

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—FROM PAGE 174

"It's also highly suspicious, because our video for "Sexcrime" uses a lot of scenes from the film. Now, why would a producer who doesn't want our music in the film then allow us to use the clips? It helps sell his film. The fact that our video is playing all over Europe and the record's in the charts is making a lot of people go and see it. Let's face it, the video is almost a three-minute commercial for it."

"It's really ironic, because 1984 is about the suppression of truth and the substitution of lies—and here it was, happening to us," adds Lennox. "We didn't get involved in all the shouting at first 'cause we're not mud-slingers. But we're not going to just sit still and be publicly accused of being the villains. It's about time the truth came out about this whole scene."

The upshot of the dispute is that filmgoers in Britain, Europe and at the recent Rio Film Festival are all hearing different soundtracks, featuring either the semi-classical score of Muldowney favored by Perry and Radford, music by the Eurythmics, or a mixture of both. In the U.S., which didn't even begin to see 1984 until 1985, audiences heard "the Eurythmics' score, with Muldowney's work only being used for the anthem," explains Lennox.

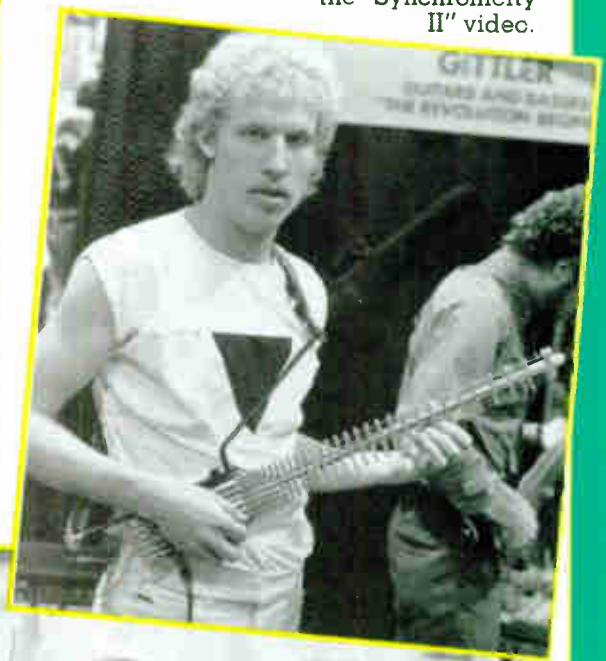
Meanwhile, the band's music sparked off a second storm of protest over their "Sexcrime" single. Several radio stations, largely in the Bible Belt, refused to play the song, claiming its title and lyrics were offensive and too controversial. "They obviously don't really have a clue about the song or what it's saying," counters Lennox. "It has no sexual content at all, and the title refers to the doublespeak in Orwell's book, not to sex itself. But I'm more upset by the sheer hypocrisy of that kind of attitude. After all, no one made a fuss over Prince's 'Erotic City,' and that was absolutely full of sexual innuendo. And now the same people won't play 'Sexcrime' which is far more of a political statement."

However, the Eurythmics seem to be weathering both storms, with their prospects—and sense of humor—intact. "At least the 1984 experience has taught us a few basic things about the movie business. For a start, it makes the music business look like Sunday School in comparison," laughs Stewart. "You definitely learn the hard way, and next time we'll know to check out stuff like 'is there already a score!' But it hasn't soured us on doing more films and soundtracks, and the great thing is that we've already been approached by some real big-time directors to write some more soundtracks." ■

NAMM Show Photo Highlights



The Israeli-made Gittler guitar got great exposure when Andy Summers used it in the "Synchronicity II" videoc.



ALL PHOTOS BY DAVID GANN



(Left) The Clevinger is one of several hybrid electric basses which are becoming popular among musicians in many styles. (Above) Guitar legend James Burton (right) drew a crowd in the Seymour Duncan booth, where he demonstrated Duncan's Convertible amplifier. That's Seymour at left.



(Far Left) Designer Ned Steinberger demonstrates a few of the chords he's learned since he entered the musical instrument field. Meanwhile (left), the Steinberger influence continues to spread.

Nils Lofgren: Playin' in the E Street Band

From his beginnings under the tutelage of Neil Young, Nils Lofgren's career has spanned 14 years and produced an eclectic collection of LPs, gigs with his band Grin, and solo efforts that culminated in 1983 with the release of his *Wonderland* album, widely acclaimed as Nils at his most powerful best. Despite the backing of an inspiring single called "Across the Tracks" and a hot video, *Wonderland* posted a poor sales record and Lofgren was dropped by Backstreet Records during a changing of the guard at the label's parent company, MCA. He found himself without a record deal at age 32, a seasoned rocker whom recognition seemed to be eluding.

Then came the telephone call that would turn Nils' life upside down. The voice on the other end of the wire belonged to Bruce Springsteen, asking if Nils was interested in auditioning for the E Street Band. Without hesitation, Nils picked up his Strat and was off.

Mix: I don't know if this is a touch of irony or what, but if my memory serves me correctly, the E Street Band once opened for your band Grin a long time ago. Do you remember when that was?

Lofgren: That's kind of vague to me. I know my band played with Bruce's somewhere—I think it was down South in the early 70s. At the time, we were both playing a lot of college towns, usually on a three-act bill.

Probably one of the first times I can actually remember running into Bruce was when we both auditioned at the Fillmore West about 15 years ago. I was there with my band, and Bruce was there with his. Together with about five other bands, we were vying for a shot to get onstage.

Mix: There hasn't been a change in the E Street Band's lineup for over ten years. Together, the other members have evolved musically to a point where they act and perform almost as one. Was it hard as "the new kid on the block" to jump into that scene and feel comfortable?

Lofgren: Actually, I don't think there could have been a better time to join the band. Five or six years ago I think it would have been more difficult, because the maturity wasn't there like it is now. At this point, the band has been through so much that they've grown to a peak in their professionalism and their abilities.

