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# MIX

PROFESSIONAL RECORDING • SOUND AND MUSIC PRODUCTION

FEBRUARY 1991, VOLUME 15, NUMBER 2

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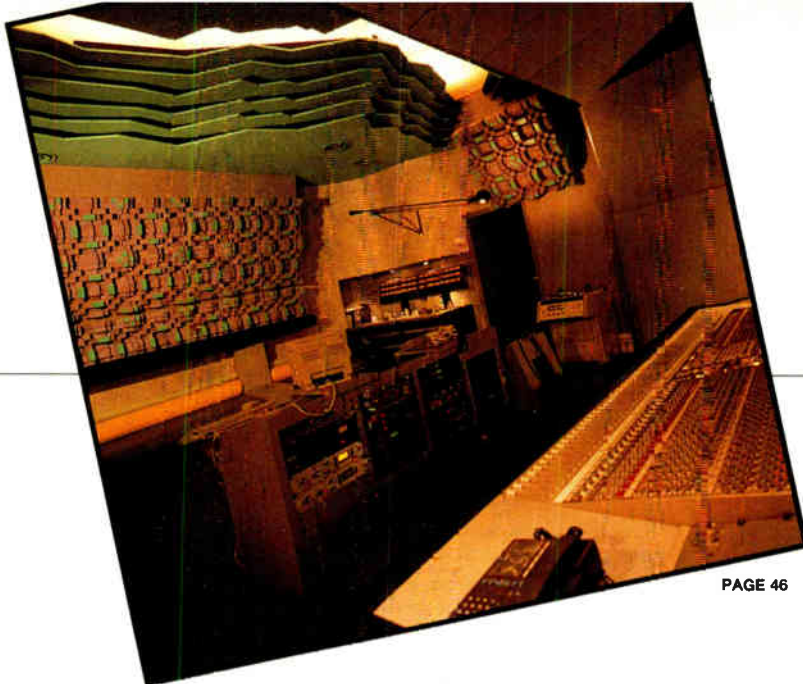
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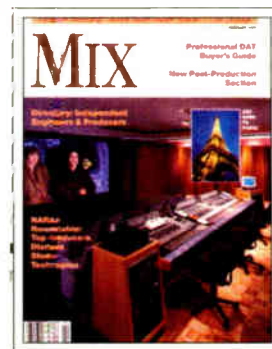
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**Cover:** The first Otari Premiere console was recently installed in Stage 2, the newest film mix suite at Saul Zaentz Film Center in Berkeley, Calif. The 136-input console is fully compatible with the studio's multiple tape format, which includes Sondor sprocket-driven mag machines and Otari MTR-9011 24-tracks. The Columbia/Tri Star Pictures release *Mortal Thoughts* (pictured) was mixed in the room. **Photo:** Jay Graham. **Inset Photo:** Larry Lee/Westlight.



# 48-TRACK TECHNOLOG :



Photo courtesy of David Hewitt's Remote Recording Services.  
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# FROM THE EDITOR

“France has a lot to offer,” says

Alain Aubert, co-owner of Studio Guillaume Tell, in Paris. “Besides great restaurants and luxurious stores, people come here looking for local musicians who sometimes happen to be the best musicians in the world! Thanks to its multicultural environment, Paris is Europe’s hot spot in terms of musical creativity at the moment.”

The Audio Engineering Society has selected Paris as the European convention headquarters for the next two years, two critical years in Europe’s economic and cultural evolution. The convention, which runs from February 19-22, provides a strategic view of the opportunities for audio professionals in the new, single-market Europe, as well as showcases the exceptional facilities and talent resident in France. For a closer look at the French recording scene, our man in the tower, Philippe Bouasse, scans the countryside for highlights and developments.

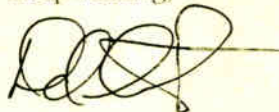
♦ ♦ ♦

Also in this issue...we are pleased to announce the addition of Peter Caranicas to the editorial staff of *Mix* magazine. Assuming the position of post-production editor, Peter will report on the people, facilities, developments and events shaping the world of audio post.

Most recently, Peter served as editor-in-chief of *BME’s Television Engineering*. He also has performed the duties of editorial director of View Communications, which published *View*, *WRAP*, *World Screen News* and *INTV Journal*. From 1983-86 he served as editor of *Millimeter*; during the 1970s he was founding editor of *Videography* and helped launch magazines in the consumer electronics industry.

Peter’s arrival signifies increased coverage of the post-production side of professional audio in *Mix*. His goal is to translate the developments of the technology and the trends in the television and film worlds into information that audio professionals find valuable. To keep him up to date on your company’s news and views, please write or fax him at *Mix*’s Emeryville address.

Keep reading,



David Schwartz  
Editor-in-Chief

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even easier to put in your studio.

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

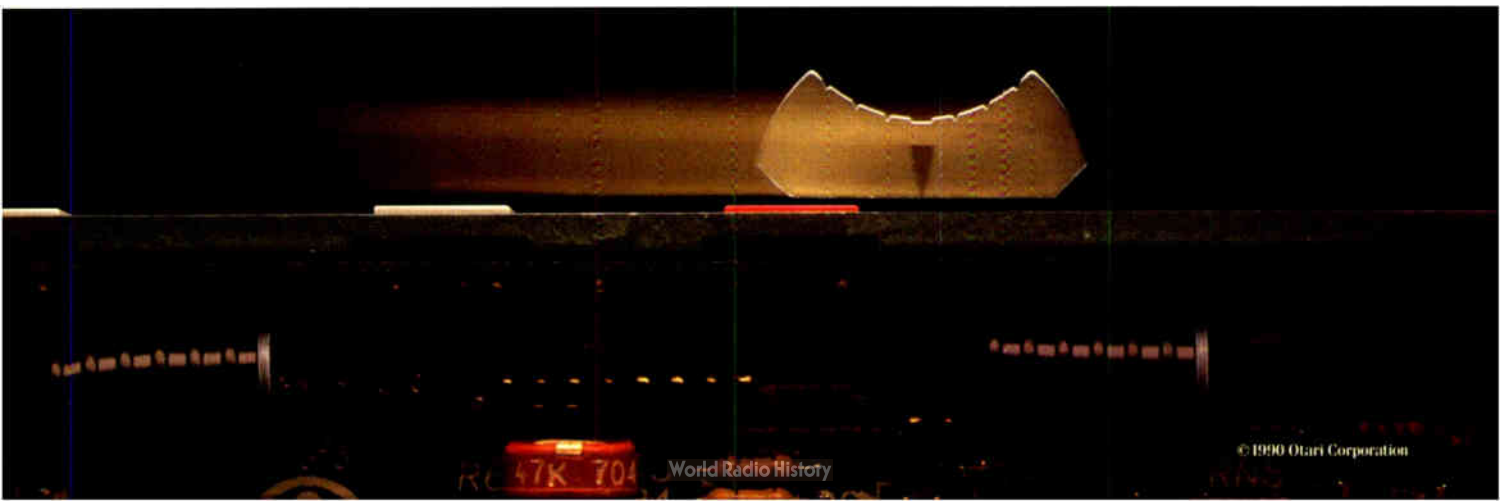
optimized for the latest Penny & Giles motorized faders to provide full fader travel in less than two SMPTE time-code frames.

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

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# CURRENT

## **Sennheiser Buys Neumann**

We told you last month that German microphone manufacturer Sennheiser purchased Neumann. The purchase, signed the last week of November and effective January 1, includes Neumann's manufacturing facilities in Berlin. Both companies are privately owned, so no purchase price is available. At the same time, Sennheiser (Germany) also acquired its U.S. distribution operation, Sennheiser Electric Corp., headquartered in Old Lyme, Conn.

Al Zang, manager of the professional products division at Sennheiser U.S., said Thomas Schillinger, chairman of Sennheiser Electric Corp., was selling his ownership of the domestic distribution operation to the main company for an undisclosed price, also effective the first of the year. "Mr. Schillinger introduced Sennheiser products to the U.S. in the early 1960s and was the main force in getting Sennheiser accepted here," said Zang, adding that this is part of a larger consolidation scheme for Sennheiser worldwide, the purpose of which is to streamline distribution and communication between manufacturer and end-user. "The consolidation gives us more control over distribution and simply makes good business sense," Zang said.

Zang couldn't say how long negotiations had been going on between Sennheiser and Neumann, but he observed that "these things don't happen overnight." Zang expects the Neumann trademark and product line to remain intact.

Sennheiser is strong worldwide in a range of microphone applications, including record production, film, P.A. and broadcast; on the other hand, Neumann is known primarily for its high-end studio mics such as the U47 and U87. "The Neumann acquisition strengthens our already deep penetration into the audio studio area," he said of the sale. Dr. Jorge

Sennheiser, chairman of Sennheiser Corp., was expected to hold a press conference in Old Lyme in January, at which time more details would become available.

Gotham Audio, North American distributor for Neumann for the past 32 years, is also curious about details. According to Harry Klane, sales engineer for Gotham, Gotham's distribution is secure through 1991 due to an existing contract between Gotham and Neumann. Jerry Graham, Eastern sales manager for Gotham, said, "I have no idea what the effect of the sale will be on us [after 1991]. I suppose we won't know until January." Sometime that month, Gotham president Russ Hamm will meet in Berlin with Sennheiser and Neumann reps to plot the future.

Al Zang said that the Neumann acquisition's timing is purely coincidental to the recent acquisition of Agfa by BASF, both German companies whose merger also takes place January 1. —*Dan Daley*

## **AES Paris**

Hundreds of audio pros from around the world will convene at the 90th convention of the Audio Engineering Society, slated for February 19-22 at the Palais des Congres convention center in Paris, France. The program will feature papers, sessions and workshops on a variety of topics, including digital audio, audio preservation, acoustics in the listening environment, sound reinforcement, measurement techniques and much more. Dozens of manufacturers will unveil the latest in audio technology. For more information, contact the AES at (212) 661-8528.

## **More Convention News**

Westex, the West Coast Music Exposition 1991, will be held in Vancouver at the Robson Square Conference Centre, February 28-March 3. Contact Laurie Mercer or Louise Mc-

Leod-Stewart at (604) 684-9338, fax (604) 684-9337.

The Sixth International Conference & Exposition on Multimedia and CD-ROM, titled "Progress and Promise," will be held at the San Jose Convention Center, San Jose, Calif., March 18-20. Contact Jon Leibowitz at (203) 352-8224.

The National Association of Broadcasters is hosting HDTV World '91 Conference and Exhibition in Las Vegas, April 15-18, as part of the NAB International Expo. The engineering conference begins April 14. The NAB also has announced a 6,000-square-foot exhibit for NHK, Japan's public broadcasting corporation. Contact Doug Willis or Lynn McReynolds at (202) 429-5350.

## **HDTV Format Converter, Test Dates**

The Advanced Television Test Center, a coalition of broadcasting companies and industry organizations whose mission it is to test and report on proposed transmission systems for advanced television (ATV), announced the successful demonstration of a format conversion process. The ATTC Format Converter, under development in association with Tektronix Inc., Beaverton, Ore., permits incompatible forms of advanced television signals to be recorded in real time on a commercially available, high-definition digital videotape recorder.

The format conversion process is the key to the plans of the FCC Advisory Committee on Advanced Television Service for testing the several different ATV transmission systems seeking to become the new U.S. television standard. The Test Center was created in part to support the work of the Advisory Committee.

According to Peter M. Fannon, executive director of the Test Center, the demonstration provides a workable means of evaluating dif-

# INDUSTRY NOTES

Don't forget the South by Southwest music and media conference, held in Austin, TX, on March 20-24...**Synergistic Audio Concepts** will hold several seminars and workshops throughout the coming year; call (812) 995-8212 for further information...**Apple Computer** promoted **Cliff Jenks** to vp of channel strategy and reseller development. Apple also appointed CEO **Michael Spindler** president; **Joseph Graziano** (chief financial officer) and **Albert Eisenstat** (secretary) were elected executive vice presidents...**The Association of Recorded Sound Collections** is searching for radio and television history collections to include in a planned national directory; for information, call (502) 895-5596...**Chris Alfiero**, the new marketing specialist at **Electro-Voice**, will provide technical support for EV's music products dealers...**Sony TransCom** named **Douglas Boughter** executive producer and **Tony Dec** associate producer of the new in-house Audio Entertainment Programming division...**Telex Communications** welcomed **John Schofield** as senior vp for sales and marketing...**Pappas Consulting** will act as sales rep of commercial sound products in Northern California and Nevada for **University Sound**...**Gillian Blackburn** joined the **Digital Audio Research** team as a pro audio sales rep...**B & B Systems** has a new video systems engineer, **Kevin M. Bohn**...**Amy Doerr** joins indie **American Gramophone Records** as advertising and communications coordinator...**Tenicki and Associates** now function as manufacturer's rep (Texas, Oklahoma, Arkansas and Louisiana area) for **Allen and Heath USA**...Sound contractors wanting to deal with the **Frazier** division of **Sound-Craft Systems** may call the new reps, **Chuck Olson Associates**, at (206) 271-5416...**H. Shinohara** was appointed president of **Fostex Corporation of America**; he will remain president of the Japan-based parent company as well...**The Mutual Broadcasting System Advisory Board** has re-elected chairman **Russ Withers**, vice chairman **Bob Pricer** and treasurer **Phil Nolan**...As of last December, **Eand E Exports** is distributing the expand-

able audio mixing matrix **DISTRAMIX** overseas...Promotions at **International Music Company**: **Steve Kaufman** to vp guitar division, **Woody Moran** to vp Akai division, and **Tom Linklater** to vp Ross Systems division...As new vice president of **Mark IV Audio**, **Roger Gaines** will oversee management of manufacturing for all companies within the Mark IV group...**Tektronix** appointed **Jerome J. Meyer** president, CEO and director...**Raymond Barp** joins **Rank Cintel** as Western regional sales manager...The memory of **Douglas Edwards** was honored last December when the late CBS News journalist was inducted into the Broadcasting Hall of Fame...**Grass Valley Group** landed a \$10 million contract for upgrading the nationwide fiber-optic television transmission network of **Vyvx National Video Network**...**Audio Images Corporation** (San Francisco) was awarded Otari 1990 Dealer of the Year...**Leo Kulka** will act as chair of the 1992 AES convention (to be held in San Francisco)...Marketing consultants **Trevor Cash International** will handle all European campaigns for professional audio and musical instrument manufacturer **Rolls Corporation**. **Trevor Cash** also handles European **BBE Sound** business; back in the States, **BBE** has enlisted two new sales reps, **Throckmorton Sales** and **Ron Trunk Sales**...**Arnold Taylor** was appointed president of **Rank Cintel**...The sales and marketing division of the **Sony Business and Professional Group** moved to new headquarters, and may now be reached in Montvale, NJ...**Kurzweil Music Systems** (a product line of **Young Chang America**) welcomes **Chris Martirano** as director of professional product development. **Young Chang** also appointed **Chet Graham** director of the **Young Chang Research and Development Institute** (now located in Waltham, MA)...**ShowBiz Expo** hired **Kris Soffley** as year-round publicity and promotions director...**Lambchops Studios** (Phoenix, AZ) appointed **Barbara Raynard** general manager of its two-studio complex...**Washington-based NAB** hosts a **Radio Group Head Fly-In** February 11-12. ■

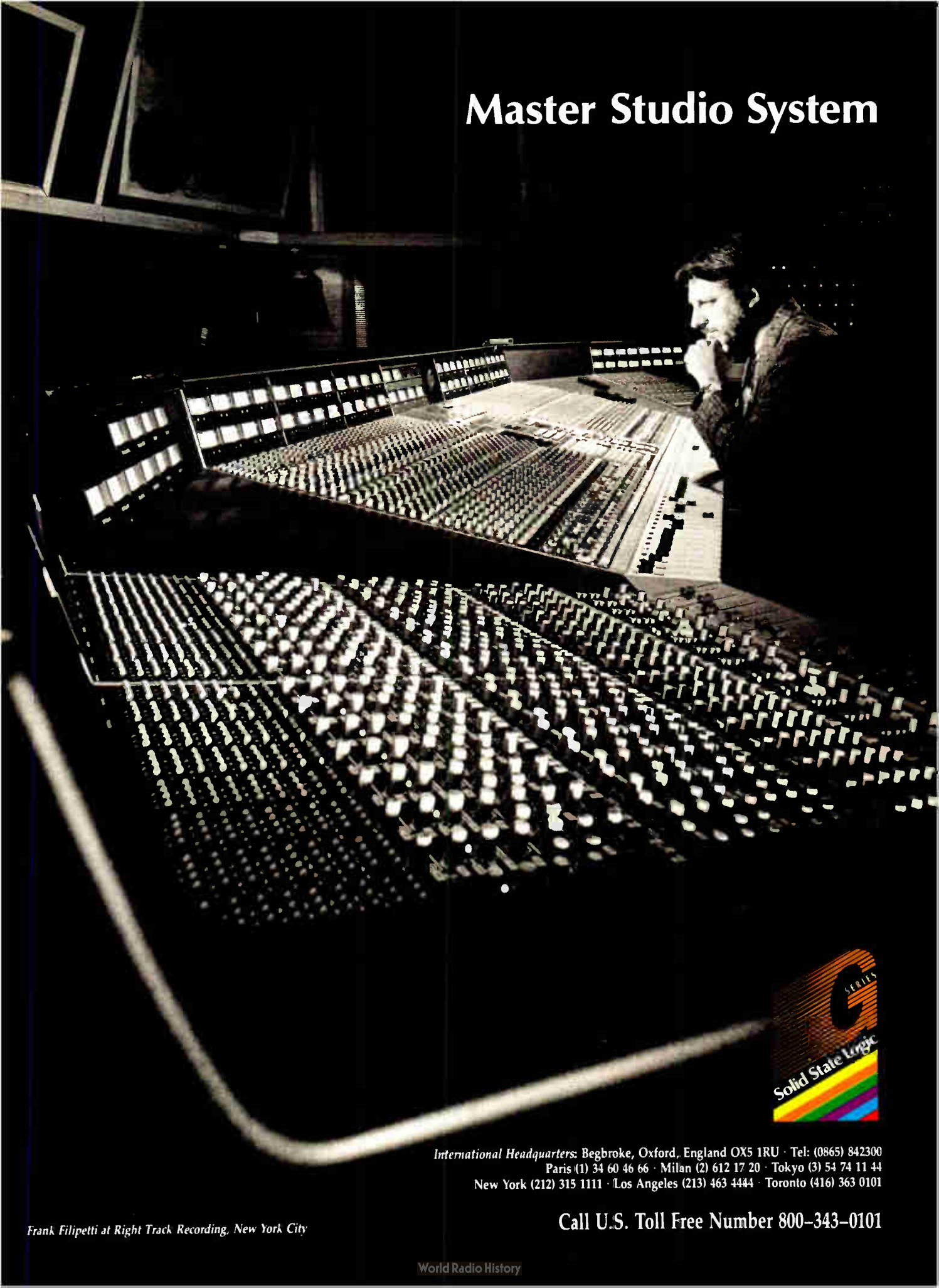
ferent systems. "Part of the actual performance of these ATV systems can be videotape-recorded for viewing and comparison by government and industry decision-makers," he says. "Without the device, such an evaluation would have to rely, as in the past, largely on performance claims and separate, but not comparable, demonstrations by system proponents, as well as on technical reports and professional assessments by television engineers and analysts."

The **ATTC Format Converter** will permit offline analysis of certain videotaped results, and will also be used for creation of many of the official test materials. For the comparative testing planned by the Advisory Committee, identical, "real TV" images are needed in each of the four discrete scanning formats used by different ATV systems. Only one of the six ATV systems to be tested, however, uses a scanning format for which there is commercially available tape recording hardware, the **Sony HDI-1000** (1125/60, 2:1). According to the **ATTC**, the conversion process is transparent and does not affect the content of the original TV signal in any way.

With the **Format Converter**, testing should proceed as planned. The test schedule is as follows: **Advanced Compatible Television (ACTV)**, **David Sarnoff Research Center**, April 12-June 12, 1991; **Narrow MUSE**, **NHK/Japan Broadcasting Corporation**, June 19-August 12, 1991; **DigiCipher**, **General Instrument Corporation**, September 3-October 24, 1991; **Spectrum Compatible HDTV (SCHDTV)**, **Zenith Electronics Corporation**, October 31-December 27, 1991; **Analog Simulcast HDTV**, **N.A. Philips Consumer Electronics Co.**, January 8-March 3, 1992; and **Channel Compatible HDTV**, **Massachusetts Institute of Technology**, March 10-April 30, 1992.

The **FCC** is sticking with its schedule to recommend new standards by 1993. Contact **Peter Fannon** or **Benjamin Crutchfield** at the **Test Center**, (703) 739-3850. ■

# Master Studio System

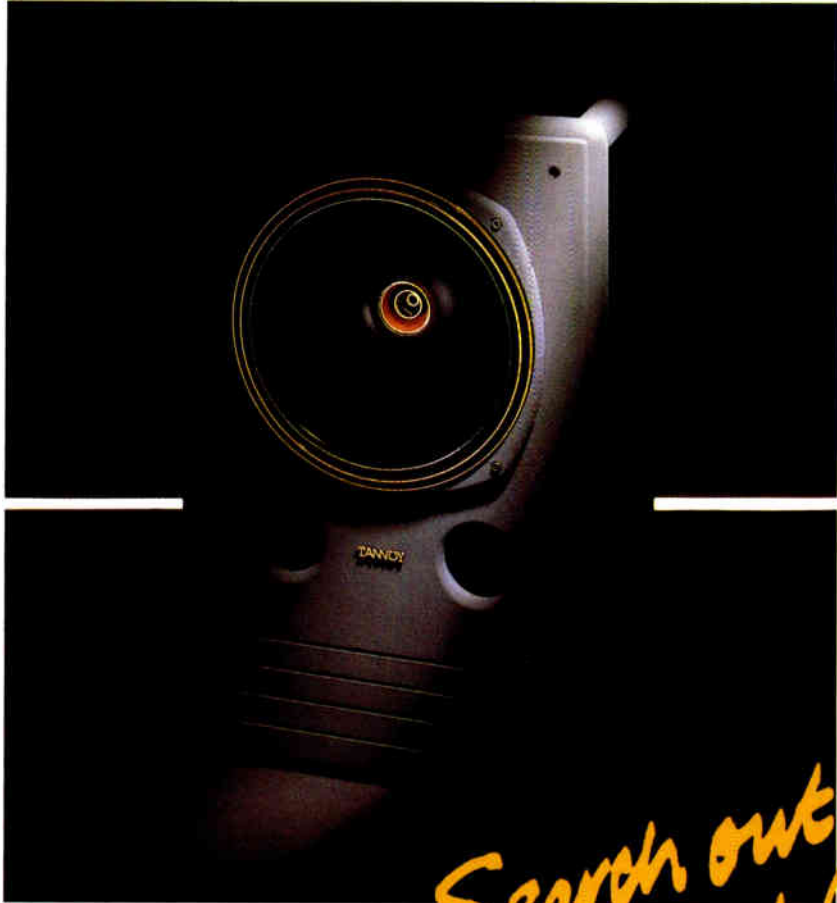


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by Ken C. Pohlmann

# YAMAHA PDS

## CAN YOU LIVE WITHOUT ONE?

**A**s time goes by, more and more things seem essential to my life, such as it is. Now it appears that yet another item must be added to the list: a compact disc recorder. Try as I might, it's getting progressively tougher to resist this purchase. Sure, the hardware is expensive, and blank discs aren't free either. But if you can't live without it, what are you gonna do?

Case in point is the Yamaha PDS (programmable disc system) recorder. This recorder comes in two rack-mounted boxes—the YPE-101 encoder and the YPR-201 recorder. Together with an IBM PC/AT personal computer, they form the basis for a complete write-once CD recorder, making discs that are Red Book-compatible

and playable on CD players adhering to the Red Book standard. Disc mastering studios are customers, as are record labels, recording studios, computer hackers, and anyone who needs a reference CD-DA, CD-ROM or CD-I. Unlike CD mastering lathes used in pressing plants, this recorder is a real-world device, free of any special requirements such as a clean room environment.

The YPE-101 encoder converts the input PCM signal into EFM data that is sent to the recorder, and acts as a controller to the recorder. The encoder accepts an SDIF-2 input and can be fitted with a number of digital interfaces, depending on the application. As a result, anything from a 1/2-inch

*The Yamaha PDS recordable CD system, shown here in use with the SPOT 90 system from Gotham Audio. The YPR-201 recorder and YPE-101 encoder are the silver-faced units in the workstation rack.*



analog tape to a DMR-4000/PCM-1630 can be used as a source. The encoder also interfaces with a host computer (interfaces for the IBM PC/AT and NEC PC-9801 VM/VX are available); operator control functions such as subcode editing are handled through the personal computer. The encoder also contains a built-in synchronizer to read SMPTE time code.

The YPR-201 recorder is a second-generation unit that supersedes the YPR-101, providing longer recording times and a recorded disc with virtually

absolute compatibility. It is a front-loading model that accepts audio data timed by the synchronizer and records up to 68 minutes in real time with a scanning speed of 1.3 m/s. Recording times of 72 minutes are expected soon. The YPR-201 is also designed to record both 8- and 12-centimeter discs. Using a 12cm disc, in CD-ROM mode 1 and CD-I form 1 applications, storage capability is 620 MB. Storage capability in CD-I form 2 is 710 MB. An 8cm disc stores 19 minutes, 170 MB and 190 MB, respectively. The block error rate is less than 0.03, measured at the C1 decoder. Recording power is approximately 5 to

8 mW. The system employs a MIDI control bus to allow multiple disc recording. Depending on hardware specifics, multiple (14 or so) recorders can be connected to a single encoder for simultaneous recording.

Write-once YOD-101, YOD-201 and YOD-211 blank discs are manufactured by Fuji, TDK and Taiyo Yuden, with numerous other manufacturers reportedly ready to come online. Whatever the manufacturer, these discs have precisely the same dimensions as playback-only CDs. Although a polycarbonate substrate is used, the disc is manufactured with a pregroove spiral to improve compatibility. Track pitch is 1.6 microns. Shelf life and archival life of discs is typically specified at ten years, but life acceleration tests indicate that life expectancy may be decades longer. As in regular CDs, the data layer is covered by a protective layer to provide a robust media. The dye used in these discs is said to be vulnerable to sunlight, so discs should not be exposed to bright sun over a long period.

Whereas earlier-generation discs required cutting into a germanium recording layer, this new generation of discs uses a dye polymer, recorded with lower laser power. In addition, dye polymer discs have a higher reflectivity (over 70%), thus increasing playability on a diversity of CD player designs. Discs have sold for about \$50 in small quantities, but prices are falling sharply, with a price of \$35 expected shortly and further reductions on the horizon.

The front-end computer is given the relatively simple task of forming the PQ subcode required by any CD to establish the table of contents (TOC) at the start of a disc, and mark tracks and timings throughout the duration of the disc. Yamaha supplies a PQ editing software package, YPQ-101EX, for music editing applications. Using this software, it is easy to mark start and end points of tracks, set index points, and set intervals between tracks. TOC data can be checked, edited and printed out to form a cue sheet. The software can even remotely control the source tape using "stop," "play," "rewind" and "fast forward" keys.

This Yamaha hardware and software is often bundled with the Fostex D-201 DAT recorder and 4010 time code generator/reader. The D-201 is provided with a 36-pin parallel interface connector specially designed to couple to the PDS. The time code

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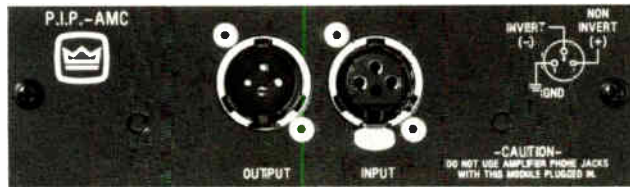
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allows synchronization of the audio data with the subcode. In addition, the D-201 has both SDIF-2 and AES/EBU I/O. Together with the PDS and a PC, this forms a complete CD recording system.

Gotham Audio was the first dealer to sell the PDS in the United States, and has developed its own hardware and software for the recorder. The CDR-90 is a basic CD recording package in which the user must supply a data source and computer, and manually perform PQ subcode editing. Over 30 recorder systems have been placed in the field, in applications ranging from mastering to broadcasting, from CD-ROM production to avionics. Gotham's SPOT 90 package provides complete system integration. An IBM-compatible computer is supplied, along with an Audio+Design PRODAT 1B recorder and comprehensive software. SMPTE time code is generated via software and used to synchronize audio and subcode data at the beginning of a recording. Gotham's Harmonia Mundi interface can be used as a data converter such that almost any type of audio can be

moved expediently to disc. Perhaps the most demanded application is CD mastering: Using the SPOT 90, you simply play an edited 44.1kHz DAT tape to find start IDs, then print the correct header to tape and record directly to CD. This disc could even be sent immediately to the pressing plant; U.S. Optical Disc in Maine has announced that it will accept recorded CDs as masters. A disc must be recorded in one pass with these systems; start/stop recording will require hardware improvements in future-generation recorders. The CDR-90 costs \$37,500 and the SPOT 90 costs \$42,500.

I know what a lot of you are thinking—"Jeez, I'll just wait a few months until CD recorders hit the consumer market, and I'll pick one up for \$500." That may be true, but I don't think so. The way I read the situation is this: The hardware industry diverted all its energy to persuading the record labels to agree on DAT with SCMS. Although talks on CD-R are scheduled, this erasable consumer format is years away, not for technical reasons, but for horrific legal (read: economic) reasons. Unless a maverick company like Tandy

comes along hell-bent-for-leather, willing to introduce a CD recorder no matter who sues whom, the only CD recorders available in the near future will continue to cost about as much as a nice car.

On the other hand, there is no question that prices of CD recorders will fall as more and more recorders are marketed for a variety of applications. For example, as widely reported, Kodak has announced plans for a Photo CD system in which consumers' photographic film images will be recorded to CD and played back through Kodak audio/video CD players manufactured by Philips and priced at \$400. When this system is implemented in 1992, it will place CD recorders in corner drugstores across the country.

Not that it matters. By then, I'm sure my resistance will have long since crumbled, and I'll be knee-deep in homemade CDs, caressing my PDS, wondering how I ever lived without it. ■

*Ken Pohlmann is author of 'The Compact Disc: A Handbook of Theory and Use,' available from the Mix Bookshelf.*

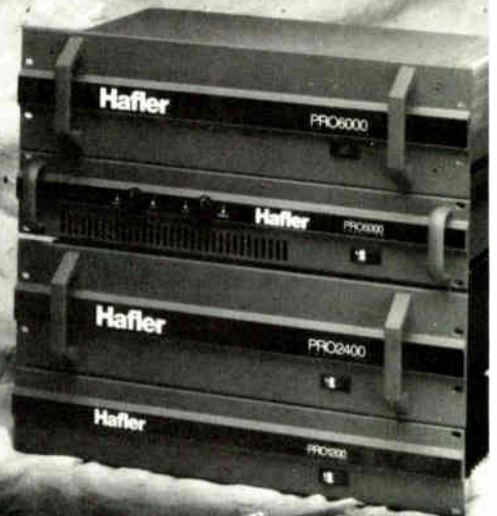
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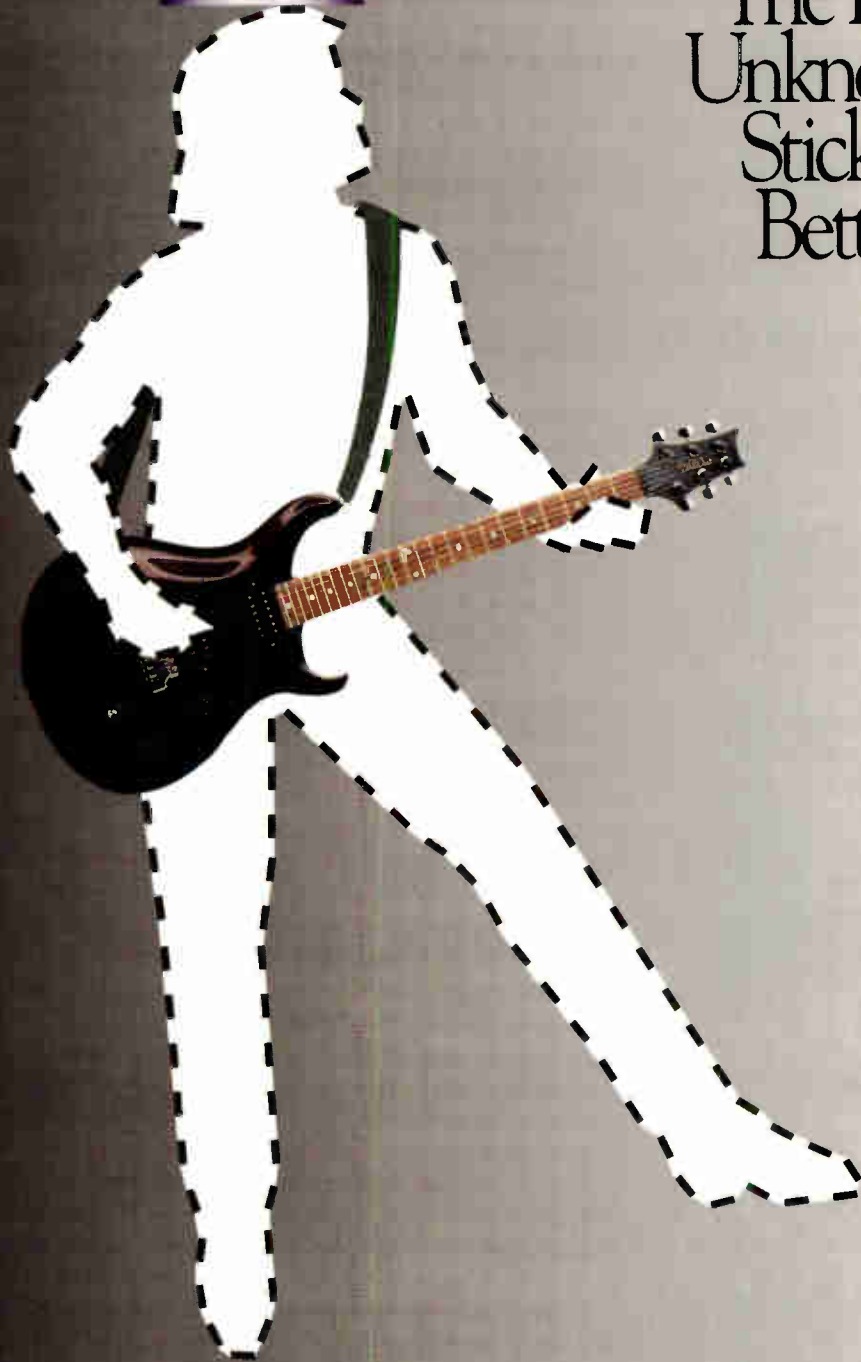
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by Stephen St. Croix

# DAT'S AMORE

**D**ATs. Don'tcha just love 'em? Okay. I feel better now that I've gotten my obligatory opening title joke out of the way.

Well, I'm back. I was gone for two whole months—twice as long as I was gone almost a year ago, the last time that I disappeared for a while. Here are two implausible explanations as to what happened to me.

Reason 1: It was a test. I wanted to see how much

Reason 2: I wanted to give a meaningful present to those who do *not* like my work, so I stayed out of two issues in a row—two issues that span the entire holiday season. Happy Holidays to you. You see? I do try to please everyone.

Oh, yes. There *is* a third reason: I had three major projects back to back, with less than one day between them.

Happily, the last of these projects—another



those of you who like my column would miss me if I simply didn't show for eight weeks or so. Unfortunately, I don't have the results of the test at this time, since there is a several-month lead on my column, and as I write it is an entire month before you even discover that I am (was) AWOL. For those who *did* miss me, you can have a 10% lifetime discount on almost anything I market. Send for details.

album that I produced and engineered for a Finnish artist—has already gone platinum. You *did* know that all *Mix* columnists had real day jobs, didn't you?

Now let me tell you a little story about that very album, some insane Laws From Hell, a bunch of DAT machines that suffered horrible mutilation as a result of this Paranoid Legislation Run Amok, 48 hours of last-minute, all-night panic, and four

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stitches in my left hand.

I went to Finland again to track the album, which was then brought to my studio in the U.S. for mixing. Very tight schedule: one week to track, one week to mix, no day to adjust from jet lag. No time, no problem. Yet.

The project was going to Masterfonics in Nashville for vinyl and CD mastering, then directly to Finnvox in Helsinki for pressing, all within a span of three days, including shipping.

We decided for several reasons to master to DAT, back up to DAT, and

log safeties to DAT. House DATs at my place include a Sony 2500, a Panasonic 250 and 255, and, as of the last week of mixing, three of Sony's DTC-75ESs.

Now, let me explain why this rather bizarre selection of DAT machines currently cohabitates at Lightning Studios. The 2500 is there because I needed a DAT years ago for a project. I hate it. I always have. First, I paid about \$5,000 for it, and later you could get them for \$29.95. I *hate* when that happens. Then there's the analog circuitry. It can only be described as insanely inept. The sound that the 2500 makes if you are silly enough to

try to *use* the onboard converters and filters can be best described as surgically altered for the worse. And just to keep things interesting, the front panel input level meters have very little, if anything, to do with the audio. On the other hand, we have to keep in mind that this machine is three-and-a-half years old, and is the first one. First-generation equipment often presents more problems than it solves.

While researching these rather significant shortcomings, I came across some knowledgeable experts who agreed with all of them. It seems that Sony was in a big hurry to get that unit to market, and it wasn't even built by the pro division, but by the consumer plant, in response to *great* pressure from Earth for such a product.

I got the thing because I didn't want to be crippled by the stupid copy-protection schemes that our government forced on DATs back then. After all, the Sony 2500 pro machine is PRO, right? I wanted to record at 44.1 because I didn't completely trust any of the data rate conversion hardware available at that time.

The AES digital inputs will generally accept 44.1 and actually let the machine go into "record," but the little S/PDIF RCA input kicks you right out. Now, we all know how to cheat S/PDIF (Sorta Phony Digital Interface Farce) into an AES (Always Expecting Signal) input to get around this stupid problem, but that doesn't always work.