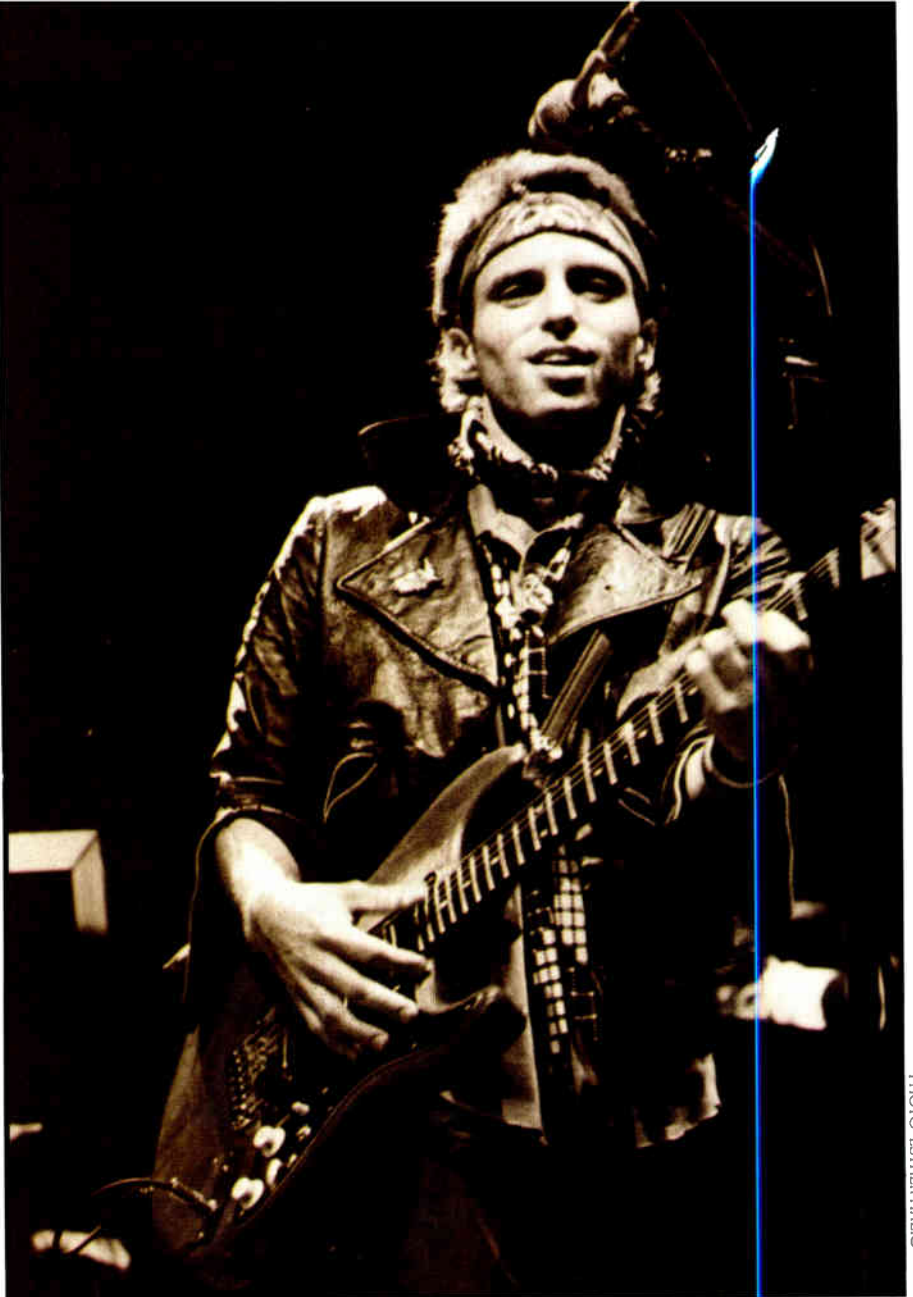


PHOTO: ESTHER HALLO

Nils with the Bruce S. look in concert.

As players and human beings, they're so confident of what they're doing that it was an easy transition to make when they started playing with me.

I've matured too, which helped a lot. Five years ago I was so wrapped up in my own thing that I wouldn't have had my mind into what the E Street Band was doing and I wouldn't have appreciated the great position I'm in today. Of course the early stages of playing with the band wasn't like rolling off of a log—I had a lot of things to learn, and most of it by osmosis.

The very first show was nothing short of traumatic, because I was so concerned about doing the right thing. Fortunately, everyone has been very patient and helpful; it wasn't like they put me off in a Holiday Inn somewhere and said "here's seventy songs, learn 'em, we'll be back for you in ten days." They realized

that you can't just take a band that hasn't had a change in ten years and bring in someone new without having a few rough spots, and as a result of that attitude, it was a lot lighter on me. Everyone gave me a great deal of insight on how to best approach my job, and now I feel like I've always been with the band.

Mix: Why do you think you were chosen to replace Miami Steve Van Zandt over other possibilities?

Lofgren: Bruce has always surrounded himself with musicians he can sense genuinely love the music and are willing to give their heart and soul to it a hundred percent. Naturally, he's looking for musical talent as well, but I believe I was picked over the other possibilities because of my level of enthusiasm for what Bruce

—PAGE 180

Ron Magness: Strange Sounds for Jagger

Mick Jagger's first solo release, "Just Another Night," has some pretty weird sounds wriggling out from between the cracks. Staccato machine gun bursts. The crack of metallic whips. Sandpaper blocks grating abrasively. The breath of ghostly cymbal crashes.

The Oklahoman responsible for these odd effects is Ron Magness. We met last year at the Grammys when he was in town to pick up an award for producing "He's a Dream" from *Flashdance*. On his return this year, we got in touch and I asked him what he had been up to. "I did some electronic keyboard work on the Jagger album," he told me. Since the project had been shrouded in secrecy, I thought there might be some interesting tidbits.

Bonzai: What is your forte as a musician?

Magness: Ugly sounds, but I also do a lot of other things. I've been working professionally for about 15 years as a singer, lead guitarist, rhythm guitarist, keyboardist, producer, and as an electronics person.

Bonzai: Have you been more successful overseas?

Magness: Oh yeah—I've been paying the rent with records released in England, South Africa (I had a tour scheduled there but it was cancelled when they found out I was white), France, Spain, and Scandinavia. There are record markets other than the U.S., you know.

Bonzai: How did you get involved in the Jagger project?