Why would I want to cheat S/PDIF up to AES? It's pretty easy to find yourself down in the "consumer" world of S/PDIF these days, because there is so much digital processing equipment out there that speaks only S/PDIF, and there is a considerable selection of DATs that speak it, while the selection of true pro machines remains pathetically tiny.

Well, once you have sunk to the dismal depths of 44.1 S/PDIF and you want to do something as immoral (and illegal) as *record* your own original music onto a DAT, you're screwed. On a professional machine! I never did solve the 44.1 S/PDIF problem with my Sony 2500, and this particular machine did not respond well to cheating up to the AES input (about 20% of them don't). Since I absolutely refuse to use its analog inputs, I...well, I hate it.

By the way, I asked about *that*, too. If the regulations called for all DAT machines to read the CD copy-prohibit

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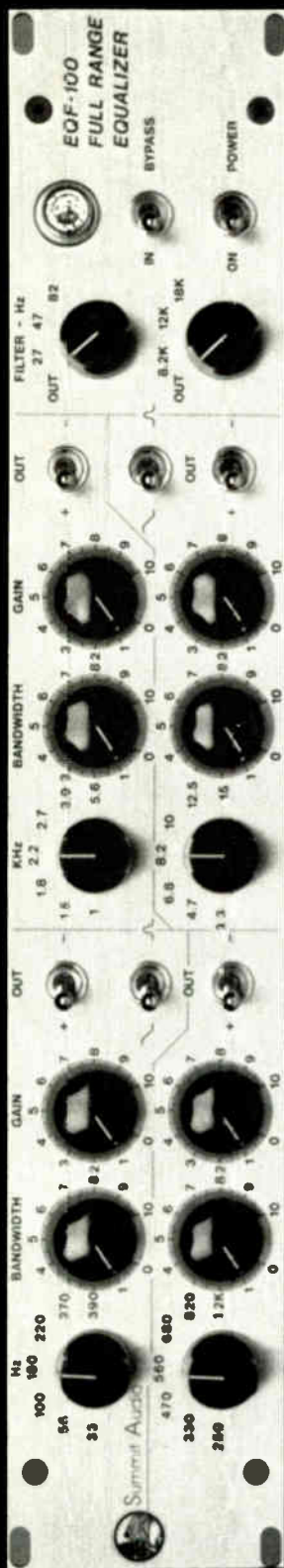
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## THE FAST LANE

flag at 44.1 kHz, and stop you from recording if it is present at the S/PDIF inputs, why doesn't the machine do just that, instead of what it really does, which is *always* stop *all* 44.1 S/PDIF recording? Same answer. It seems it was simpler to just kill it all than to write the software to test for the flag.

The day we got in from Finland, I tried to get a Panasonic 3700, as the word on the street is that these machines are above such crippling limitations. Unfortunately, I live in Maryland and couldn't get one for two full days, best case. So I called some friends who I knew would know what the machine *du jour* was, and they told me it was the just-released Sony DTC-75ES. A *consumer* machine, for 800 bucks, less than the price of a sushi dinner for two in L.A.

I called the local tweak hi-fi shop and they had them; I bought three. I couldn't believe the machines. Analog, S/PDIF wire, and optical ins and outs. Digital fade in and fade out, with user-selectable rates. Numeric total history headroom indicators. The most amazing, fastest transport I have ever seen. High-speed, one-bit A/D and D/A converters that actually sound *good!* I *like* these machines. Sony giveth and Sony taketh away, I guess.

Hey, boys and girls, here's a secret tip from Uncle Steve: Buy these machines and chain them all together with very short, very clean 75-ohm cable or very short plastic light, and use them for slave target transports. Roll your source, and simultaneously record all your masters, backups and safeties. The machines all reliably listen to *one* hand-held remote at the same time!

Anyway, I selected these machines because they *do* let you digitally copy at 44.1 through the S/PDIF input. They are only crippled with this week's silly legislation, SCMS (Serial Copy Management System). Now you can copy digitally—*once*. Research (and logic) made it clear that this trick was, of course, applied only to 44.1, since CDs (the main source of fear here) are at 44.1.

Because of this limitation, I decided to reverse my original decision and master at 48, using a JVC sample rate converter to downsample later. This would allow painless generation of master, intermediate assemble edit, and safety DATs with the little 75ESs, while avoiding the SCMS.

Of course, the project got to the point of editing, re-ordering, timing, and then duping the distribution master and safeties in the early morning 48 hours before the drop-dead. We weren't worried, though, because we knew that we could do all of the dupes at once. We built the timed and edited master, finally rolled it, hit "record" on all the 75s, and got... "PROHIBIT"! Sure enough, these babies stop you from making a third-generation digital dupe *at 48 kHz too!* Real nice.

If the regulations called for all DAT machines to render SCMS copy-prohibit at 44.1 kHz, stopping you from recording, why doesn't the machine do just that, instead of what it really does, which is to stop you at 48 *too*? My sources gave me the same answer again.

Sony did say, by the way, that there was considerable political paranoia on the premises when these machines were being designed, so the ultra-conservative approach was always taken in these matters, then (2500) and now (75ES). In light of potential legal problems with the U.S. government, I can understand this, but it's a real shame that we have to suffer crippled machines as a result!

We had to rethink everything, and ended up hand-assembling each of the masters and safeties. One of the engineers on the project was so unhappy at this 48kHz-prohibit surprise that he decided to execute the 75ESs. A minor mishap with the 9mm automatic chosen for this function resulted in the four stitches in my—oops—*his* left hand.

There are four morals to this story: 1. Buy pro gear! 2. Make sure that this pro gear will actually let you record the way you want to. Currently, Panasonic and others do, but Sony does not offer a machine that is free of this silliness. 3. If you don't stay on top of it, people from your very own industry can legislate the "record" button right off your equipment. 4. If you *must* shoot your equipment, always use proper safety procedures. Try to fire toward the *back* of the control room, away from triple-scale musicians, and wear earplugs if you think you might be mixing any more that day. ■

*Contributing editor Steve St. Croix recently used a memory chip from the engine computer of his car to fix a failed digital reverb. Mix invites you to join him in celebration of his arrival to the New Age.*



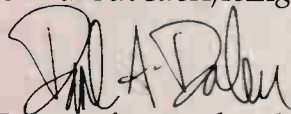


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**SHURE BETA**

by Mel Lambert

# EUROPE '92

## GOOD NEWS/BAD NEWS FOR THE PRO AUDIO INDUSTRY

**A**s Europe's recording and production industries prepare for the establishment of the much-vaunted "United States of Europe" in 1992, I foresee at least two ways this will affect the rest of the world. First, the new coalition will have a positive effect on the U.S. professional audio industry; and second, certain companies trading within the new Europe won't necessarily find things rosy just because of the formation of a larger, "cohesive" market.

Thanks to standardization, today we have a situation where tapes from just about any country in the world can be recognized and handled properly in any other. Many of the European state-run broadcast and communications entities have been instrumental in promoting useful formats and practices that make this possible.

It has been predicted that the new Europe will overshadow even the U.S. as the largest single market in the world. And, while the new streamlined Europe should flourish, in certain very important respects little will change next year.

Big is beautiful, and potentially very profitable. Even in relatively small niche markets (like the pro audio industry), it is increasingly obvious that only the larger, more diversified companies can achieve critical mass. 1990 saw its share of takeovers and amalgamations. For example, European companies AKG and Siemens have been making headline news lately by actively pursu-

ing a policy of expansion.

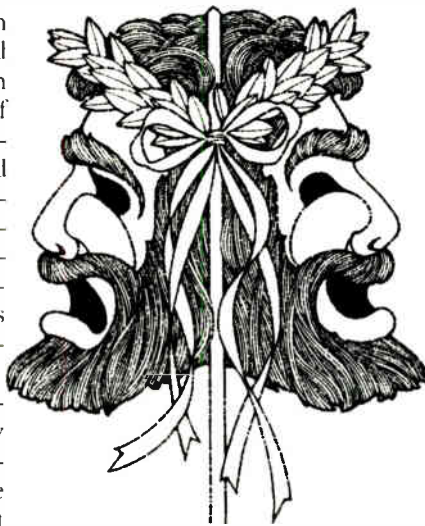
It makes sense for these firms to take advantage of an effective economy of scale by offering ongoing R&D, marketing and sales support for a wide range of complementary products. And with trade barriers now disappearing between members of the European Community, European manufacturers can be reasonably safe in the knowledge that they have a market for their products on their own doorsteps. And with a stronger home market to cover basic development and innovation

costs, they can anticipate that the rest of the world will beat a path to their door.

What this financial model overlooks, however, is the polycultural nature of the European Community. Unlike North America, which relies on English as its primary language, Europe must contend with at least a half-dozen languages. Although English is considered the primary technical language of the

professional audio industry throughout the world, the same cannot be said for the software that is produced within member European countries.

For decades now, France, Germany, Spain, Italy, England and other countries throughout Europe have enjoyed domestically produced entertainment. With rare exception, the end-product is ignored outside the confines of the culture that produces and nurtures it. Often, each culture is eager to retain its uniqueness; that appeal is so specific that few outside the culture



understand it.

If a healthy, equipment-based industry needs to maintain access to an expanding market to cover the costs of innovation and R&D, where does this leave the European manufacturers of pro audio hardware? In reasonably good shape, I would suggest, as long as such firms do not regard the post-1992 Europe as a "protected" market where they can trade to the exclusion of the rest of the world.

Because of language and cultural differences, I see the European market

for recording, broadcast and production equipment remaining buoyant but

reasonably restricted. This situation is destined to change as physical and

psychological boundaries erode, and as former Soviet Bloc countries begin to affect the markets.

For the pro audio industry, the primary source of income comes from the recording and entertainment media—pre-recorded music, film, television, multimedia and advertising, mainly. And North America is home to the world's major record labels, film studios, production companies and ad agencies. While much of this material is recorded or filmed overseas, a significant portion is conceived, produced, mastered or post-produced domestically. So it's inevitable that our music recording and film community will remain world leaders for the foreseeable future. As the center of the record and movie industries, these communities will serve as a driving force for innovations and developments within the hardware industries.

For companies with an established foothold in both a European and North American market, Europe '92 is going to mean opportunities in complementary arenas. For European-based firms that already enjoy an established international presence, the impetus of a cohesive domestic market will allow a more sane approach toward predictable marketing opportunities.

So the news is indeed mixed. Just as the number of pro audio companies currently vying for our money has dwindled in the fallout of mergers and acquisitions, so the number of players in the profitable international media industries will begin to shrink. Economy of scale and the inevitable dominance of marketing decisions made within North America will define more closely their prospects—far more than the establishment of a United States of Europe.

Whether this situation will continue throughout the remainder of the decade, however, will be the subject of great speculation and analysis. I see a period of stability for at least the next several years, followed by a sweeping reappraisal of long-term prospects by the new Asian-based owners of our major studios and record labels. Time, indeed, will tell. ■

*Drawing upon over 15 years of active experience with all dimensions of professional audio on both sides of the Atlantic, Mel Lambert now heads up Media&Marketing, a high-tech consulting and marketing service for pro audio firms and facilities.*

While the new streamlined Europe should flourish, in certain very important respects little will change next year.

*up close and accurate...*

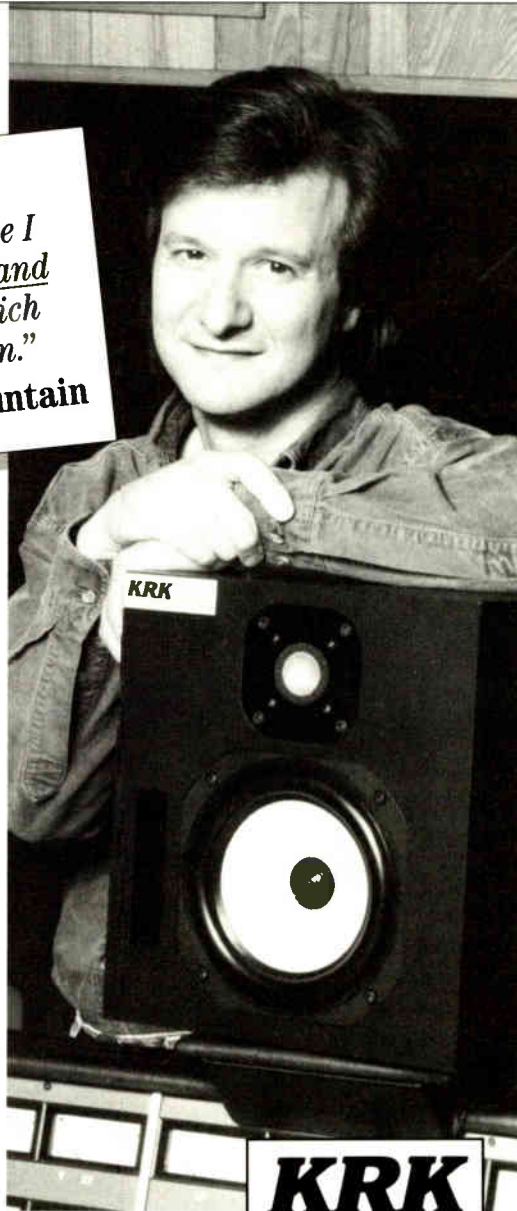
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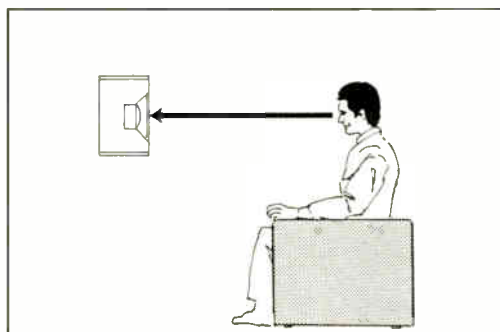
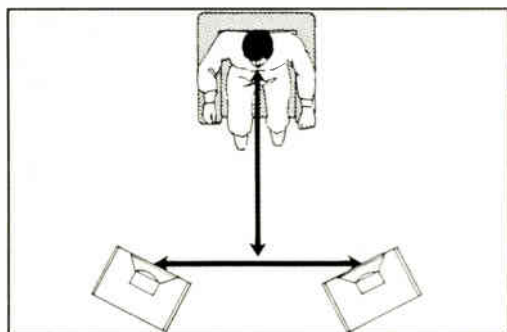
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## STUDIOS TRY TO WEATHER A SLUGGISH ECONOMY



by Zenon Schoepe

Over the last three years, the UK's traditionally healthy recording industry has witnessed a gradual downturn in UK sales—from 24% to 11%, according to BPI figures. The latest IFPI figures for worldwide sales of recorded

—CONTINUED ON PAGE 38

*Thirty-two separate tielines connect the recently remodeled Moles Studios to the Moles Club in the basement of the building.*

*The world's first Trident Vector 432 console is installed at London's 145 Wardour Street.*





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### The live room at The Mill Recording Studios



of running a studio on enthusiasm and a good sense of humor. It's business now, and it's deadly serious.

The larger, more established facilities have the benefit of business acumen gained from years of experience, presumably leaving the main force of the economic pressures to be felt by the middle market. Thus, industry eyebrows were raised at the closure of the top-market Master Rock Studios in London—home of the world's first Focusrite board. This was the *coup de grace* in a handful of months that had seen the closure of The Garden in London, The Music Room in Surrey (original home of the world's first and largest Trident Di-An), and Picnic residential studio in Kent. In addition, several studios (Jam and Parsifal in London and Comforts Place in Surrey) have been up for sale.

Rent increases of staggering proportions plus a new business tax rate have been blamed for the exodus of studios from London's SoHo and West End—traditionally the very heart of the

—FROM PAGE 35, UK UPDATE

material in 1989 show that the UK now holds 9.2% of the world market and a 30% share in the European Economic Community.

Politicians can debate whether Great Britain is currently in recession, but

high interest rates, a proliferation of private studios, ongoing studio rate-wars, rent increases and new business tax rates in certain areas of the country have combined to bring about an industry shakedown of previously unseen proportions. Gone are the days

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music business in the country. We lost Audio One (formerly Trident) and Good Earth forever, and Advice to Brighton (where the studio relocated in a less economically repressive environment). Relocation is imminent for Air Studios, which will move a couple of miles north of Oxford Circus to an old church in the foothills of Hampstead.

Amid this gloom, a strong pioneering spirit has surfaced as studios adapt to the circumstances. According to Air's John Burgess, "There is light at the end of the tunnel for the top professional studios, because they offer something that you can't get anywhere else. That's why Studio One at Abbey Road and our own Studio One are fully booked—they're individual studios unlike anything else in the world. Our new complex will build on that."

And studios are still opening, although not quite as fast as they've been closing. A bright new light has come on in SoHo to add to the one held high by the dance specialists at Berwick Street Studios. 145 Wardour Street features the world's first Trident Vector in a room that sports a decor unlike any other. Fabric-covered walls combine with tassels and brass lamps, produc-

**H**igh interest rates, a proliferation of private studios, ongoing studio rate-wars, rent increases and new business tax rates in certain areas of the country have combined to bring about an industry shakedown of previously unseen proportions.

ing an unforgettable impression of this 24-track analog facility.

Following extensive refurbishment and redesign, CBS Studios has reopened as the Hit Factory London under the auspices of New York's Germano family. Featured are two Neve VRPs and an SSL 6000 G in the complex's Neil Grant-designed Rooftop. The studio's orchestral recording capabilities have been preserved. This type of work remains the realm of a select few in London: Abbey Road (its Toyashima-

designed Calrec UA8000-equipped Studio 3 also deserves mention); CTS (home of the first Neve DSP); Lansdowne (first Neve VRP); and Angel, with its Tom Hidley-designed Control Room One with a Neve VR60.

Another Hidley room is West London's Nomis Studios, built on the back of one of the country's most successful high-class rehearsal spaces. This "20Hz room" sports a large SSL 4000 G and a newly completed pre-production suite based around a



**E**ven the most devout

Southerner must acknowledge that there is life beyond the M25 London orbital road. Studio colonies have spread to areas such as Sheffield, Manchester, Edinburgh and the West Country.

Still in the North London area and just down the road from Konk is the Eurythmics' The Church, running an SSL 4000 G and an Amek G2520, with one of the most popularly acclaimed large live rooms in town.

But even the most devout Southerner must acknowledge that there is life beyond the M25 London orbital road. Studio colonies have spread to areas such as Sheffield, Manchester, Edinburgh and the West Country. Liverpool's Amazon Studios deserves special mention, as the complex is moving after 15 years to the city's Docklands Conservation area. The Neve/SSL studios will be designed by Roger Quedstedt. The new complex will feature three main studios, a MIDI room, cafe, bar and gym, along with 12 self-contained client living quarters.

Edinburgh's REL Studios is typical of a new breed of facility opting for the versatility and value offered by Amek's Mozart console. This board, along with Trident's Vector, seems set to turn the middle market on its head. REL runs its board alongside 24 tracks of Dolby SR through an Otari MTR-90, and joins a list of successful Mozart owners that includes The Strongroom in London

Synclavier 9600, which offers 32 polyphonic stereo sampling voices, 32 FM voices, 32MB RAM and a 2-Gigabyte optical disk drive.

Talk of acoustic designers inevitably comes around to Recording Architecture, which has designed both rooms

at The Kinks' Konk Studios in London. The SSL mix room has finally been supplemented by a completed control room in Studio One—the original was gutted by a fire. The reconditioned 80 Series Neve now runs GML automation along with Quedstedt monitoring,

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and The Wyndings in Wales.

Mention Wales in the context of recording and you must mention Kingsley Ward's Rockfield Studios. Enjoying its 25th year in 1990, Rockfield boasts two new Neve consoles, Studer 48-track analog capability in both rooms, and an acoustic flexibility that is unrivaled worldwide. Multiple, variable, dedicated echo chambers for each studio, a down-to-earth optimized approach to recording rock, and a long list of credits has established Rockfield as a premier international studio.

Anybody touring Peter Gabriel's Real World in Box, Wiltshire, could be forgiven for forgetting that the UK studio industry is under siege. In a new project that is equaled in ambition only by the Metropolis complex in London [see page 42], Real World represents just what is possible when money is not a problem.

Back in the other "real world," Moles Studios in Bath is now running two MTR-90 MkIIIs with Dolby SR and the ever-popular DDA AMR24. A redesign resulted in the transformation of the former control room into a large live room and two booths. The control room was moved upstairs to a sunny

location—newcomers will find a vocal area, separate machine room and space for a second control room. The monitors were provided by loudspeaker manufacturer ATC. Live recordings from The Moles Club, situated in the basement of the building, are easily managed by 32 separate tielines to the DDA/Otari system.

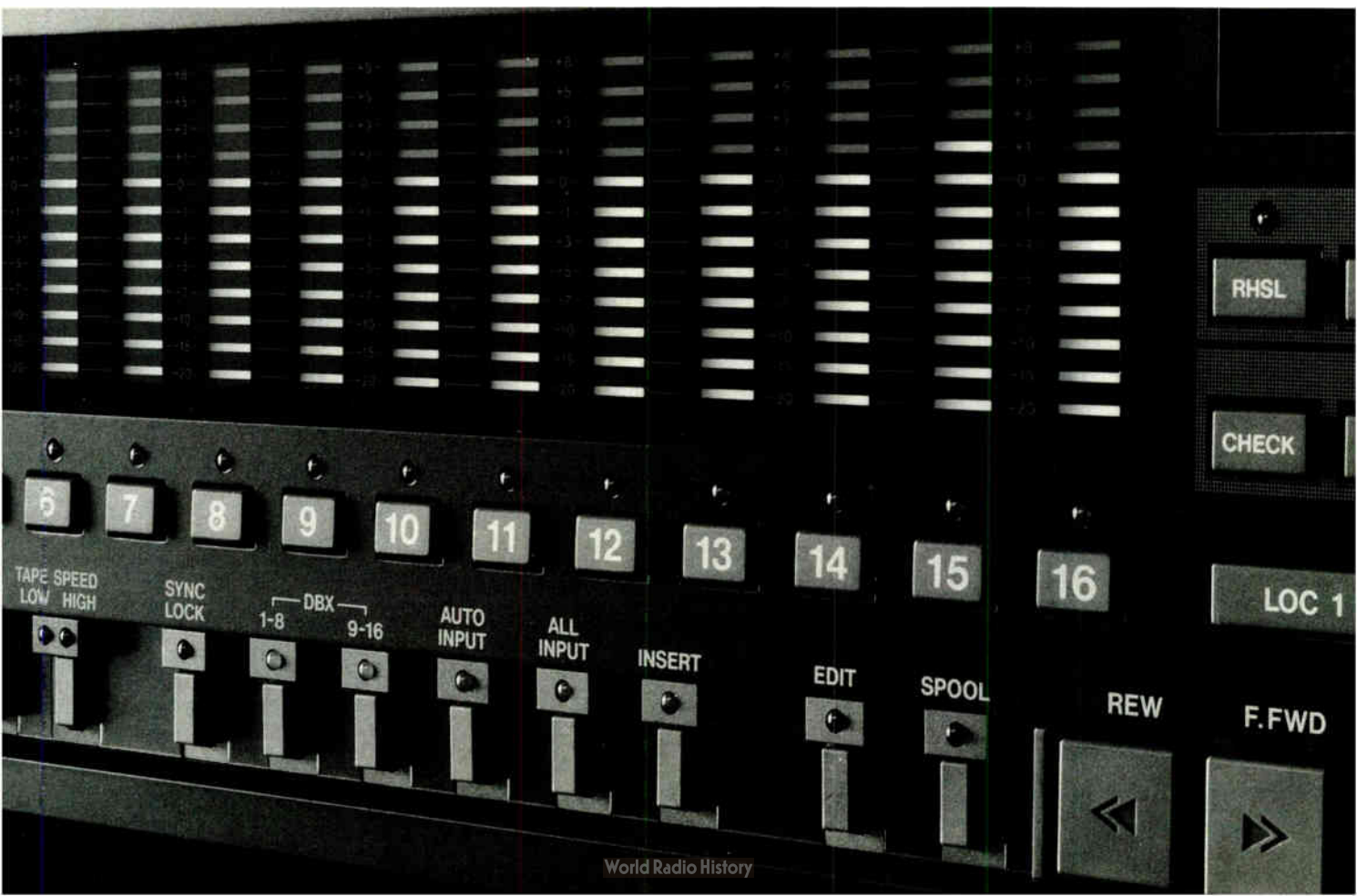
Barely a year-and-a-half old, The Mill Studios in Berkshire is proof that it is possible to break into the upper-echelon market from a standing start. Built on the site of Gus Dudgeon's old studio and still running his hit-studded MCI 500 Series in Studio 2, the facility's Studio 1 features a Neve VR with all the trimmings, and management has recently invested in a Mitsubishi X-880/X-86 package.

Changes in the industry are reflected by the country's trade association, the APRS. The Association has acknowledged the increasingly diverse nature of its membership and is eager to deal with contemporary issues. Most notably, the Guild of Studio Professionals has been formed within the Association to address the plight of studios. Meetings have taken place between the GSP and heads of record

companies in an attempt to stimulate dialog between the supplier and the payer, and to draw attention to the fact that rate-cutting is killing studios. It's hoped that one outcome of the talks will be a more accurate assessment of the needs of the record companies. This knowledge should enable the studios to respond more effectively to the record companies. Hopefully, the earnest nature of the GSP's work will impress upon the record companies the need for communication for the long-term health of the whole industry.

There is a lesson to be learned from what is happening currently in the UK, and it ought to be heeded by any country with a blossoming or established studio industry. It was inevitable that the axe should fall here first, since Britain has perhaps the highest density of quality recording studios. The casualty rate may be substantial, but the British studio industry that will emerge will be a far leaner and healthier creature. And it will remain the best on Earth. ■

*Zenon Schoepe is a UK-based freelance writer and former editor of Sound Engineer magazine.*



# Metropolis Studios



by Paul Tingen

London's

Big

New

Facility

is

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the

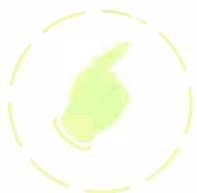
Top

Some bizarre contradictions appeared in the British recording industry in the past few years. While a declining market led to closures and/or financial difficulties for many studios, two of the most spectacular and expensive facilities in the world opened in the British Isles.

Both studios boast large, prestigious, purpose-built control rooms, and both involve extraordinary financial investments. One of them is Peter Gabriel's Real World (see *Mix*, February 1990). The other is called Metropolis.

People were already shaking their heads about Gabriel's £4 million (approx. \$6.4 million) studio, but Metropolis cost an unprecedented £7.2 million (\$11.5 million). Real World could be explained partly as an artist's pet project, which doesn't necessarily have to make back all of its investment. But Metropolis is a fully commercial business without the backing of a major corporation, so it has to make all of its money back from its own operation.

Metropolis opened its doors in May 1990 and stunned the studio world, not



only by its astronomical price tag, but also by its impressive architecture. Where most studios have a cramped reception area for an entrance, Metropolis has a 60-foot atrium. Housed in a former West London power station called The Powerhouse, Metropolis also incorporates a flood of natural daylight, catwalks, concrete and stairs, resulting in an overpowering impression of space.

The complex contains two large first-floor studios, simply called studio A and B. Both feature spacious control rooms, lots of wood, large live rooms and recreation areas. Both are completely self-contained units. The second floor is a restaurant/bar, with a terrace on an enormous balcony.

On the top floor are three more



**Above photo: Metropolis, Studio 2; left: restaurant and atrium**

studios, C, D and E, also with large control rooms and built in a similar style to A and B. Adjacent machine rooms help keep noise down. The control rooms are aesthetically pleasing and have, despite their ample dimensions, an intimate, living-room ambience.

It's only been a couple of months since the whole complex, including the top floor, was completed, so it's a good time to give Metropolis a closer

look. Answering questions is Carey Taylor, one of Metropolis' MDs and in many ways the person who has most closely seen this project through from conception, back in 1984, until today.

Taylor, an accomplished producer/engineer who has worked with the likes of Dave Edmunds and George Harrison, says Metropolis was conceived in 1984 when he, producer Gary Langan, and business partners Karen Clayton and Adam Skeaping

decided to set up a new recording complex: "There are a lot of good studios in London, but it appeared to us that you had to move around a lot during projects, because one studio was excellent for one thing, but you needed another for something else. We wondered, 'Is it possible to combine the best aspects of all studios in one facility?'"

"We realized that such a recording complex had to be big," Taylor continues, "to physically cater to many different recording approaches, whether those be live drumming or bands, audio-visual work, overdubbing, keyboard and MIDI-oriented recording, or mixing. Having a large studio complex is also the only way to have real depth of expertise and experience in a staff."

Initially, the team thought of using a church or another similarly roomy building, but then Taylor saw The Powerhouse. "My first reaction was to reject it," Taylor says. "I thought it was too large, too imposing. But we soon realized that if we were going to be involved, we wanted to be the best in everything we do. I'm not necessarily saying that we are the best [laughs], but



we're trying to be."

The real vision of Metropolis was sparked by the building itself, though the team really had no idea what they were getting into. "We didn't set out to be a \$7 million recording complex," Taylor explains. "You just don't do that. We started with a vision of the quality of facilities we wanted to offer, and this building, which was a fantastic shell. You couldn't fail to be fired up about what would be possible in it."

"It had been a long time since a top recording facility was built in London from the ground up. The last time was CBS Studios in 1971. Yet working practices have changed enormously over the last 20 years. The way people make records is totally and utterly different now. So we had a chance to build a complex that is designed for the way people make records today and will be making them for the next ten years. Hence, the enormous atrium, the natural daylight, the large control rooms, the feeling of freshness and openness. Recording in boxes, in stuffy and dark basements where you don't know what time of day it is, is a thing of the '60s."

Although they designed Metropolis to be markedly different and new, Taylor is quick to stress the importance of familiarity. "People spend years developing their recording techniques, and you have to take that into account. We set out to be something instantly familiar to people who would go to Air or Olympic, yet at the same time be exciting and different. We tried to bring together all the good things we'd seen at other studios and put them in an aesthetically pleasing surrounding."

"Studio A is mainly a track-laying studio, designed to take big bands. It's for people who want and can afford to pay a great deal for comfort and privacy, like Prince or Queen. It sports a 60-channel Neve desk with Flying Faders automation."

"Studio B is an all-around studio. It's excellent for track-laying, but is also an outstanding mix room, with a 68-channel SSL G Series console. Basically, you can do everything there without bringing in extra gear."

"Studio C is designed primarily as a mix room. It has what's probably the only in-line 72-channel desk in London, apart from Mayfair's 72-channel

SSL. We opted for a Neve VR with full automation, which I think is certainly a brave step, because Neve is generally perceived as a track-laying console. But we believe that this is as good as you can get. The whole room is set up as a no-holds-barred mixing facility with all the outboard gear you can possibly think of. It's also good for post-production work, sync to film and those kind of things."

"Studio D is conceived as a bread-and-butter recording room for keyboard- and MIDI-oriented projects."

"Studio E is a bit of an oddball. We just installed a 72-channel Focusrite console with Neve Flying Faders automation. It has a reasonably big over-club booth, so you can do everything in there, although I wouldn't expect people to record drummers or complete bands."

Technical manager John Goldstraw explains that the combination of two SSLs, two Neves and a Focusrite was a conscious decision: "We didn't want to have five SSLs just because they are, or were, in vogue. We wanted variety and the highest possible quality. The Neves are excellent desks that use advanced

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IBM computer technology in their automation, including usage of a mouse and moving faders. The Focusrite is also excellent, offering eight stereo or 16 mono effects sends; its channels are put together in groups of eight, with switchable function per group, and it has the same high-quality automation."

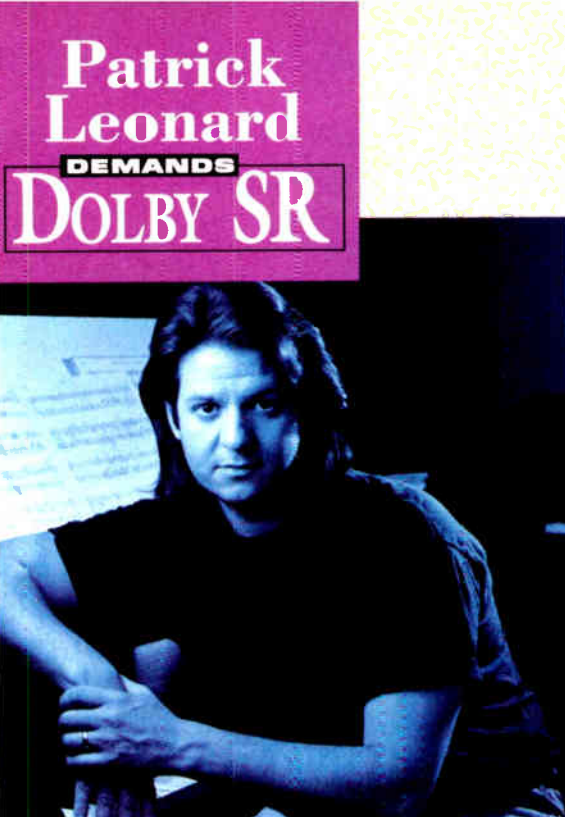
Main monitors throughout the building are Genelecs: 1034s in studios C, D and E, and 1035As in studios A and B. Every studio also has a choice of Yamaha NS-10s, Auratones, AR18LS and Electro-Voice Chrystals for near-field monitoring. Recorders include Mitsubishi X-850s and Otari 100As.

It's an impressive array by any standard, but the question remains: Is having a £7.2 million studio complex in 1991 Britain viable? "I am quietly confident that this business makes a lot of sense," Taylor says. "On balance, we are perceived as low risk, low return by the financial institutions. Obviously, we'd prefer the studio market to be better than it is, but then we're not in this primarily to make a profit. To run a good studio you have to have a commitment to the business and care about it. If you don't love the studio business, if you don't do everything you can to make it excellent, if you let money rear its head and come above considerations of quality, you will never have a top-class facility."

With a client list including Prince, George Michael, Stevie Nicks, Paul McCartney and Queen, they must have gotten something right—to say the least.

No more major alterations are planned for the complex. "We're almost done," Taylor says. "The only significant changes will be the addition of a relaxation area next to the restaurant, and we have that 2,000-square-foot area underneath the car park that we want to use. It could become either programming rooms or budget studios, or we might possibly have a commercial facility in there, or perhaps even video facilities. But as a pop recording complex, it's there now. Any more changes will be fairly subtle. We might do another studio abroad, in Europe or maybe the U.S. Lots of things are in the cards, but nothing that we're ready to tell the world about. One thing is sure, though. This won't be the last thing that this team does. It's more like a starting point." ■

*Paul Tingen is a London-based freelance writer.*



**“With Dolby SR, the music comes back the way I’m used to hearing it, but without the noise.”**

- Occupation** Producer, keyboardist, songwriter.
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- On what he does** “I like it all, I have to do it all. I feel a need to challenge myself in areas I haven’t entered before.”
- On his technique** “I find the air and space around the principal elements in a recording are becoming more important to me. The music becomes more centered, with less need for effects and layering.”
- On Dolby SR** “I prefer and am accustomed to recording on analog tape. But I don’t like tape noise - who does? Dolby SR assures a quiet, transparent recording.”

*“Toy Matinee” (Reprise Records)  
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# French

RECORDING

## Standing at the Cultural Crossroads



by Philippe Bouasse

### WHETHER FOR THE GREAT WINES

or the quality of its studios, France has always been regarded as an exotic, appealing country by English and American producers, engineers and musicians—from the glory days of the Rolling Stones' *Exile on Main Street* (with producer Jimmie Miller, recorded on the French Riviera) to the Sting/Hugh Padgham sessions at Studio Guillaume Tell in Suresnes a few months ago.

However, since the last AES show held in Paris three years ago, the French market has opened to music of all styles and ethnic origins. The Gipsy Kings (world sales of their first album, *Bandolero*, topped 2 million) were nominated for Best Contemporary Folk Recording at the 1990 Grammy Awards. La Mano Negra's debut release, *Putu's Fever*, features English, Arabic and Basque lyrics, and achieved a gold award and sales of 100,000 units. Les Negresses Vertes, another alternative act, can be heard on the soundtrack of the movie *Dick Tracy*.

The pop repertoire is no longer confined solely to "commercial" French and Anglo-American music, and many studios benefit from the new trend.

### The Studios

Peter Martinsen, a Minneapolis-based engineer working long hours in Paris these days, says, "I have never seen any city in the world with so many SSLs and digital machines!" **Studio Davout**

in Paris, the first French studio to invest in digital multitrack technology eight years ago, celebrated its 25th birthday last year with the purchase of two Sony 3348s and an SSL 4064 G Series. African star Salif Keita was seen there recently tracking new material, with Joe Zawinul playing and producing. Jackson Browne, The Time's guitarist Jesse Johnson and producer Tony Visconti were also recent studio complex users.

At **Studio Guillaume Tell**, which also purchased two Sony 3348s, the clients in the last months included Paul Simon, Phil Ramone, and Sting with producer Hugh Padgham, among others. Alain Aubert, co-owner of the studio, believes, "People come here looking for local musicians, who are sometimes the best musicians in the



**Studio du Manoir**

only the beginning of it."

Paris abounds with world-class facilities: Besides those mentioned already, there is Thierry Rogen's **Studio Mega** (which features an SSL 4056 E Series with G computer and a Sony 3348), **Grande Armee**, **Plus Trente**, **Studio des Dames** and more.