Magness: I'm friends with Dave Jerden and Bill Laswell, the engineer/co-producers of Herbie Hancock's "Rockit." Laswell is an eccentric, dry-witted New Yorker who has done a lot of left-field stuff. Jerden is an engineering genius, and deserves a lot of the credit for the work we have done together. As I understood it, Jagger wanted to do a modern sounding album. He wanted it to sound different from The Stones' albums, or there would be no point in doing it.

They tracked the basics at Compass Point in the Bahamas for 6-8 weeks with Sly Dunbar, Robbie Shakespeare and Jeff Beck, and then returned to London with seven songs. They called me up and asked if I could come by and make some funny noises.

Bonzai: What instruments do you use?

Magness: A couple of Prophets, a couple of Oberheim drum machines, and a couple of really cheap old German delay units made by Hofner and Grundig.

Bonzai: What was your first impression of Mick?

Magness: I liked him. He was very professional, and he worked his butt off. He's not an opera singer, and he really seemed to be trying to improve himself. He doesn't like to have people in the studio when he's working. I feel the same way, so consequently, we didn't work at

—PAGE 183

THE FAR SIDE

By GARY LARSON



Neanderthal creativity

Production Notes: Beau Hill's Ratt Reversal

While recording Ratt's debut album, *Out Of The Cellar*, producer/engineer Beau Hill faced the problem of remaining creative under a tight time schedule. "Because it was the band's first record," said Hill, "the budget was not like a Steely Dan record where you can experiment for five or six hours and erase it all if you decide you don't like it. We did the whole record in five weeks and two days."

The entire album was pretty basic, Hill notes. The sounds he captured

—PAGE 184

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tional feature is the full control of bass dynamics when used with touch-sensitive keyboards. Pitch bends are also followed.

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—FROM PAGE 178, LOFGREN

was doing. I was willing to give it my all.

A lot of guitarists could step in and technically play what I'm playing, but they couldn't give it the same conviction, and that's what's most important, especially with a Springsteen show. Anyone who wants to put in the hours can learn a song, but to put your heart into it is what really counts. When I auditioned, I knew I could reach within myself and give everything to the music, fortunately I passed. I'm definitely happy to be here.

Mix: Springsteen is renowned for his impassioned, almost religiously fervent performances. The energy that radiates from the stage always spills over into the crowd. What's it like now that you're in the band rather than out in the audience? **Lofgren:** It's like I have the best seat in the house. Now, not only do I get to observe it all, but I get to participate as well. Onstage it's our obligation to deliver a high standard of music—which takes a lot of concentration—but we have a good time, too. Especially with songs like "Cadillac Ranch", which allow us to let our silly side out to the crowd. The level of excitement I feel while I'm playing is like the best celebration I've ever been to. People are always asking us where the party is after the show. That always amazes me, because Christ, the real party is onstage! What more can they want?



Mix: For most of your career, you've been the main focal point of the show—with Grin, and also in your solo endeavors. Was it hard to adjust to your new role as a supporting player?

Lofgren: I've spent so much time glued to the microphone doing my own music that it feels good to just stand there and play my guitar, sing some background, and help illustrate the music in general. As physical as Bruce is, a lot of the time he's stuck at his mike stand. While he's singing his guts out, the rest of us are physically freer to enjoy the music. I'm very appreciative of that and it's just another reason that makes this the best job I've ever had. I still am completely blown away by the fact that I'm in the band, although I feel totally comfortable and at home when I take the stage.

Mix: Do you still have the same freedom to express your creativity as you did while working with your own bands?

Lofgren: Bruce never tells us, "Here's what I want you to play every night—don't change a thing . . ." What he's offering is a much bigger challenge. We're in a position where we have to go out and

give everything we've got every night, and that includes our creative energy. You could never do one of Bruce's shows by simply saying to yourself "hey, all I've got to do tonight is go out there and play this".

Mix: A moment ago you said that the real party's onstage, not after the show. From most accounts, it seems that the E Street Band is acquiring a reputation for spending most of its time devoted to preserving one's health. Bruce is working out, Clarence has trimmed down, and everyone appears to be living quite salubriously. Have you gotten caught up in the band's concern for fitness?

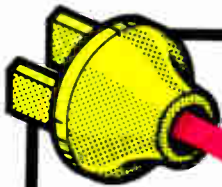
Lofgren: It's not a question of getting caught up in anything. I've always realized that life is a gift, and it's going to be taken away from me someday, so I'm concerned with what I do with it. My health is much more important to me than anything else I do, and it always has been. In fact, I was into gymnastics long before I ever picked up an electric guitar. It's a little tougher trying to stay in shape on the road, but it's essential, because otherwise you'd never make it

through the shows.

Mix: What about the recording deal you recently signed with Towerbell (a British label) that got postponed when you started playing with Bruce?

Lofgren: After I was dropped from Backstreet Records, the only company that showed any interest in me was Towerbell. I have a lot of respect for Bob England (Towerbell's president), because he was the only guy that I didn't have to show a hit 45 in order to make him take notice. When I originally signed the deal, I was supposed to begin rehearsing last February. Shortly after I signed, Bruce asked me to come join the band, and it was an opportunity I couldn't pass up for anything, so I worked it out to record when time permits. My commitment is to the E Street Band first, and when I joined, I had no intention of playing for a few months and leaving—I'm not a gun for hire. So sometime soon when Bruce doesn't need me, I plan to return to the studio and finish the whole thing up. Hopefully, I'll have a new record out by fall.