**Couleurs Studio** opened its doors just outside of Paris in 1987, and now features a 60-input Neve VR console with Flying Faders automation. Resi-

dential studios seem to be springing up everywhere in France, especially in the southern part of the country (where the sun shines every day). Two newcomers worth mentioning are **Studio de la Blaque** in Cézanne country, Aix-en-Provence, which opened its doors in 1990 with a 56-input SSL 4064 G and a Sony 3348; and **Studio du Manoir** in Biarritz, equipped with an SSL 4048 G, digital recorders and outstanding acoustic design by Christian Malcurt. In Toulouse, Jacques Bally's **Studio**



**Above photo: Manu Guiot, freelance engineer/producer for Mick Jagger, Dave Stewart and The Eurythmics, with author Philippe Bouasse.**

**Right: Island recording artist Ray Lema (from Zaire, currently living in Paris). He was featured on Rupert Hine's One World, One Voice.**

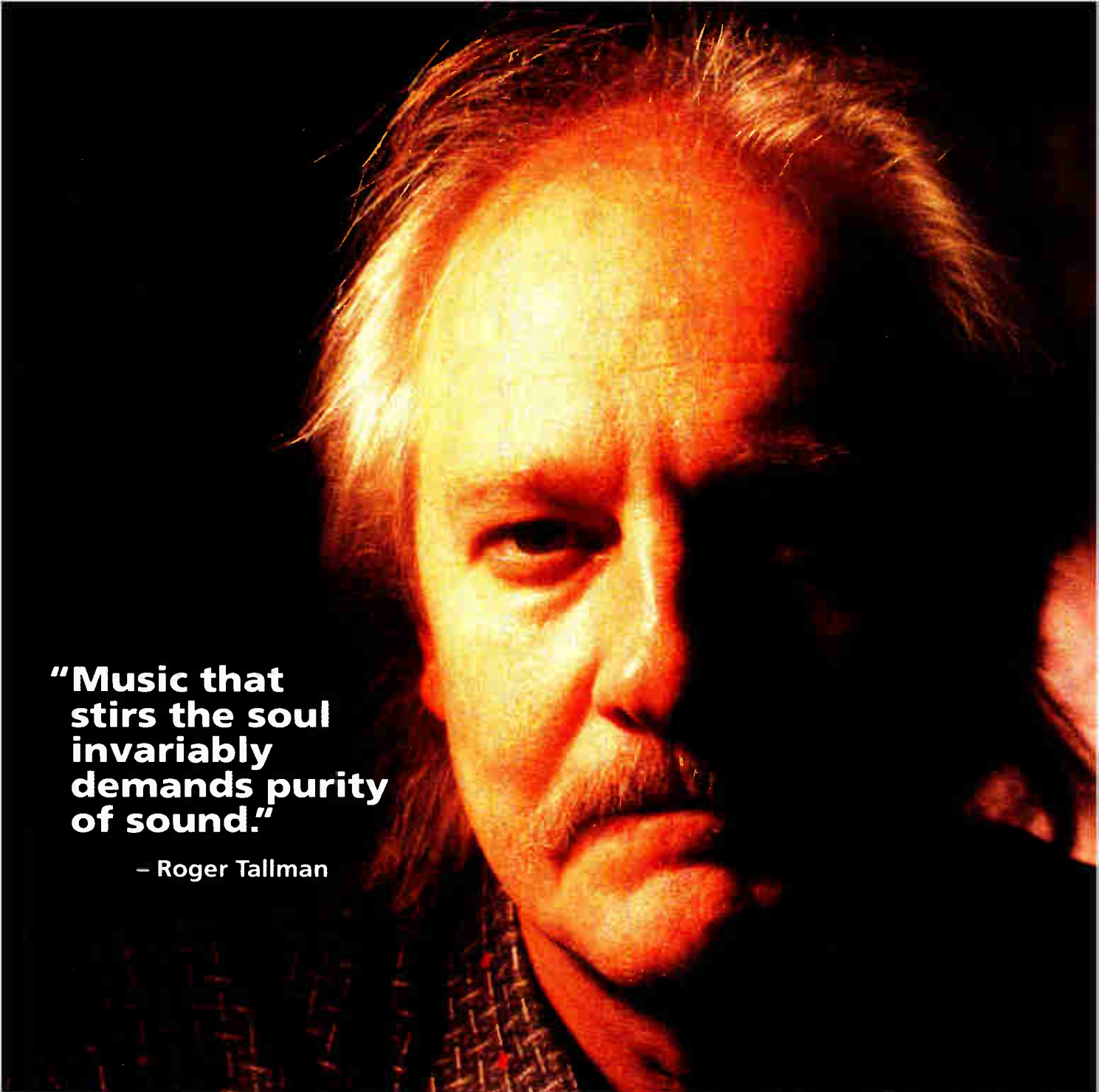
**Bottom right: Top engineer Dominique Blanc-Francard, described by his peers as France's Bob Clearmountain.**

world. Thanks to its multicultural environment, Paris is Europe's hot spot in terms of musical creativity. Phil Ramone tells Paul Simon who tells Sting...and I feel we are witnessing



PHOTO: PHILIPPE ETHELREDE





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World Radio History

The recording industry in France continues to incorporate the latest technology, while welcoming the influences of multicultural artists, engineers and producers. The combination is a satisfying one.

**Polygone** is equipped with state-of-the-art machines, including an SSL 4084 E, Neve VR60, Sony 3348 and a NED Synclavier. French producer Mick Lanaro is one of the dedicated users of the complex. **Studio Miraval** near Marseilles features modern equipment in a sophisticated facility, surrounded by vineyards on the grounds of a 17th century chateau.

In terms of remote recording, **Le Voyageur II** is noteworthy. It is a complete mobile recording unit serving users throughout Europe. Acoustic designer Christian Malcurt used expanding sides to create a 16-square-meter control room, which houses a 48-channel Neve VR console and an extensive range of digital recording equipment, including the Sony 3348 multitrack. Hugh Padgham chose the facility to record Sting vocals last summer in Pisa, Italy. "The real studio environment of Le Voyageur II enables us to attract real studio people in here," Vincent Pitras explains. "We're pretty proud to be dealing with major touring acts all over Europe. The Grateful Dead dates in England meant a lot for us!"

When it comes to engineers and producers, everyone in France, from Dominique Blanc-Francard to Steve Forward, seems to agree on the great opportunities created by the changing environment. Says Manu Guiot, successful freelance engineer/producer: "The French sound has yet to be exported. The notion of the producer as an artist is starting to be well understood, and because we've got a lot of freedom in today's market, a different approach to our work becomes possible."

Clearly, the recording industry in France continues to incorporate the latest technology, while welcoming the influences of multicultural artists, engineers and producers. The combination is a satisfying one, and promises continued success for the country in the future. ■

*Philippe Bouasse is a musician, engineer and editor of the French audio magazine, Soundcheck.*

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by Amy Ziffer

# DANIEL ABRAHAM'S INTERNATIONAL PERSPECTIVE

"In France there's a different perspective toward English and American studios and engineers," says French recording engineer Daniel Abraham, trying to rouse himself on a Tuesday afternoon after three days and nights

shocked when I realized that. Everybody had the impression that in American studios, when something broke, they just rolled in a new machine. People actually told me that! When we heard stories like that,



in the studio. "It's because of this perception that people there try so much harder. Every time we got an American or English client, we'd roll out the red carpet and say, 'Is there anything you need? Is everything fine?'"

"When I finally got to England, I went to studios I had heard of, and I was surprised to find that studios were in no way different insofar as equipment or design.

"There are quite a few studios in Europe that are comparable to the best studios in America, and I was

first of all we were very depressed, and second, we tended to do more. When I came to the U.S., of course, I found that was not the reality, and that studios basically work the same all over the world: There are great studios, good studios and not-so-good studios."

Daniel Abraham is in a position to make these comparisons. A native Parisian who has been engineering music for over a decade, he got his "break" in the mid-1980s when Duran Duran, following their Power Station phase, came to Paris to cut demos.

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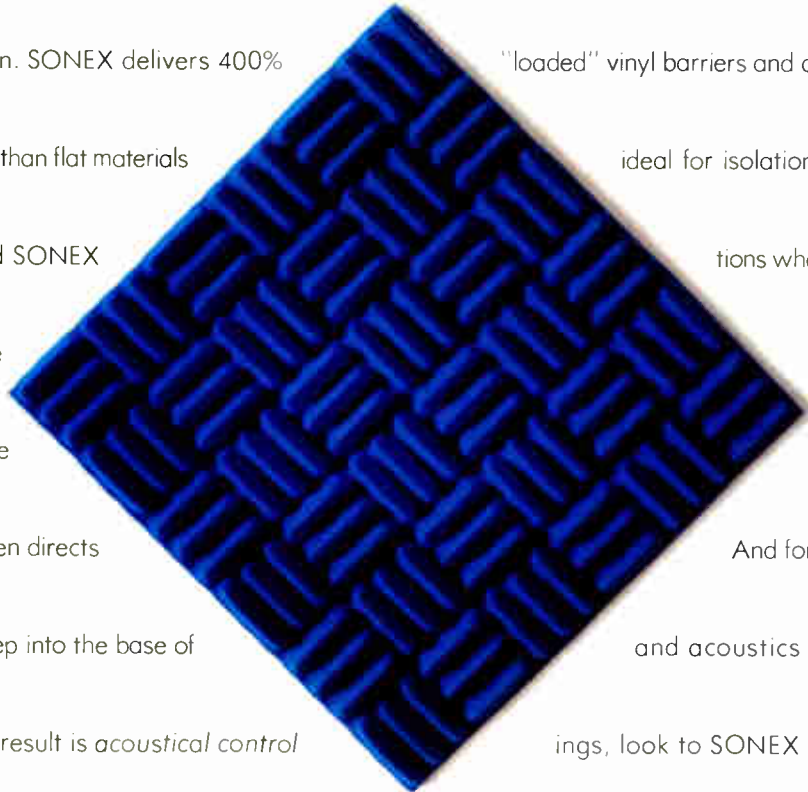
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"They told me afterward that they really didn't expect anything," he recalls of their attitude toward the sessions. "They said, 'Well, it's a studio in France and a French engineer, ha ha ha!'"

Their attitude changed fast, and Abraham worked with Duran Duran on their next two albums, which were done in Paris, London and New York. In France he worked with many accomplished artists—Number 1 bands like Trust and Taxi Girl—although their names aren't familiar here. Since arriving stateside in 1985, he's met with success doing dance remixes for Fine Young Cannibals, Roxette, The Bangles, Adam Ant, Grace Jones and others. At press time, his mix of the Breathe single "Say A Prayer" is at Number 20 on the *Billboard* Top 100 charts; he's just come off projects with Information Society, Will to Power, and the reformed Go-Gos; and he's about to fly to Belgium to engineer an album with John Cale.

To understand the studio market in France, it's first necessary to explore the *music* market. Growing up, Abraham was acutely aware of the British-American domination of the music market. That domination, as in other areas of the economy, has led to a certain complacency on the part of American and British studios, confident that they're "the best" by virtue of some sort of birthright. An attitude readjustment is in order here, because Abraham's experiences disprove the notion that the French market is some kind of studio Third World.

"The heart of the matter is money. The Italians are very good at making records that mimic English or American records and selling them back to England or America," he explains, "and the Germans have always had a few bands that were successful outside, like Kraftwerk. The French have never been able to do that, for some reason. French music is sold in France, Belgium, Switzerland maybe, and that's it, so budgets are small. People know that unless they're really lucky, they're going to sell only a couple tens of thousands of copies. If you sell a hundred thousand copies in France, that's amazing. So, most people are ready to experiment with all sorts of styles, sounds, productions, whatever. They're not limited to the

very commercial stuff because they know it's not going to make that much of a difference.

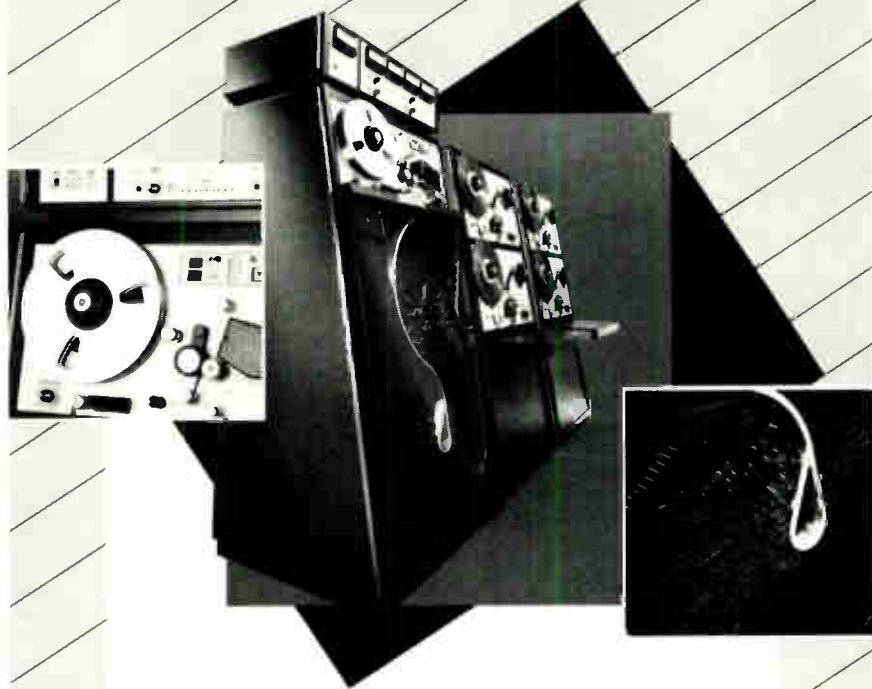
"In America there's the opportunity to sell large quantities of records, because the American market is big and because American product is sold all over the world. People don't want to ruin their chances by doing something different, so they go for the sure thing, and it's more conservative."

Even given broader choices in record stores and on the radio, Abraham isn't sure if Americans would welcome greater musical diversity.

"The people around me enjoy stuff I bring back from France—Caribbean, rai and African music—but at the same time I don't think it would be successful on the charts. There's so much music available already.

"But even in France," he continues, "you have half French product and half international [on the charts], as opposed to Japan, where they have maintained a very high level of Japanese control. That's partly due to the fact that there are twice as many Japanese people as French people. They have 100 million, while France has 50 million. France has too small

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### PRODUCER'S DESK

a market to be really healthy, so studios are always looking for ways to reach other markets."

One of those markets comprises musicians from former French colonies, mostly in Africa, who started flocking to Paris in the late '70s, seeking better recording technology

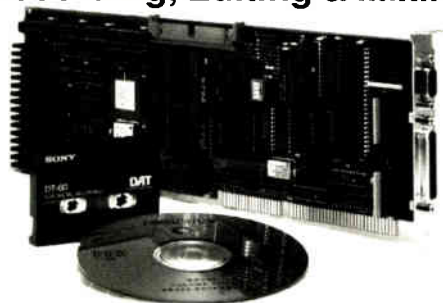
"I know a few [engineers] in France who are really, really good, and if they had been born on the other side of the ocean, they'd be huge."

that would allow them to make high-quality records for sale back in their own countries. "French record companies and studios said, 'Well, maybe that would be interesting,' and their music gained acceptance in France," recalls Abraham. Contrast this with England, where Abraham says, "They don't market African music as much as the French because they have their own pop music that's successful all over the world."

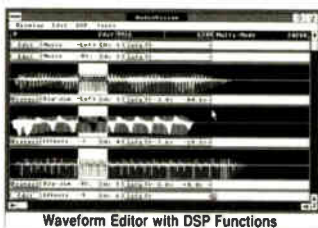
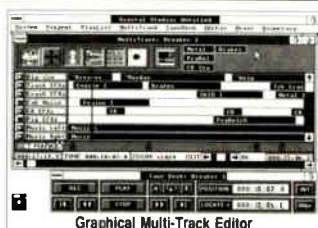
The small size and non-commercial nature of the French music market has helped perpetuate the deep insecurity that dates from the days of the British Invasion. One way this affects the studio world is in the development of talented engineers and producers. Artists often don't place the sort of confidence in French staffs that they deserve. "They say, 'Give us an American sound,'" explains Abraham, "and when we have more money we'll do it in America with an American engineer." In a way that's justified and in a way it's not. I know a few people in France who are really, really good, and if they had been born on the other side of the ocean, they'd be huge. But they've had to deal with a certain type of product all their lives, and after a while it does get restrictive and keeps

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them from growing."

Despite the fact that French studios are quite capable of delivering quality comparable to the best American studios, the last group to catch on to this may be the French themselves. "In France," remembers Abraham, "when a foreigner came and asked us to rip the studio apart, we'd do it. Change the speakers—whatever. We'd spend the whole night there to do it. We assumed that's how it was done everywhere."

Investment in equipment is also done with an eye toward satisfying foreigners. Abraham recalls that when he left France. Davout, the studio where he was working, was outfitted with five 24-track Sony digital machines, SSL consoles and walls of outboard gear. Even twelve years ago, when the recording industry everywhere was really still a fledgling, the French were not far behind their counterparts across the ocean, mostly because they were supplied by American and British manufacturers.

While the French are anxious to please, the complacency born of inertia in American and British studios has, in some cases, led to a decline in service—and face it, the studio business is a service industry—that can be the undoing of a studio's reputation.

While American and British studios and personnel will undoubtedly continue to enjoy a perception of superiority for some time, you clearly can't keep good people down forever. Abraham has broken out of the mold, and his experiences overseas can only be a boon to his career. True to his background, Abraham has avoided getting stuck in any kind of musical middle ground. However, he would like to break out of the remix market. "The last few years all I've been doing is remixes, exactly the opposite of what I was doing in France. I'm working mostly with tapes, not with artists. In France I was able to work on one style of music one day and another style of music the next. Here, you get known for one thing." Although his reputation isn't set in stone yet, Abraham can be confident of one thing: His strong background, developed in the eclectic French marketplace, will enable him to handle whatever comes his way. ■

*Amy Ziffer is a freelance writer based in Los Angeles.*

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# NEWS

## FROM AROUND THE WORLD

**Hilton Sound Expands into Ireland**  
Audio equipment rental specialist Hilton Sound has entered into a major agreement with Audio Engineering of Dublin to provide an office in Ireland. With its headquarters in London, Hilton now has offices in Paris and Hilversum, Netherlands, in addition to the new Irish facility.

As well as representing Hilton Sound in Ireland on an exclusive basis, Audio Engineering gains access to the full equipment inventory of Hilton Sound and its recently acquired subsidiary, London Sound Centre.

According to Pete Dolan, Hilton Sound's director of operations, "Among major league artists, recording is an increasingly international process and no longer the exclusive preserve of London, Los Angeles and New York. Our growing presence throughout Europe is a clear reflection of that."



### S.O.S. Group Organized

American producer manager Shannon O'Shea is expanding her business and has moved to a new London location. O'Shea and Australian publicist and marketing executive Meredith Cork have set up the S.O.S. Group of Companies, encompassing S.O.S. Creative Marketing Management and S.O.S. Creative Management, to provide international management, marketing and public relations services to artists, producers and entertainment-related corporations.

New to the S.O.S. roster are the production/writing team of Womack & Womack and Los Angeles-based engineer/producer Jack Rouben. On the marketing side, James Ingram is a new client. The S.O.S. group may be reached at 42 Philbeach Gardens, London SW5 9EB.

### Soundtracs Established in Scotland

Audio mixing, console manufacturer Soundtracs plc recently formed a new production division in a 20,000-square-foot facility at Glenrothes, Scotland.

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### STUDIO SPOTLIGHT

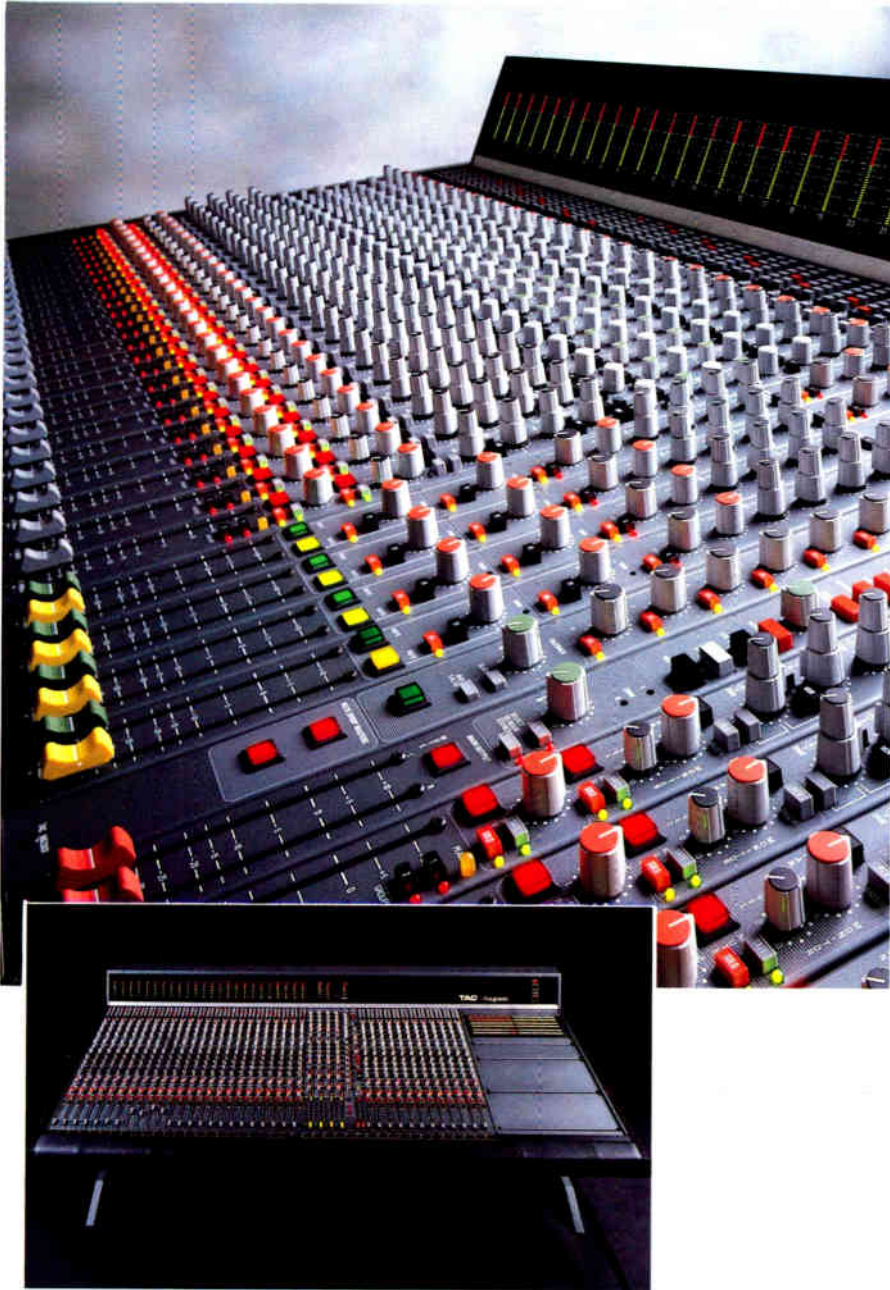
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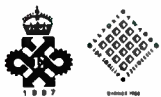
**SOLO/PFL SYSTEM:** MAGNUM has a Master Status controlled in-place solo switch on both channel and monitor paths. When de-activated, solo switches provide a full Pfl facility. MAGNUM also has two independent Mute groups.

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### NAB Announces Dates for Montreux International Radio Symposium

The National Association of Broadcasters has set the dates for the NAB/Montreux International Radio Symposium and Exhibition in Montreux, Switzerland. The event, scheduled for June 10 through June 13, 1992, will be organized jointly by NAB and the city of Montreux. For further information, contact the National Association of Broadcasters, 1771 N Street N.W., Washington, D.C. 20036-2891; (202) 429-5350.

### Dynaudio Acoustics Forms in London

Born of a liaison between internationally acclaimed acoustician and monitor designer Andy Munro and Danish loudspeaker manufacturer Dynaudio A/S, Dynaudio Acoustics has been

formed with the express purpose of developing and marketing a full range of professional monitoring and loudspeaker systems.

Within the new organization, all manufacturing, production design and after-sales support will be handled by the advanced systems at Dynaudio A/S in Denmark. Market research, sales and new product development will be handled by the new London office.

At launch time, a total of nine monitor system configurations are available, ranging from the DA-M1 near-field reference speaker to the top-of-the-line DA-M4, a full, wall-mounted main monitoring system capable of delivering 130dB SPL.

### U.K. Bits & Pieces

A Soundtracs Quartz production console has been installed at **EMI's** new recording complex in London's West End... Recent sales of TimeLine equipment to U.K. facilities include Lynx KCU and VSI time code modules to **Air Edel**, and Lynx KCU and VSI modules and a Lynx VSI film module to film post house **Delta Sound**. The stand-alone version of the Lynx time code module has been delivered to **MagMasters**

and **Sarm Studios**... The Virgin Group of studios has purchased another Mitsubishi X-880, bringing its total of 32-track digital recorders to three. The new multitrack was put to work immediately at **Olympic Studios**, but it will be available to all of Virgin's recording facilities, including **Townhouse**, **The Manor** and **The Manor Mobile**... **Goldcrest Facilities** has installed 64-channel and 48-channel SL 5000 M Series consoles from Solid State Logic as part of the company's extensive film studio modernization... London's **MagMasters** is the first facility in the world to install two Harrison Series Ten consoles. The second Series Ten at MagMasters was installed in August, where it is being used for audio recording, audio-for-video post-production and film scoring... **Philip Drake Electronics Ltd.**, the Welwyn Garden City-based manufacturer and supplier of professional broadcast audio and video equipment, has moved to new 44,000-square-foot premises within the area. The company's new address is 26-28 Hydeway, Welwyn Garden City, AL7 3UP, Hertfordshire... British songwriter and producer **Russ Ballard** has pur-

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chased a Soundtracs UK4832 console fitted with Tracmix Automation for his own studio...A 28x16x24 Allen and Heath Saber console has been ordered for Akai U.K.'s Heathrow demonstration studio. The studio is used to demonstrate Akai pro audio products, including the A-DAM digital multitrack and S1000 sampler systems...The first order for the broadcast version of Amek's B2520 console has been placed by Limehouse Television. The 52-input unit will be installed in Wembley Studio B...In other news from Amek, Square Dance, located in Nottingham, and Castle Sound, based near Edinburgh, each took delivery of 56-input Mozart desks fitted with Amek/Steinberg Supertrue automation...A 16-output AMS AudioFile Plus system and a Logic 1 digital mixing console were installed at the Teddington site of Thames TV as part of an upgrade to dubbing facilities...

#### European Studio News

Sondor of Switzerland negotiated with film studio Wytwornia Filmow of Poland for a total refurbishment of its

studios. Plans include the installation of two Amek BCII consoles and two Amek Classics, one of which will be configured for use with Dolby stereo...An SSL ScreenSound was installed at the Dutch broadcasting company Nederlandse Omroep Be-driff...In Paris, Teletota, one of France's major video post-production facilities, has taken delivery of two DAR SoundStation II Digital Audio Production systems...Eurosound Sweden AB (Mälmo, Sweden) is expanding its business from P.A. rentals to include mobile recording. Its new mobile recording unit has been built according to broadcast standards in close cooperation with the national public service television company, SVT. The unit is designed to serve the needs of the independent record and video industry as well. Offering direct broadcast 2-track recording (analog 1/4-inch or DAT), or 24-track with sync capabilities for post-production work, the trailer can provide a total of 88 lines...Norway's Masterhuset A/S—one of Scandinavia's best-known CD mastering and cutting facilities—purchased a Sony SDP-1000 graphics-based digital EQ and dynamics proces-

sor for high-end audio sweetening tasks...Nexo PC Line sound systems have been installed at two Swedish venues: Pitea Havsbad nightclub in the north of the country and the Grand Hotel Kristianstad in the south. Another PC Line system was part of a recent upgrade at the State Theater in Bremen, Germany...Audio Kinetics signed an agreement with Swiss film machine manufacturer Sondor. The agreement covers Audio Kinetics' ES.Lock machine control and synchronization products, which Sondor is to distribute in Eastern Europe through its own network of representatives. As part of the agreement, Sondor will be adopting Audio Kinetics' ES.Lock as its standard machine control system, replacing its own in-house-developed system...Neve has received orders for three of its latest-generation DSP consoles from German broadcast companies West Deutscher Rundfunk, based in Cologne, and Munich-based Bayerische Rundfunk. When installations are complete, there will be eight DSP consoles in operation throughout Europe, including the DSPs operated by the BBC, ORF (Austria) and Gostel Radio (Russia). ■

## Get in Gear for the 90's

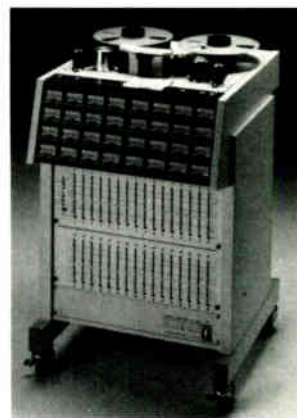


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# NARAS

## ROUNDTABLE

### Modern Recording & Production Techniques



The following article is excerpted from a NARAS educational workshop that took place at last September's AES Convention. Billed as a Master Class on Modern Recording and Production Techniques, the workshop featured a distinguished panel of engineer/producers: Bob Clearmountain, George Massenburg and Al Schmitt, with Bruce Swedien moderating the proceedings. An audience of several hundred was on hand for this lively discussion of a wide variety of topics.

#### **Digital and Analog Recording**

**Clearmountain:** I think we're just beginning to realize the possibilities of digital recording. Obviously, there are still a lot of people who feel they're missing something when they record digitally. There is some quality that analog adds to the sound, or something bad that digital adds to the sound. Many people still enjoy recording analog. I think this is going to change as manufacturers come up with solutions like new filters and better converters.

The advantages of digital are many. For example, you can copy forever and make as many copies as you want. But digital editing is really what sold me on the format. The creative possibilities of having different versions of a recording and being able to fly tracks back and forth are almost endless. It's wonderful for those who can afford it. Not only that, once you get accustomed to the sound, it's just better.

**Massenburg:** I've been working in digital for about five years, and I'm sold on it, too. Not because it sounds good, but because, as Bob mentioned, it offers tremendous procedural capabilities. The ability to move things around allows you to totally rework songs. Digital is undoubtedly the future, at least the ten- or 20-year future. In signal processing, we have more exotic reverberation effects at our disposal and positioning algorithms [spatial enhancers] available in front of us. It's all going to be digital; it's impractical to do these things in the analog domain.

For me, the challenge has been to make the conversion work better. To some extent, we've been limited by the existing technology, but I truly believe that 16-bit conversion is not going to come anywhere near what we know in analog. There are 20-bit converters now available, and I believe it's going in that direction. But I'm completely sold on digital.

**Schmitt:** I really think that digital is where it's going. Even dinosaurs like Bruce and I are not going to stop it. [Laughter] The way I record now is a combination of analog and digital. I still get the warmth and punch out of the analog. I record my rhythm tracks on 16-track analog and transfer them over to digital machines for doing overdubs.

I just went through an experience of mixing an album that I didn't record, which was recorded with different kinds of machines, both with and without Apogee filters. I could hear the difference.

**Swedien:** Which did you prefer, Al? The one with or without Apogee?

**Schmitt:** With the filter it sounded better, warmer; without it, everything sounded so nasal.

**Massenburg:** That's funny you should mention 16-track, because it's a stunning format. There is not a digital machine built that sounds as good as a properly set up 16-track.

**Swedien:** Yes, I still keep a 16-track machine that I use for recording drums and percussion, and I use it on every project.

The advantages of  
digital are many.

You can copy  
forever and make  
as many copies as  
you want. But  
digital editing is  
really what sold me  
on the format.

— Bob  
Clearmountain

**Clearmountain:** Hopefully, one of these days some manufacturer is going to come up with a brilliant box that's going to make a digital machine really sound like an analog machine. [Laughter]

**Pictured below, left to right:**  
**Al Schmitt, George Massenburg,**  
**Bruce Swedien and Bob**  
**Clearmountain**

**Swedien:** Any questions from the floor?

**Q:** I'd like some opinions about what recording mediums you prefer for different genres of music. For example, does rock sound better on analog or digital, and is classical forever to be recorded in the digital format?

**Schmitt:** I think digital sounds great on classical records; things get so quiet that you want that dynamic range.

**Swedien:** My early days in the industry were spent recording classical music. We can take advantage of a phenomenon called air compression in recording classical music that we can't in recording pop music. I think this enhances the sound and maybe makes the digital [sound] a little easier on the ears. George, what do you think?

**Massenburg:** I don't think it does. What I look for in doing more classical things is transparency—the same thing I look for in doing pop. Of course, I don't sell as many records as these guys, but there is something in digital that fools us into thinking that it is quiet. That is, you don't have any resolution whatsoever once you get below the least bit level. Electronic noise and room ambience are stripped away by digital because of this limit or barrier at the low end. This is one of the great advantages of analog. You have detail 20 or 30 dB down underneath the noise floor. You just don't have that in digital.

**Clearmountain:** I tend to disagree



George  
MASSENBURG

Bruce  
SWEDIEN

Bob  
CLEARMOUNTAIN

PHOTO COURTESY OF NARAS

with you, George, because that detail can get covered up by the noise. How far down are we talking about?

**Massenburg:** I'm talking about stuff that's ridiculously low, literally below about minus 96. There has to be a reason why a piece of music sounds different heard both [analog and digital]. There must be a reason I don't think anyone here can explain. Digital just has less ambience or reverb or air—whatever you want to call it. Almost every time—if you were to mix something analog and mix it digitally—there is this subtle difference between the two in the area of reverb. I'm attribut-

ing this to resolution problems, but I really don't know.

**Swedien:** I'd like to describe the difference between analog and digital in a non-technical way. It's as if you had a high-quality motion picture camera, and right next to it you put a high-quality video camera. Then you photograph the same image with each medium and look at those two images. The film will have a softness or beauty to it. Then when you look at the video version, it will be a bit harsh and almost unrealistic. To me analog is like film. It has a beauty that digital can't match. That's the way it affects me, and to me,

music is what we're all talking about. Music is an emotional thing.

Nevertheless, what digital does, it does so dramatically well there's no comparison. I still use 16- and 24-track analog for a lot of my work, and then I use digital as a storage and editing medium. However, in the past two or three projects I've done, I've found myself using digital less and less as an initial recording medium. I'm working with Michael Jackson on his new project—producing some songs and engineering the project. I'll let you in on a little secret: I'm going to mix two of the songs to analog and three to digital because they affect me differently.

**Q:** When you use 16-track analog and transfer it to digital, do you lose the punch you gained in analog when you transfer?

**Swedien:** Once the analog format gets transferred to digital it changes very little. It's as though you took that 35mm film and transferred it to videotape. You still see the original quality even though it is on videotape.

#### **DAT Recording**

**Swedien:** Do you believe the DAT format has a future, either inside or outside of the industry?

**Schmitt:** I use DAT. When we mix down, I always make a DAT copy. It makes it a lot easier to make cassettes later on; it's so convenient. I think that outside the industry, people will definitely be using DAT machines. Unfortunately, they will be making copies of all our records and everyone will be losing out on their royalties. I don't like it, but I do think it's going to happen. I don't use it for mastering or anything else, though.

**Clearmountain:** I use DAT for mixing and mastering. I've done an A/B test between a 1630 and DAT, and I haven't really found any advantage to using 1630 over DAT. And as far as mixing analog, I mixed a live Bruce Springsteen album and we must have spent \$30,000 on [analog] 1/2-inch tape, and not one of the tapes was ever listened to. After experiences like that—especially for my own productions—I can't see wasting the money when it's much more expensive to mix to analog and DAT is so convenient.

People tell me you have to be careful with DAT because we don't know what the shelf life is, and we don't know how many times we can play them until they start dropping out and having errors. What I do is mix down

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to two or three DAT machines simultaneously, because they are so inexpensive relative to 1630 or any other format. I play one tape back to make sure it's there and I never touch it again. I use one of the other tapes for copies, and take the one that hasn't been touched and transfer it to something a little bit more robust, like 1630, and get it into the mastering room as soon as possible. I haven't had any problem.

**Schmitt:** I was just recording at the Taj Mahal, and we couldn't bring in a lot of equipment because it's a shrine. I used two DAT machines and a C-24 microphone to record this album for Paul Horn, and it was great.

**Massenburg:** The thing I like best about DAT is the ability throughout a project to keep track of how it sounds. From roughs that usually sound better than final mixes, on through the project, DAT seems to be a better reference. I've got a little Panasonic—I can take it everywhere and live with what I'm working on. Another thing is that when artists take DAT [tapes] home and listen to them, they fall in love with them. It's a lot easier when they bring a rough back and say, "Listen, that mix sounds like crap. I want it to sound like this." In the old days when the artists used to bring in [analog] cassettes, it was a daunting task.

**Clearmountain:** It was torture...

**Massenburg:** They never sounded anywhere near the same. With DAT you can get pretty close.

**Q:** When we go from a digital medium at 44.1 to another one at 44.1, why do we have so much of a conversion problem going between the two delivery systems of R-DAT and CD?

**Clearmountain:** It could just be the equalization of the mastering engineers. If it's a direct D-to-D, it's pretty unlikely that something would be mixed and transferred digitally directly to CD without any signal processing whatsoever.

**Swedien:** I think I know a little bit about something that happens there. The recording company of an artist I work with a lot had a policy to take any medium, whether it was digital, DAT, analog, or whatever and re-record it on 1630. And you know why? To get their damn little numbers in there. PQ codes. So I hit the roof. That doesn't happen any more on my projects. In fact, a lot of times I go to the pressing plant and supervise the cassette and/or CD production, if at all possible. I think the labels many times put it

through a whole other generation. Whether you are going 44.1 to 44.1 they still want to get their little [PQ code] in there. I hate surprises. Doug, what do you think about this?

**Doug Sax (of The Mastering Lab):** I deal with this on a daily basis. For example, A&M Records' policy used to be that an original tape would be generated for each plant to master a compact disc. So whatever the prime tape was—30 ips 1/2-inch or Mitsubishi digital—the transfer to the CD format, which is 1630 format, would be made once and each plant would get an original. However, on my last two A&M projects—since A&M became part of PolyGram—the total order on the album was one untimed, EQ'd 1630. Now, if it's untimed, then you know the tape will be used to generate additional masters, normally through editing systems that I guarantee are highly audible. Often the plants will get this tape and generate additional tapes from that tape. If you go by the premise that the transfers are perfect, then it doesn't matter if you take a copy and make your own copy and then give that to your friend who makes his copy.

I am very critical of all the storage formats we use now. I think it is one of the areas where sound deteriorates in ways that you can't explain. I really don't think video machines should be audio's prime storage medium in the future.

**Massenburg:** Doug, let me interrupt. What you are touching on is 1630 copies being less than perfect. I don't think we have actually stated that and I think we should.

**Sax:** Oh, they are less than perfect. We are now at the point where you can get a CD master as a reference disc. I recommend that everyone get a CD reference made from the tape that is used to make your CDs. When your production CD comes out, compare them. I think it's an important tool.