—Gregory A. DeTogne



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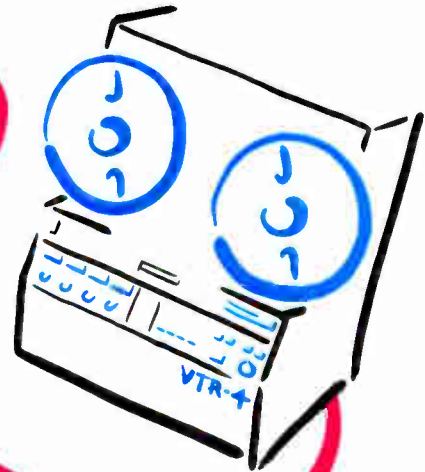
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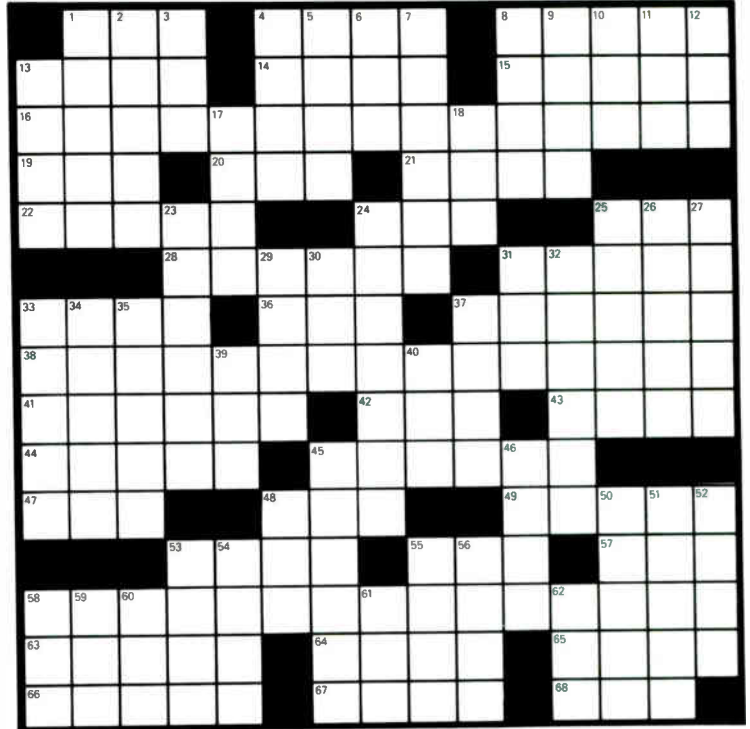


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MIX WORDS

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ACROSS

1. To be proved
4. Non-clerical
8. Ease up
13. Silent
14. _____ hegirae
15. _____ house
16. Video content
19. Assured (abbr.)
20. Baseball great
21. Organic compound
22. Plural of this
24. Anger
25. Make lace
28. Teaches
31. Like certain primates
33. Part of U.S.A.
36. Korean soldier
37. Composer's instruction
38. Eye-ear-fantasy
41. Arab princes (var.)
42. Author of "The Gold Bug"
43. Ronnie Lane's benefit gig
44. Paris income
45. Attached
47. Mayday
48. "Life is short, the _____ long. ..."
49. Brings up
53. Karmann _____
55. Good, to Jacques
57. Chinese hero
58. Video future
63. Arab dancing girl
64. Type of blue
65. Symbol
66. Gardener's tool
67. Midwestern rock band
68. Indefinite pronoun

DOWN

1. Said (archaic)
2. Composition
3. Lair
4. Endure
5. Art school course
6. Serai
7. Scramblers
8. Bullets, for short
9. Ancient idol
10. Suspend, to a Cockney
11. _____ the mark

ACROSS

12. Hesitant sounds
13. Noncom (abbr.)
17. Accomplisher
18. Suffix with comb
23. Byway
24. One of a famous singing group
25. Detroit pro
26. "Take me _____"
27. Belonging to producer Bell
29. Extensions
30. Contract of payment
31. Put on the playlist
32. _____ grounds
33. States
34. Type of copy
35. Paradises
37. Scored in one stroke

DOWN

39. Raw material
40. Charged particle
45. Gray matter
46. Sea eagles
48. Assist
48. Assist
50. "_____ for the Misbegotten"
51. Slender, long-limbed
52. Comme ci, comme ca
53. Richard _____, actor
54. Descendant
55. Flock
56. Black
58. Article
59. Coal scuttle
60. Toupe
61. Welcome _____
62. Labor org.

Solution to March Mix Words

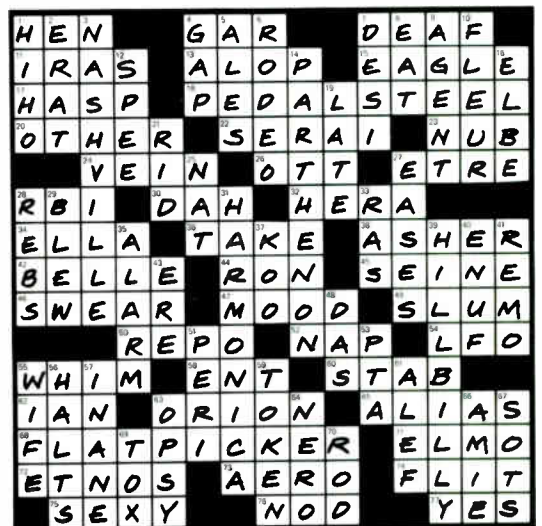




PHOTO: MR. BONZAI

Ron Magness

—FROM PAGE 179, MAGNESS

the same time very much. It seemed to work better if he heard my stuff the next day. My stuff can sound pretty horrible on its own.

Dave and I have worked together a lot in the past. We worked on four tunes for the Jagger project. He might get an idea and then I would try it out. I would be playing something rhythmical, working with the bass or drums, with my track up loud. Out of the context of the mix, it can sound like shit, like it's ruining the track, so it was better that we scheduled around each other. Generally he would be doing his vocals in another part of the studio. They had three studios locked-out 24 hours a day.

Bonzai: Did Mick like your stuff?
Magness: Not at first.

Bonzai: That must have been intimidating.
Magness: I have to say it made me a little nervous.

Bonzai: How did the project proceed from there?

Magness: Well, the album took several turns and scheduling became a nightmare. Bill and Dave had to leave in August to record Herbie in Japan, and Bill recommended Nile Rodgers to Mick. Rodgers had done a great job on "Let's Dance" for Bowie and he was in London finishing up the "Wild Boys" single for

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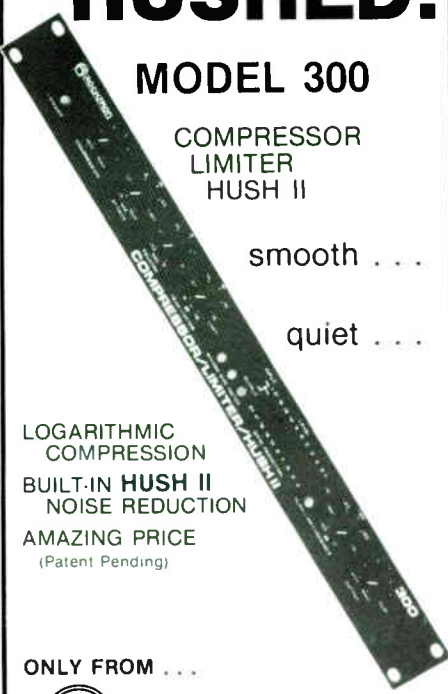
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Duran Duran. Nile cut a bunch of tracks with Mick at Maison Rouge. There were a lot of people who played, who are not on the album. There were 27 tunes recorded that I know of.