**Swedien:** One thing that irritates me a little about digital is that we were lied to right from the outset by the manufacturers. They said, "You can make all the copies that you want... it's a clone." That's an absolute bold-faced lie. I hear degeneration in the process after two or three digital copies. So I can imagine what is happening with these video machines.

**Mixing**

**Q:** It seems that a lot of older records

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have a tremendous amount of dynamics. You put a modern record or new CD on, and if you look at the playback meters they hardly move or change. I'm curious as to how much you compress your mixes and when you do it.

**Schmitt:** I use very little compression. If I use a compressor or limiter at all, it's 1 or 2 dB. Lots of times I'll use a tube limiter because I just want to get the sound of the limiter. I do a lot of hand compressing; that's the way I learned and how I started.

**Massenburg:** I've had a lot of trouble with compressors. I've built my own for some years. I've spent a lot of time trying to get it right and it's still far from it. Yet, on things like vocals you really need some compression to get it on tape. Especially on digital tape where you don't want to compress it later. It's been difficult coming up with good control characteristics that come close to the ear and coming up with a VCA that's inaudible. It's extremely difficult. I use as little compression as I can. At the same time, most modern sounds are built on some kind of gain control. The Phil Collins drum sound is built on literally saturating mic pre's, and also using extraordinary amounts of different kinds of compressors. And again, the rule is, there are no rules.

**Q:** Bob, how much do you compress your mixes?

**Clearmountain:** I don't know, 3 dB maybe.

**Massenburg:** That's a very gentle compression.

**Clearmountain:** Yes, that's a 2:1 compression ratio. You have a lot of control over attack and release time. I use it because I like the way it sounds, it makes it a bit punchier. With something that's going to be played on the radio, like a single, I might even compress it more. The more compressed it is, the less likely it is that the radio compressors will mess with it. And they can be really violent. Their compression ratio can be as much as 26:1. I've heard some of my records compressed very little, and I hear them on radio stations and they sound like they've been through a washing machine. It's really disappointing. So you tend to want a little more control over it.

#### Recording Studios of the Future

**Q:** How will the recording studio look in ten years?

**Massenburg:** First, we can't really hope for computers to become much

smarter than we are. For recording studios, we can look forward to digital consoles. In 20 years we'll have a complete production facility in a very small package. I see the console as shrinking. This giant worksurface between us and the speakers is the worst anomaly in the world. The controller will be a little more user-friendly. Perhaps even musicians will be able to use them.

**Schmitt:** I agree that consoles will get smaller and that digital is where we're going. I think there will be tapeless studios.

**Swedien:** I would like to see some sort

of audio central where you could just call up and say, "I'm at Record One in Sherman Oaks, and today I need 450 tracks." Wouldn't that be great?

**Massenburg:** You could just send it over on fiber optics.

**Clearmountain:** I go along with everything everyone has said. I think we'll have small digital consoles, tapeless studios...I'm hoping studios will get their lighting and air conditioning together. These are the things that bother me. The technical stuff will all be wonderful. It's great now and it's only going to get better. But these control rooms.... ■

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# Engineer/Producers and Their Portable Equipment

Independent engineers and producers frequently work in a variety of studios; many bring an assortment of mics, signal processors, monitors and other gear with them on session dates. In some cases this is a necessary part of capturing a trademark “sound” or style that the independent is known for. In other cases, a favorite mic or pair of monitors can provide a consistent reference when tracking or mixing in an unfamiliar room. We checked in with a number of people listed in this issue’s Directory of Independent Engineers & Producers to find out what they bring to recording sessions; as always, their responses were varied and informative.

Name/Home Base	Recent Projects	Favorite Studios	Personal Equipment Used on Sessions
Stephen Hart San Francisco & Venice, Italy	Vasco Rossi (EMI) Fourth World with Flora Purim and Airtó Illi Noize (BMG Ariola) Phil Schmall (BMG Ariola)	Condulmer, Venice, Italy Mesa Recording, Sebastopol, Calif. The Plant, Sausalito, Calif. Fantasy Studios, Berkeley, Calif. Different Fur, San Francisco	Tannoy AVM monitors: “They’re smooth. I can listen to them much longer than the standard monitors.”; Panasonic SV-255 DAT; “I also bring CDs and DATs of my most recent work.”
Bruce Miller New York City	Hurricane Party JunYa (CBS Sony Japan)	NYC’s Right Track and Skyline: “Great sounding drum rooms”; NYC’s Sorcerer for tracking; Battery for overdubbing; CBS Sony, Tokyo; Rak Studios, London	Neve and API modules for tracking; Neumann U67; “A bunch of weird flangers and phasers”; PhaseTech DIK and Tannoy PBM-8 monitors; Yamaha SPX90, 900 and REV7
Eumir Deodato New York City	Brenda K. Starr (Epic) Lisa Vidal Blues singer Lois Robbins	“My own” [Duplex]; for tracking: Power Station, Hit Factory, Sorcerer, Clinton, Sound Works; for mixing: Power Station and Hit Factory (all in NYC)	Akai S1000 sampler with 45 MB removable hard drive: “for drum sounds and some sampled vocals”; “My favorite multipurpose mic is an AKG 414.”
Karen Kane Toronto	Chad Mitchell (Silver City Records) Fred Small (Flying Fish) Kay Gardner (Ladyslipper) Chicken Chokers (Rounder) Suede (Easily Suede Records)	Blue Jay, Carlisle, Mass.; for mixing: One World Recording, Boston Open Door Recording, Toronto	Beyer MC740 for vocals; S.O.T.A. monitors: “I don’t have them but I love them.”; Eventide Harmonizer; Yamaha SPX900; Old UREI tube compressors
David Dachinger New York City	Was (Not Was) Sheena Easton Ernie Isley	Skyline, Right Track, Electric Lady, Unique (all in NYC)	Tannoy PBM-6.5s: “Mixes I do on them hold up really well.”; AKG “The Tube” mic; Focusrite and rebuilt Telefunken preamps: “They’re very musical.”
Bob Hodas San Francisco	Barbara Higbie Jim Chappell Osamo Kitajima Katrina Krinsky	American, L.A. Ocean Way, L.A. Studio D, Sausalito, Calif. Bayview, Richmond, Calif. The Site, Novato, Calif.	Meyer HD-1 monitors; B&K 4011, 4003, Neumann KM84, SM69, AKG “The Tube,” Beyer MC740; Panasonic SV-3700 DAT; Quantec XL; Dynacord DRP 20; Aphex Dominator and Compellor
Roger Guerin Montreal	Raoul Duguay Jocelyn Drule Sweetening for <i>The Anniversary</i>	Le Tube, Montreal: “Three rooms, SSL console, 24 tracks with Dolby SR and an 8-track NED PostPro Synclavier—everything you need.”	Klein & Hummel Model 096: “These are powered, tri-amped, all-cone monitors with +4 level inputs—they sound similar to the Questeds—I love them.”
Mark Hallman Austin	Ian Matthews (Gold Castle) Carole King: <i>Touch the Sky</i> (Capitol), <i>Pearl</i> (Capitol)	Congress House, Austin The Hook, L.A.	UREI Graphic EQs; Westlake BBSM-6 monitors; Korg DRV-3000 effects processor; Neumann U87 mics
Jack Barry New Orleans	Fats Domino (Tomato) Nevilles (Black Top)	Studio In The Country, Bogalusa, La. Ultrasonic Studios, New Orleans	“I bring my own headphones and JBL 4312s for monitoring.”; Sony PCM-F1 and SL-2000: “Beta tape is comparable to DAT and it’s cheaper.”

## Name/Home Base

## Recent Projects

## Favorite Studios

## Personal Equipment Used on Sessions

Sam Fishkin  
Chicago

Saffire (Alligator)  
Lonnie Brooks Band (Alligator)  
MC<sup>2</sup> (Independent)  
The Chicago Coalition (Independent)

CRC, Chicago: "...different ambient environments, well maintained."  
Tone Zone, Chicago: "...beautiful sounding room."  
Russian Hill Recorders, San Francisco

Studio Technologies Mic Pre-eminence and Drawmer M500 "...for tracking vocals directly to tape."; Barcus Berry 802 Enhancer; Neumann UM57 (rare East German tube model)

Bob Rosa  
New York City

James Ingram, *Never Felt So Good*  
Mick Jagger, *Primitive Cool*  
Madonna, "Express Yourself"  
Paula Abdul, "Knocked Out"  
Duran Duran

For tracking: Right Track, Skyline, "...live, bright-sounding room; great for vocals."  
For mixing: Skyline, Right Track, Axis (all in NYC)

Tannoy LGM-12, LGM-10, PBM-6.5: "...been using Tannoys for a long time."  
Focusrite ISA 110 modules and EQs: "...great for vocals and drums."  
Full Neve Prism rack

Dennis Scott  
Nashville

*Sing Along Safety Songs* (Benson)  
*Sesame Country* (Sesame Street)  
*Fairy Tale Rap* and *Nursery Rhyme Rap* (currently shopping)

Grand Central Station  
16th Avenue Sound  
Great Circle Sound  
The Sound Shop (all in Nashville)

Alesis Quadraverb: "It's flexible, handy and has some great presets."  
Yamaha NS-10s: "I'm accustomed to them. If a studio doesn't have them, I bring my own."

Rod O'Brien  
New York City

Faster Pussycat  
Suzanne Vega  
Gutter Boy  
Michael Monroe

Hit Factory, NYC  
Right Track, NYC  
Platinum Island, NYC  
One on One, L.A.  
Ocean Way, L.A.

Rack of ten API 560B equalizers: "They're full-band graphic equalizers that are extremely useful. They're my safety valve: great on kicks, snares, guitars and bass."

Harry Brotman  
Chicago

L. V. Johnson (Ichiban)  
Tyrone Davis (Ichiban)  
Brian Chatton & Out of Nowhere  
Al Hudson/Xrotic

"Too numerous to list"

Klark-Teknik DN4005 EQ: "the poor man's Massenburg"; Dynacord DRP 20 reverb: "cream of the crop"; Drawmer 1960 tube compressor; monitors: Westlake BBSM-6s, B&W DM-12s; mics: Sanken CU-32, B&K 4007, Milab LC-25

Richard Bowls  
Los Angeles

Film work: *Darkman*, *Robot Jox*

Master Control, Burbank Calif.  
Studio Masters, L.A.  
Music Works, London

TAD monitors; Neumann and AKG tubes, Telefunken 251 and Sony C-500 mics; Lexicon reverbs, UREI LA-2A & 3As, Sendit Electronics 4X3: "gives additional aux sends"



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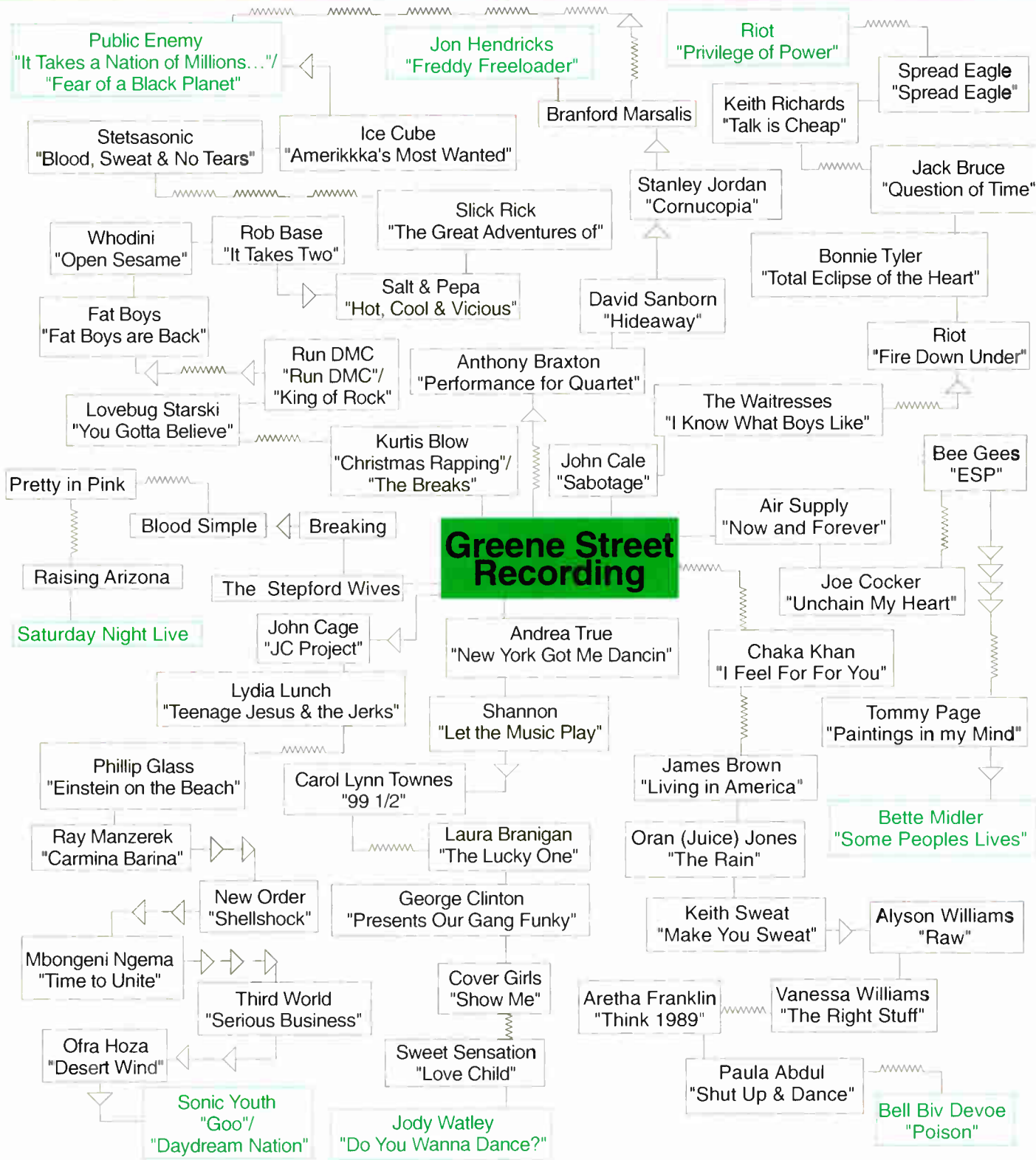
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by Mr. Bonzai



# DWIGHT YOAKAM

## COUNTRY'S NEW "CAT"

In preparing for this interview, I contacted the most dedicated country music fan I know. She's a woman nearing 70, and the music is an essential part of her life. It comforts her when times get tough and fires up her engines when it's party time. She recently found

herself a man, and they checked themselves out of the "rest home." My mom squealed like a teenager when I told her I was going to meet Dwight Yoakam.

Yoakam spent his early years in the hills of Kentucky and grew up with the

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mountain music that gave us hillbilly, which begat rockabilly, which led to rock 'n' roll. As a teenager in Columbus, Ohio, he went pro with a band called Dwight & the Greasers. Nashville wasn't his cup of tea, so he came west at 20 and moved up the ranks during the L.A. cowpunk period of the early '80s.

The history of country music is marked by interpretive innovators like Yoakam, who cooks up a mighty brew of bluegrass, honky tonk, rockabilly and rock. His first three album titles nicely reveal his tastes and themes: *Guitars, Cadillacs, Etc.*; *Hillbilly Deluxe* and *Buenos Noches From a Lonely Room*. His new album, *If There Was a Way*, is a fine piece of work, too.

By the way, Yoakam gave me a beautifully inscribed photo for my mom and even recorded a message for her: "Hi, Marie, how ya doin'? I heard you...escaped recently. You have my congratulations on that and I wish you much success. I hope you have a wonderful experience with your new partner and your life together." Hey, I guess I'm a fan now, too.

**Bonzai:** My mom is a true country fan and she thinks the world of you. When I asked for her impression, she said, "Torn jeans and fancy jackets, looks like a million. I don't think he's a pushy, showy guy—he's kind of independent." Did she capture you?

**Yoakam:** Ironic as that might sound in terms of outward appearance, flashy jackets and jeans, it's true that I don't perceive myself as showy or pushy. In fact, I'm a little bit introverted. I'm flattered that she would think of me like that.

**Bonzai:** You were born in Kentucky, right?

**Yoakam:** Yes, southeast Kentucky, rural Appalachia.

**Bonzai:** Did you have a music teacher when you were young?

**Yoakam:** No, I'm pretty much self-taught, which is why I'm not a better guitar player than I am. I had a few lessons when I was about eight years old, but I had a guitar before that.

**Bonzai:** Did you know early on that music was your calling?

**Yoakam:** I had a strong desire to pursue it, but I wasn't always convinced that it would actually happen. I just wanted to make a living as a musician.



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**Roger Nichols, Producer/Engineer, Credits: Rickie Lee Jones, Rascal Flatts**

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**Shep Pettibone, Remixer/Producer, Credits: Madonna, Janet Jackson**

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**Bonzai:** Were there specific performers that you looked up to?

**Yoakam:** Early on, I was impressed with Elvis because he was very visual. I remember the first time I saw *Jailhouse Rock*. I was born in '56, so I was too young to see it in the theaters, but I saw it on TV when I was 7 or 8. I was stunned. That choreographed dance scene in the prison cell blocks was amazing, unbelievable. It is still one of the most charismatic moments in rock 'n' roll history. The song itself was so immediate, spontaneous, aggressively sexual, and so well-performed.

**Bonzai:** Did you have other more traditional influences?

**Yoakam:** Yes, at the same time I had Hank Williams Sr., but with him there was no visual connection. There are some kinescopes of him, but he died without leaving much to see, which is tragic.

And my mother had a Johnny Horton album that I latched on to. I was completely infatuated with his music—I use the word “infatuated” because I was so young and that’s what it was. I was spellbound by the music. Johnny Cash was another one—my dad had his records. And I heard bluegrass, too—folks like Bill Monroe were played on the radio at my grandparents’ house.

**Bonzai:** Was your dad a strong influence in your life?

**Yoakam:** Sure, because I was fortunate to be raised in a home where I had both parents with me until I was grown. We had a strong family unit. And there was a certain cool to the guys of the era that my dad came from—post-WWII, late '40s, early '50s. That’s when the hillbilly “cat” was transported around the world via the military. He embodied an American aesthetic—the white, rural, Southern-boy energy. The cat—the guy with the gassed-back hair, the sideburns. I think it was the first example of white cool in America. They went off and saw the world and had a kind of hip aesthetic.

**Bonzai:** Was he a musician?

**Yoakam:** No, but my first guitar was the one he brought home from Korea. I fell and crushed it when I was just a toddler.

**Bonzai:** When did you first perform?

**Yoakam:** I got up and played at a talent show at school when I was in the fifth grade. That was my first walk onstage.

**Bonzai:** How about paying gigs?

**Yoakam:** That started in high school. I had a rockabilly band called Dwight & the Greasers. We did a lot of Buddy Holly, Elvis, and late '50s-style music.

To follow the chronology of the influences, by the '60s I started buying my own records. One of the first was by Roy Orbison, and Roy was from my dad’s generation—the “cats.” The Rolling Stones were a big influence on me, and Creedence Clearwater Revival—John Fogerty. It was something I could listen to without being ostracized by the kids in Columbus, Ohio, where we moved. It was country, but it was cool. Fogerty came from a pure place and put the “cat” back in country. He recaptured for young people some of the hip mystique in the bare bones of original country music.