Bonzai: Why was there so much secrecy?
Magness: I was sworn to secrecy at the beginning, because the other Stones didn't know about it. When word got out, it made the headlines in every London paper, because it appeared to be the break-up of the Stones. But everybody seems to be happy now—in fact, they're all working in Paris now on the new album.

Bonzai: It must have been very inspiring for you working on such a heavy duty project . . .

Magness: It was a great opportunity to follow-up on the recognition I got for *Flashdance*. Laswell was great. He first asked me for some organ chords and then stepped out of the way. He asked if I had any ideas, and I said sure. Jerden and I put our heads together and filled up about eight tracks. I added things until the sound became more of a perverted organ.

Bonzai: Can you elaborate?

Magness: Well, let's say you take the stock #23 Prophet organ sound, like a Billy Preston organ—which Mick would love. Then, because I'm a little twisted, I detune some of the oscillators and then put a slow, hardly noticeable modulation into it. If you hear it by itself, it would make you sick. But in the mix you get sort of an organ pad sound, only a little off.

The other kinds of things that I did were percussive things and noises that I make on my keyboards. They're not melodic—they sound more like trash cans, or farts, or annoying sorts of things. But percussively played, they can be dropped in and out. Sometimes they double the other instruments and it sounds like an effect has been thrown on the bass, or the drums.

Bonzai: How did you get that strange cymbal breath?

Magness: By using the fader on a cymbal off the drum machines. You hit the cymbal before you whip the fader up and down, so you don't hear the whap, you just hear the aftermath.

Bonzai: Were you surprised when you heard the record?

Magness: Yeah, because my keyboards are everywhere. I was very surprised.

Bonzai: Was there a lot added after your sessions?

Magness: No, stuff was taken away. You can hear that it was mixed for AM radio—you can even hear the lyrics on that big dragon breath at the end of the verses. Jerden went over the top. It's great; they modernized it. All the modern stuff is up and all the old-fashioned stuff is out. Laswell was very smart. He let go with it and then waited. He could pick and choose what he wanted to use later. He picked the right stuff, in my humble opinion.

Ron Magness has resided in London for several years, but his U.K.-based production company has opened offices in New York and Los Angeles. The company is called "Flying Gilbert Productions", a name derived from a Cockney reference to certain distasteful bodily excretions.
 —by Mr. Bonzai

—FROM PAGE 179, HILL

were pretty much coming right off the front of the amps, with no compression or limiting. "We used Marshalls and a Fender Champ that was overdriven to the max." He did some interesting things with the vocals, most notably on "Round And Round." On the background vocals in the chorus, "we flipped the tape over and printed reverse slap and then, in the same signal, folded back some AMS and crossed the returns, so left came back right and right came back left."

The result of this "reversing and reversing" is not the classic "backwards" sound, but a spinning feeling which seems to fit the title of the song. It's easier to feel than it is to hear because only the reverb signal is reversed, not the actual vocal track.

"I print the effects onto tape, which affords me the ability to use the tape itself to further enhance what the effect could be," Hill explains. "You can get certain effects just by using tape rather than by passing signal through outboard gear in a mixdown situation."

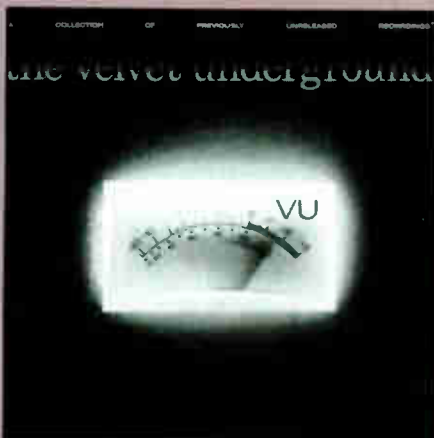
He either puts the effects signal onto a separate track while recording an instrument, or he actually places the effect and instrument onto the same track. "I can either 're-effect' the effect, if you will, or specifically place the panning or the phasing of that particular effect return."

Recalling such specific details of his productions is difficult, Hill adds. "These are not really things I go about approaching from a 'let's be technical' point of view. It all stems from what's going to make the music work." And a lot of these things are mistakes—"mistakes for the original sound you set out to get, but still something unique and different."

—Quint B. Randle



(L to R) Sterling Morrison, Maureen Tucker, Lou Reed, and John Cale.



A **NEW** RELEASE FROM THE VELVET UNDERGROUND

VELVET UNDERGROUND
VU
Verve/Polygram 823 721-1Y-1

All recordings originally produced by the Velvet Underground. Recordings mixed June 1984 (except "Ocean," mixed June 1969); executive producer Bill Levenson; mixed and engineered by Michael Barbiero at Mediasound, NYC; assisted by Don Cuminale, Andy Hoffman, Steve Rinkoff. Mastered by Greg Calbi at Sterling Sound, NYC.

by Brooke Comer

PolyGram's release of a "new" Velvet Underground LP, *VU*, and the re-release of the first three Velvet Underground albums, comes as no surprise. With Lou Reed on the charts, and a rejuvenated market for psychedelia, the pro-

ject was an astute move on the part of PolyGram's A&R department.

When A&R manager Bill Levenson began to investigate the possibility of a new Velvet release, his original idea was to do a compilation of the best of the Velvet Underground. In a planning session, Levenson suggested either the re-

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THE ART OF MASTERING

New York's Sterling Sound is arguably the mastering capital of the East Coast. Sterling engineer Greg Calbi explains his part in re-mastering Polygram's Velvet Underground project, and in doing so clarifies the "black art."

"I always thought the Velvets had a murky sound," says Calbi, "but in these LPs the quality is fantastic. It pays for project coordinators to research thoroughly to find the best possible source tape. It's funny how a kind of retro-sound seems to be getting more popular now. Bands spend tens of thousands of dollars to end up sounding like the old Velvets."

ground and Nico, sound better, but then it would have had a different sound. The idea was to improve the quality without tampering with the original feeling."

When he did find a little of the original muddiness on the tapes, Calbi rolled out some of the midrange and boosted the highs. Also, he points out that "with the acceleration limiters we have now, the sibilants could be evened out. In the old days, the Conex limiter would chop off lots of highs while dressing. With today's high frequency limiters, we can zero in on just the sibilants. That isn't a very revolutionary thing by today's standards. But it is compared to 1967.

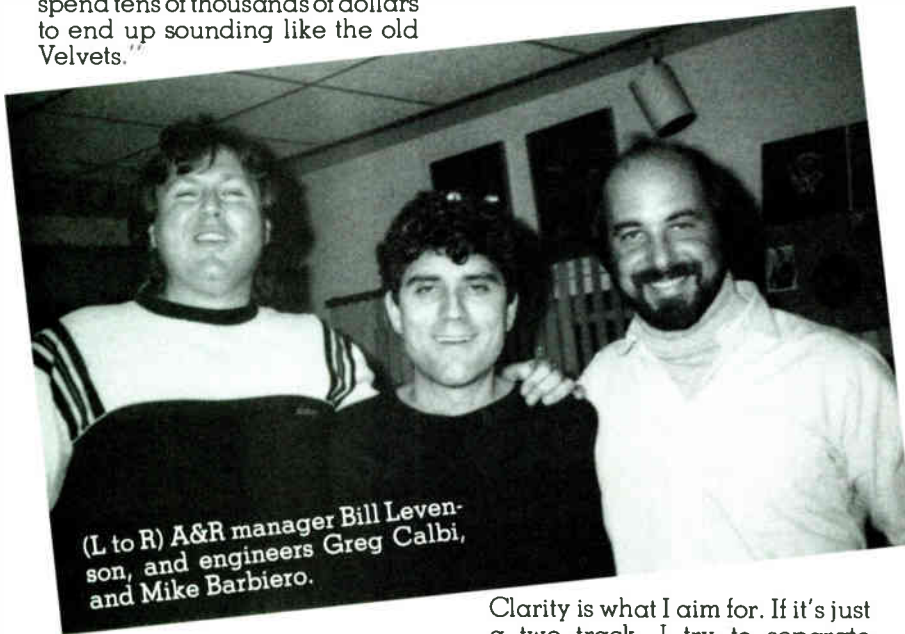
sound bright in the studio, and then they'd bring it into the mastering room and it would sound dull. What mastering tries to do is get the same excitement from the studio and take it into the home situation. My theory is that because most people are mixing on little Yamahas now, you can put a lot of highs on mixes and they never really sound too bright, they don't have a certain element of the highs. A lot of times the mixes come up sounding much too bright.

"Since they first started using Yamahas for mixing, rock music seems to have a harder edge to it. It's a lot like in the '60s, when many of the speakers used to mix on were muddy. That's when AM radio was the only rock radio. I don't master on Yamahas, because I want to use something different for a final check."

Working with the re-mixed tapes gives Calbi ideas for future projects. "This could be a fantastic thing for the old archive record," he says. "Especially with the advent of CDs. The digital medium gives you much greater headroom dynamics than you can get on a regular disk, but you can get much more dynamics than you could in the '60s."

Ten to 15 years ago, mastering would involve the trimming of dynamic range and stereo separation. "They'd make an equalized cutting master for future production," Calbi explains. "If they go back to that master and transfer it to the CD, it's going to sound just like the old record, except it's not going to have scratches on it, because it's digital. But, if they go back to the stage before that, to the original mix, they have some crazy dynamics and stereo separations to work with, so they can make much better sounding records."

In order for Calbi's plan to go into effect, it will take an interest in and knowledge of mastering on the part of A&R people. "They'll have to know that the EQ'd copy is a treated two track master, taking away from the dynamics and range, using limiters, compressors and low frequency crossovers, giving a flattened sound, narrowed and altered for the stereo image. This had to be done because of the mechanics of lathes. But the CD,



(L to R) A&R manager Bill Leverson, and engineers Greg Calbi, and Mike Barbiero.

Calbi used the Aphex II on his console to get the guitars to jump out a little on the three re-issued LPs. "That will help the albums sound more familiar to people than if they just re-issued the old production master," he explains. "We made the vocals sound clearer on the re-mastered LPs. Lou Reed's voice has a different quality, but it still has his unique personality. For example, louder guitars and drums would have made "Femme Fatale," on *The Velvet Under-*

Clarity is what I aim for. If it's just a two track, I try to separate things, and make the sound brighter, but you can only do it with EQ tricks or with the Aphex. Even though the guitars aren't mixed louder, you can make them sound brighter by reducing some of the things mixed around them."

Dramatic changes in speaker quality over 15 years helps to alter the sounds of records from one year to the next. Up till about four years ago, most mixing was done on huge studio monitors at high levels. "That was in style," Calbi reveals. "Everything would

and the cassette, which constitute 50% of all record sales, aren't made on a cutting machine. The Velvet Underground cassettes originated from Sony PCM-F1 digital copies done on a Nakamichi DMP digital mastering processor. When people start buying CDs, they'll want their old favorites in their collection and CD re-mixes or re-mastered disks should sound so much better than the original records because of fewer audio limitations.

If Calbi's idea stimulates sufficient interest, then perhaps mastering will no longer be called the "Black Art." "A lot of people don't understand mastering," says Calbi. "If they did, with the digital medium, some real collectors' items could be produced. But it could go the other way, too. If record companies want to do it as quickly as possible, they'll take whatever tape is available and that might not be the best sounding tape for digital. When I first heard of CDs, I thought people would do spe-

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—FROM PAGE 185, VU release of the three LPs, or else a compilation album in time for Christmas, 1984. During a Big Country mastering session at Sterling Sound, Levenson discussed the project with engineer Greg Calbi, who was working with Lou Reed at the time on **New Sensations**. Calbi mentioned Levenson's ideas to Reed, who then called Levenson directly.

"Lou Reed was enthusiastic about the idea of a re-release," Levenson recalls. "His idea was to do a re-mix of the first three LPs, but that idea was shot when we couldn't find multitracks." During this discussion, however, Lou Reed confirmed the existence of several "missing" tapes recorded during the group's transition from MGM/Verve to Atlantic, at Record Plant.

Levenson was doing research on the missing tapes at PolyGram's Edison, New Jersey tape library early in April of '84 when he came across a batch of uncatalogued and unknown Velvet Underground multitrack tapes. Further examination proved the tapes to be the missing masters, intended for a fourth MGM/Verve album that was never released. "I brought in Mike Barbiero to serve as engineer on the re-mix," Levenson explains. "He had worked together on the [John Lennon-Yoko Ono] **Milk**

and **Honey** project, and I knew he'd be perfect for the job."

Perhaps the biggest challenge Levenson and Barbiero faced was getting the "missing" masters into listening condition. "When I met Bill in his office" Barbiero reminisces, "the place was a virtual stack of old masters. We sorted through 30 or 40 of them, and decided what songs we wanted to use. We had to listen to all the outtakes because the markings were long since gone. The tapes had been in storage for over 15 years."

Poor storage made it necessary to transfer the tapes at once. "They'd been stored on hubs, and suffered water damage," Barbiero explains. "The tape edges were bent from being wound around the hubs so long, and oxide had adhered to the backing. Unspooling the tapes by hand took over a day. "Once we got them to the point where we could play them, we realized that we couldn't play them too often. We were afraid the oxide would strip. We transferred them immediately, losing a generation, to Ampex 456, 24 track. Then we worked with the copies. We'd rather have kept the original, but losing information due to oxide stripping was a big risk."

Instead of going digital, Barbiero chose an analog format. "To be honest, I don't have a lot of experience with

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digital," he says. "It would probably have been a good idea, but I'm still old fashioned enough to be more comfortable with analog. That may not be the most advanced way of thinking, but we were under budgetary restrictions, and there are economic advantages to analog. We did use Dolby."

"About 70% of the transferred tapes had a very thin sound," Barbiero continues. "There were some great sounds too, but a lot of glitches and pops were cleaned with Kepex II noise gates. We had to be careful using gating, because the Velvets have an ambient sound which doesn't respond well to gates. We mostly gated vocal tracks, and a few guitar tracks where they played rhythm lines."

Barbiero used Pultec program equalizers and midrange equalizers on the bass drum to get a more contemporary sound than the original mixes had. "We used more compression on isolated instruments," he explains. "If we did use more compression on certain mixes in the program, it was just a touch, to give the track a little more punch."

In order to play the one-inch, 12 track masters on a 24 track machine, Barbiero consulted Don Cuminale at Media Sound. "Cuminale devised an in-

genious plan to put one-inch guides across the bottom 12 tracks of the 24 track machine," explains Barbiero. "It was the first time I'd ever worked with a 12 track format, and it actually went nicely. Since these were classic cuts, we didn't leave anything out. We stayed true to the feeling of the original, and made it pump a little more, made it bigger. What Bill Levenson and I were really concerned about was making Lou Reed sound better than he'd ever sounded before, so we did the new mix at 30 ips because there's less noise than there is at 15 ips."

Re-mixing the VU tapes was an experiment that worked for Barbiero. "I like to try different things in each session. Some work, some don't. My prime concern in this case was keeping that nasty rock and roll edge that the Velvets are known for, that strident appeal, without making it sound too pretty. I know that in a lot of '60s records, the bottom end was a kind of rumble. Bass was not a feature of those records that made an apparent statement. It was a foundation, like a baritone in a quartet. If it wasn't there you'd know it, but it wasn't something you could easily identify. Now it's much more of a signature of a record. That was one of our goals, giving the bass its own identity."

Mixing VU took just five days.

Only one song on the 12 track program utilized all the tracks. In many cases, drums were recorded on two, sometimes three tracks. Despite the difficulties he faced, Barbiero says that, "it was a treat, sitting there behind those original tracks in the studio. We tried to give everything its own place in the mix, so it wouldn't be a jumble."

"Now people have the opportunity to hear these songs as they were intended to be heard, as opposed to the rough boots that these tracks appear on. When I did the **Milk and Honey** LP, it was a similar experience. Listening to those tracks, you feel like you were there. Nothing was added. Yoko Ono did the same thing. She stayed true to the spirit of the original recording. You don't screw around with success."

Greg Calbi has worked extensively with Lou Reed so he had a reference frame for the sound he wanted to get in mastering VU. "When you re-mix, as well as re-master, you have control of the individual instruments and the echo," says Calbi, who gives his Aphex major credit for the mastering job. Calbi never heard the original 12 tracks before Barbiero did the re-mix, so he can't compare the sound quality to his final version. "I only know the final piece was punchy and bright," he says. "It will hold up to records today. I'm working on a Phil Spector project now, and the techniques that he used just aren't done anymore. There's not much I can do; it's a question of trying to re-master something that has an old sound, that sounds great, but dated."

In the '60s, a lot of the stereo balances were split left and right completely. In the old Beatles records, the left and right channel had completely different information on them. Then, the drum fill could go back and forth. "People are so used to stereo that the back and forth sound destroys the illusion of a performance. Luckily, PolyGram went back and did a remix. In the re-mixing, there's no dated sound of stereo separation. People have a feel that they're in the music, and when a record sounds old, they tend to separate from it and say, "that's a good old record." I think VU will get new fans for the Velvets."

Calbi also credits Barbiero's mixing job for the top quality sound of the final version. "Each mixing engineer has a play curve of his or her own," he explains. "You get to know when a guy walks into the room if it's going to be bright or dull. Mike's equalization curve is in head, it's almost perfect. He's the ideal kind of person for an album like this."

Like Barbiero, Calbi used compression on the bass tracks. "I had to make the bass tighter sounding," he explains. "It was a little bit boomy, so I used a filtering system on the low end, and a little bit of compression. We got a com-

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ination of the vibrating sound of the bass string, plus the way that string hits the compressor. The guitar textures benefitted from compression too. There's no echo, and no bigness."

Calbi recalls Lou Reed's description of a 1967 recording session. The Velvet's unconventional image sent studio engineers bolting out of the studio, leaving the equipment on and leaving the band without an arranger. "That's what gives 'White Light, White Heat' the feeling of a band stuck in a room, jamming," says Calbi. "I did one all around correction curve, to get a clearer sound. Velvet Underground had a harshness problem that could be a result of dull speakers, broken tweeters, or a soft room, and the speakers pointed down to that. Sometimes a crowded room will absorb all the highs from the bodies, then when the people leave it's a completely different sound."

Velvet Underground guitarist Sterling Morrison agrees with Calbi about the harshness problem, but admits that the final version is clean and bright. "I'm amazed that PolyGram is putting



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Lou Reed, 1977 Solo Tour

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(L to R) Engineers Greg Calbi, Mike Barbiero, and A&R manager Bill Levenson at work remastering Polygram's Velvet Underground project.

—FROM PAGE 187, MASTERING
cial mixes for them, but they haven't."

All of the tapes Calbi worked with on the *VU* project were re-mixed at the same time, at the same place, Media Sound, by engineer Mike Barbiero. This facilitated Calbi's job. "Uniformity is important," he explains. "If you have different mixes from different studios, the good sounds of one mix will make the next mix, which doesn't sound as good, sound even worse. I always try to give the illusion of a live performance. When things jump out at you from one song to the next, it reminds you that it's just a record, or a tape, not a performance. When people listen, they get involved with the sound. When you're watching a movie, and you're wrapped up in the story, and a big scratch comes over the screen, suddenly you realize that it's just a movie, because of that defect. It's the same thing with sound." —Brooke Comer

this out," he says. "I'm very impressed, but amazed." Morrison, who put down his guitar to teach English at the University of Texas at Austin, is interested in what kind of response the LP will receive. "I'm surprised that the material on *VU* is so tame. It wasn't radical then and it isn't radical now."

Ironically, what Morrison calls "tame" was too radical for Mike Curb, who had taken over MGM in '69. "He wanted to get rid of the controversial bands, including the Velvets," Morrison says. " 'I'm Sticking With You' is the most ironic song of all, because of its innocence. It was not done to placate Curb. I don't even know if he heard it. It was a bridge between what we'd been doing and *Loaded*, which came next. We used to do voice-overs live at the same time as we did the instrumentals. *Loaded* used more double tracking, so 'I'm Sticking With You' was a precursor."

Morrison's only regret about the release of *VU* is that "Sad Song" won't be on it. " 'Sad Song' is my favorite, he says. "Unfortunately it's lost, and no one has a copy, not even an acetate. We recorded it at Record Plant with Gary Kellgren at the board. This was between our departure from MGM/Verve and our signing with Atlantic in April of '70. When we signed with Atlantic, we never got the tapes we'd done in the interim. Kellgren had them scored at Record

Plant, but he never had a chance to mix. If he had, then we'd have crude acetate at least. There were too many overdubs, and that confused him. He couldn't figure out which was the real guitar part. Why I chose to do all these punch-ins is another question. I don't know." Kellgren's death in the early '70s kept the missing tapes a mystery. Though Leven-

son's discovery at Edison revealed most of the missing multitracks, "Sad Song" is still at large.

Based on the great enthusiasm surrounding the *VU* release, it only made sense to re-issue the three Velvet Underground LPs as well. Calbi and Levenson chose to master the best sounding tapes they could find. Levenson pulled tapes from all the PolyGram territories, and found the best sound came from Japan.

Levenson did his homework well. Not only did he search out the best tapes to re-master for the three Velvet Underground re-releases, he did extensive research to prepare for the release of *VU*. Since the multitracks he turned up were unknown tracks, Levenson used Gerard Malanga and Victor Bockris' *Uptight*, a Velvet Underground chronology, to find the titles and background information on the missing tracks.

Die-hard Velvet fans will already have heard the tracks on *VU* on bootlegs. But the new record reinforces the Velvet's trademark sound, rather than polishing it to slick commercialism. Brightened riffs and heartier vocals were deliberately left with raucous energy intact.

Not only does *VU* provide state-of-the-art sound quality for old fans, it offers acoustical dimension for new ones. As Mike Barbiero says, you don't screw around with success. No one did. ■

Lou Reed, 1968



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—FROM PAGE 162, HASSINGER

who's trying to create his own sound. A lot of engineers today want to be real creative and they spend a lot of time patting themselves on the back for their great work: "I created that." That's bullshit, I think. I always thought with the Motown sessions my primary job was to try to get the electricity of the performances onto tape.

Mix: In the early '70s, when you did most of your work with Motown, a lot of the groups were starting to branch out and look for some new directions. Was that at Berry Gordy's instigation, or were the producers, like Deke Richards, calling the shots?

Hassinger: Everyone was always trying to please Berry Gordy. He always knew exactly what he wanted to hear, and so did the producers. That was the interesting thing about them. They all used the same approach. I once asked Deke Rich-

ards if they had a school for Motown producers or something, but I guess they just all had the same ideas, the same approach.

One reason the sound might have changed a little is that in that period you're talking about, Gordy started to spend a lot more of his time working on film projects and he didn't look at the records quite as closely as he did before. Plus, of course, artists like Marvin Gaye and Stevie Wonder were just coming into their own as writers and performers. Marvin was producing himself by then, and some of the groups were going to outside producers, which naturally changed their sound a little bit. But that was good, I think. If you use the same engineers and producers all the time it's very easy to get into a rut. Everyone needs change. That's one reason I've tried so many different styles over the years. In the '70s I actually sort of dropped out for a year and a half because I felt a

lot of the music was getting bland. It all sounded the same to me, and everyone wanted to produce it the same way. That's why this is an exciting time. All these new bands are starting to experiment a lot and try new things in the studio. That makes it interesting for me, too.

Mix: Are there any innovations in the last few years that have really helped you as an engineer?

Hassinger: I think automation is great, although I think it's being misused by a lot of people; things are coming out sounding a little sterile sometimes. I believe in using automation in terms of mixing manually till you get very close to it, and then printing. I think it has a danger in that it allows everything to become almost perfect, so that people are sacrificing soul for perfection.

Beyond that, I think the musician-ship is much better on the whole than it used to be, and that's exciting. ■

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