**Bonzai:** Why didn’t you make it in Nashville?

**Yoakam:** Well, I went down there, but I didn’t feel the environment was conducive to performing. It was suggested that the country-rock thing on the West Coast would be more to my liking.

**Bonzai:** So you came out here and started slugging it out in the clubs?

**Yoakam:** Yes, I came out here in 1977, and I went back [to Nashville] a few times to pitch songs, but I’m not a very good pitchman—I don’t sell myself real well. It was out here in '83, around the time that cowpunk was happening, when things started moving.

**Bonzai:** Was there one big break for you?

**Yoakam:** No, the door opened gradually as the musical cycles changed. The cowpunk movement was made up of groups like Rank & File, The Dells, Maria McKee. Teenagers were rediscovering country music and exploring it like they did in the late '60s.

**Bonzai:** This new album is a nice piece of work. There’s something that strikes me strongly—so much individual personality in the instrumentation supporting your storytelling. Let’s talk about some of the people you’re working with.

**Yoakam:** On this record we have Jeff Donovan on drums, who’s been with me for eight years, as has Pete Anderson, the guitarist. Pete has produced all of my albums. A lot of the credit should go to Pete and the players, of course. They are able to define what I am doing musically without compromising or reworking clichés.

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don't just stick a fiddle here and a mandolin there. It's orchestrated and choreographed. We adhere to certain principles, but I never want to compromise my musical integrity by simply adhering to form, and these players allow me to explore. For instance, Jeff played drums on John Doe's latest album—John and I are radically different as musicians. Taras Prodaniuk has played bass on the last two albums and for a few years of touring. Scott Joss and Donny Reed play fiddle—exceptionally gifted players. Skip Edwards is the keyboard player—all the Hammond B-3 and piano parts. Wonderful musicianship.

**Bonzai:** Were the sessions live or overdubbed?

**Yoakam:** Anybody who tells you they record live is either lying to you for the mystique, or they are completely removed from the mainstream of modern recording technology. You can't do it live unless you've got about five different studios to set up in, and a lot of money to take it and take it again and again. CD technology, radio play and home listening dictate that you record in as clean a manner as possible.

We cut a live take of everything, and we keep the drums and bass. All the elements, including my vocals, are tracked live. The basic rhythm unit is all live. What we are looking to achieve is solid drum and bass tracks, because that's our rhythmic foundation. We focus on that, and all the drums on my records are live. In mixing, we may trigger once in a while to get an ambient sound, but those are acoustic drums with Jeff actually playing. You can't get that warmth from anything else.

Then we go back and start building. Next come keyboards, rhythm guitars, leads, mandolins, dobros. And then I take a week or so for the vocals.

It's cut live, in a sense, to maintain the spontaneity and kinetic energy that comes from all playing together. A lot of rock acts start with a drum machine. They write a rhythm pattern, and the guy writes the song after he puts the bass part down. We don't do that. It starts with the song. Pete and I sit down, and we pick the songs during pre-production. In a sense, we script the album.

**Bonzai:** Let's shift gears. Suffering is an ongoing country theme...

**Yoakam:** Yes, but it's also true of rock 'n' roll. The difference is that rock 'n'

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roll is lustful and country is lamentful. It's all about human relationships and needs, and fulfillment or betrayal.

**Bonzai:** Why is it that a sad song is often done with a very uptempo feeling?

**Yoakam:** I would take it back to bluegrass. The music is so happy rhythmically, but ironically, the lyrics may be very tragic and sad—stories of the struggle to survive in life. There is a dichotomy, and in that contrast you find something intriguing. It's joyous and uplifting, yet so emotionally distraught. It's a way to confront the negative emotions and the horrific consequences of life's realities, and in a cathartic way purge yourself and find release.

It comes from the music of the mountain people who gave birth to bluegrass, like the Louvin Brothers and the Delmore Brothers. The Louvin Brothers do an old song called "Knoxville Girl," which is very uptempo, but it's about a guy murdering a girl. And he never explains the motive, except that he was awfully pissed. Again, it was a way to confront feelings—salvation through emotional purging. Like an emotional primal scream—letting it out.

**Bonzai:** Do you feel this release when you're performing?

**Yoakam:** Sure, and all my songs have this in mind. I try to focus on the emotion that was the catalyst for the song. That's also why the music transcends racial, cultural, nationalistic and economic boundaries. Pure musical forms have always done this, and they always will.

**Bonzai:** I'd like to hear about your personal appreciation of country music. Could you suggest a few records?

**Yoakam:** You might go all the way back to the Carter Family, the Monroe Brothers and Bill Monroe's early recordings. The Stanley Brothers—great bluegrass. Jimmie Rodgers, where you see the roots of hillbilly music. He took rural, white, American music based in the folk traditions of the Welsh, Irish, Scottish and English, and the German influence. He took all that and introduced it to urban audiences in New York City. He died around the time of the Great Depression, and had been a brakeman on the trains and seen the hoboes. He wrote a great one called "Hobo Bill."

Then move on to the Ernest Tubbs period, just prior to and during WWII. You start hearing electric guitars. For

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me, he was the beginning of honky tonk, the roadhouse music that is not limited to country, because it's dancing music.

Hank Williams Sr., of course. He's the greatest star in country music, a legendary figure. Then move on to the hillbilly "cat" era—people like Carl Smith, Webb Pierce, early Ray Price, Stonewall Jackson, the Delmore Brothers and the Louvin Brothers. This is the late '40s, with drums and electric guitars, mountain music that they revved up.

Then I would pick up some Johnny Horton and some Johnny Cash. For my money, Johnny Cash is the last great hillbilly "cat" artist. There are some others at the end of the honky tonk period, too, with Buck Owens—the last great honky tonk artist. They're different because hillbilly artists tend to dabble more in rural folk forms, mountain forms. The honky tonk artists work more with forms that are related to dance music. Cash has always been one to pick up an acoustic guitar and sing a song with historical relevance and Buck is the quintessential honky tonk artist, for my money. He was the

culmination of all those influences.

Bob Wills is another musician you need to listen to. He had a big band approach in the '30s and '40s. An outgrowth of white rural folk music.

And Merle Haggard—the poet laureate of the common man. Merle is one of the greatest musical poets in American culture. "Holding Things Together" is poignant, brilliant. Suffering, the need for love, abandonment. Supremely talented as a writer.

What we can see is that there has been a lot of cross-pollination. Jimmie Rodgers wasn't a pure country artist. There's no such thing as a pure country form, because it's a hybrid, it's interpretive. The moment I interpret it, it's changed by my interpretation. But that's okay.

**Bonzai:** Are you carrying on these historical traditions you speak of?

**Yoakam:** I hesitate to say traditions, because it's limiting in its nature. It makes me think of being trapped. I've quit trying to answer that question. I've given up my life—I can't put it better than this—to a power greater than me. It's how I exist in harmony with myself. Otherwise, you struggle within yourself, you battle to achieve perfection.

**Bonzai:** How'd you get that scar on your forehead?

**Yoakam:** I got this in birth when they used forceps. I was fightin' from the get-go.

**Bonzai:** Is it still a fight? Is it getting better?

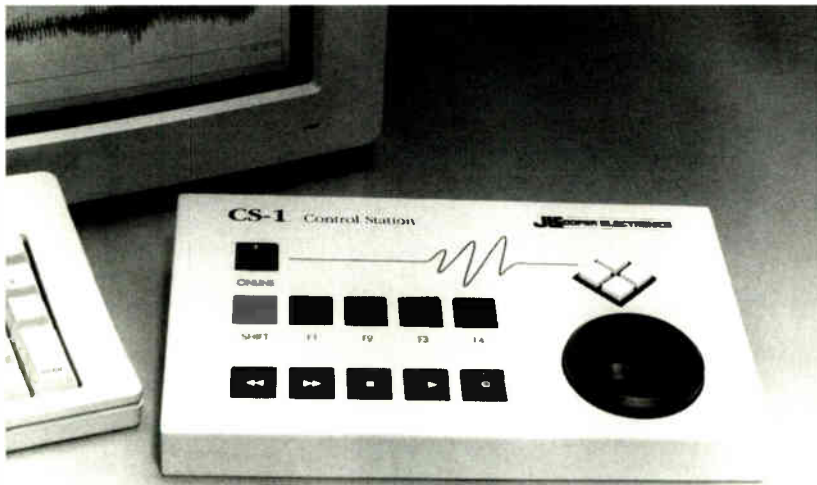
**Yoakam:** Yes, it's getting better. But here's what I have to deal with: I'm too safe for the rockers who are looking for a guy with sparklers in his ears, jumping up and down and being bad. I'm too good to be considered bad enough to be art, and I'm too bad to be considered good enough to be on country radio all the time.

So, you know what? I try to avoid being too calculating. I do it for me, and if I satisfy me, that's the critical element involved in success in life. Artistic success is writing and singing with your own standards. If you do that, if you please yourself, I think you have the shot—the chance to please and communicate with others. You have to start with what is honestly pleasing to yourself.

**Bonzai:** How can we wrap this up?

**Yoakam:** Life has no end. ■

*Roaming editor Mr. Bonzai is famous for his karaoke versions of Ferlin Husky's greatest hits.*



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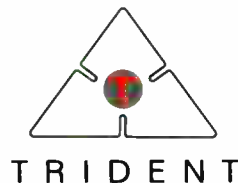
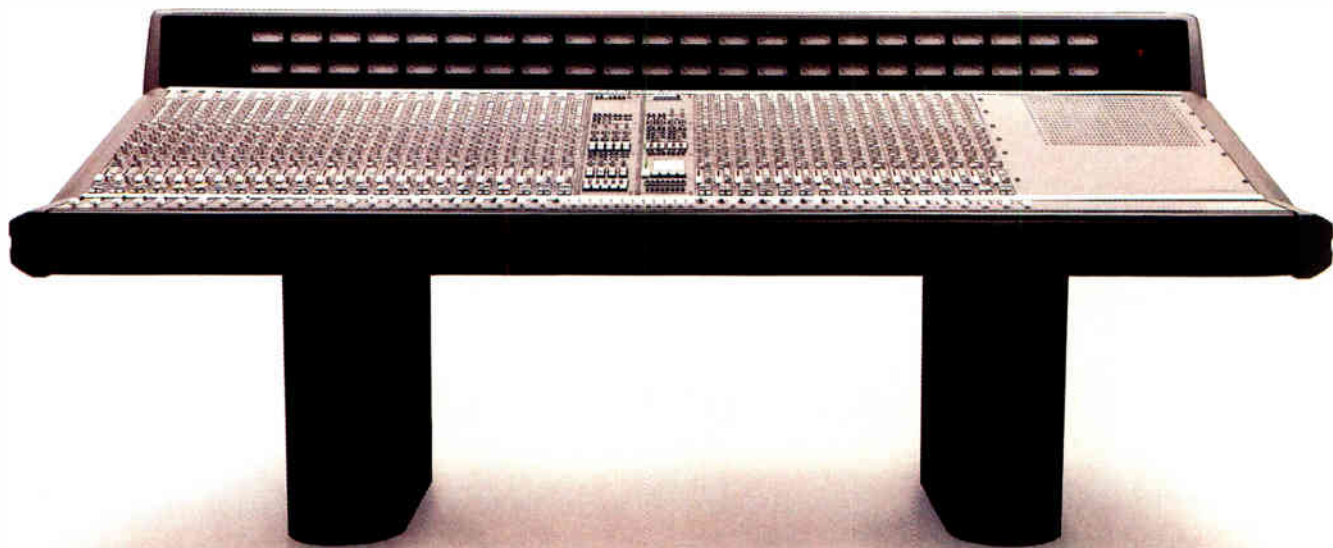
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by Paul Potyen

# OPCODE'S VISION FOR THE STUDIO

If up to now you've been using the Macintosh primarily for MIDI sequencing, Studio Vision gives you a very good excuse to get serious about digital audio recording, as well. In fact, I believe this latest offering from

Opcode is a revolutionary first step toward integrating MIDI and CD-quality digital audio in a user-friendly, cost-effective environment.

I've been using the recently released program for the last couple of

## Chip Shots

New digital audio recording and editing systems are proliferating at a remarkable rate. At the September AES show, **Digital Audio Labs** introduced The CardD, a bus card for IBM AT and compatible computers that allows stereo 16-bit digital recording direct to hard disk. The CardD is now available at a retail price of \$795.

The company has also developed a software interface called The EdDitor, and another bus card that allows digital input and output in S/PDIF format to the CardD system called The I/O CardD. Both products were expected to be available by the first of the year. The EdDitor is priced at \$250 and The I/O CardD sells for \$295. Digital Audio Labs, St. Louis Park, MN; (612) 559-6104.

**Micro Technology Unlimited** is now shipping Microeditor, a Microsoft Windows 3 version of the Microsound-AT hard disk audio recorder and editing system. New features include CD/DAT digital I/O option, enhanced sample-level visual editing, sophisticated graphic EDL, and the ability to create up to 2,000 edited tracks without additional mass storage requirements. Microsound-AT is available in turnkey systems or as an add-on for existing IBM-compatible 286 computers.

**Eltekon Technologies Inc.** has introduced a 600 megabyte, magneto-optical, removable cartridge

disk drive for digital recording applications. The MX-2D Digital Audio Series drive is designed to be used with recording systems such as Digidesign's SoundTools running on an Apple Macintosh II Series computer. Cartridges can store 56 minutes of digitized audio sampled in stereo at 48 kHz, and over an hour at 44.1 kHz. The MX-2D drive lists for \$5,495 and includes one 600MB cartridge. Additional cartridges are \$299. Eltekon Technologies Inc., Livonia, MI; (313) 462-3155.

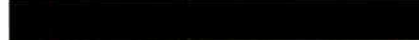
**E-mu Systems** has released a 4MB expansion kit for the Proteus/1. Called the Proteus/1 Orchestral Expansion Kit, it includes 30 orchestral instruments selected from the Proteus/2 in addition to 128 new ROM presets. The expansion kit doubles the amount of sound memory in the Proteus/1. It's available through all E-mu dealers at a suggested retail price of \$495 plus installation. E-mu Systems Inc., Scotts Valley, CA; (418) 438-1921.

**Dr. T's Music Software** has released KCS Omega for the Atari ST family of computers. Described as the company's most advanced sequencer for the Atari, the package supports real-time graphic editing in play mode; music transcription and printing; sys ex recording, editing and playback; and many other features. List price of KCS Omega is \$450, with upgrade paths available for registered users of KCS and Level II. Dr. T's, Needham, MA; (617) 455-1454.

weeks, and I can report that, like its older cousin, Vision, Studio Vision is a complex hunk of code. But its potential is tremendous. And while the price of admission is not trivial when compared to other MIDI software, it's a bargain in comparison to some other digital audio systems, none of which can do what Studio Vision can do.

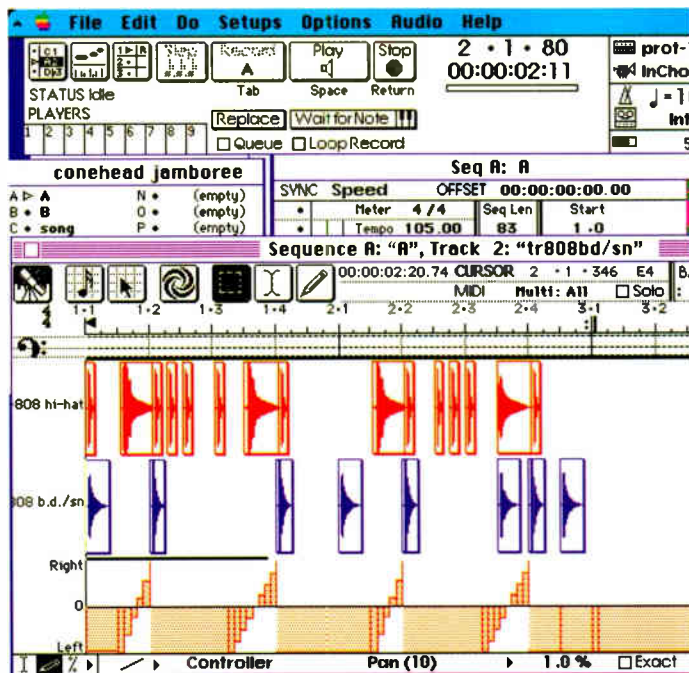
Studio Vision can do everything that Vision can do, and a lot more. In a clever (and unusual) bit of cooperation between two different software companies, Digidesign agreed to license its Sound Designer code to Opcode. The result is that Studio Vision can take advantage of either a Sound Accelerator card or an AudioMedia card (both require at least a Mac SE/30) to record, play back and edit CD-quality digital information in much the same way MIDI data is handled. For example, you can cut and paste pieces of audio, quantize them, change their volume, and apply continuous controller information to them, using the same tools that Vision uses to manipulate MIDI data.

I used the program on a Mac II with a Sound Accelerator card, writing digital audio files to a Microtech R45 removable hard drive. According to Opcode, this is about the harshest environment to run Studio Vision under: The Mac II's 68020 is the slowest processor that can handle digital audio, the current version of Sound Accelerator is actually slower than the AudioMedia card, and the R45 pushes the outer limits of speed acceptability for hard disks. This is not so much a limitation of Studio Vision itself as a limitation of high-quality digital audio processing in the Macintosh environment: We're not doing word processing here, folks. It's also important to note that digital audio takes up *lots* of room on your hard disk, so you'll need a large, fast storage medium if you want to really take advantage of Studio Vision's potential.



You can either record new audio, import audio files (Sound Designer, Sound Designer II, Audio IFF and Dyaxis formats) or copy audio infor-

Figure 1



mation from other tracks onto as many as 16 different audio instruments, but you can *play* only two audio instruments at a time. Studio Vision provides two different ways to mix several audio instruments together in order to

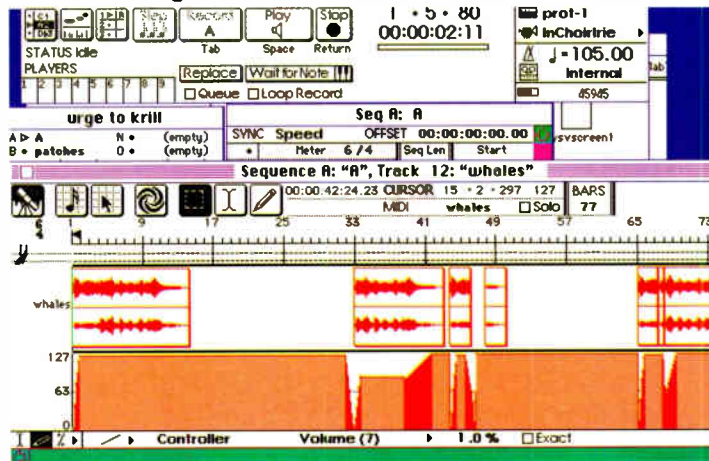
information. It is also the necessary choice if you want to mix into stereo.

One of the pieces of music I'm currently working on is hip hop in nature. Studio Vision gave me an opportunity to digitally record some drum sounds from my old analog TR-808 drum machine (I never sell anything) and construct a set of drum tracks that incorporated those sounds. My approach was to record a single mono track with all the TR-808 sounds, each separated by enough silence to allow me to treat them individually in Studio Vision. A "Strip Silence" feature allowed me to gate the audio (using adjustable noise floor and signal period), isolating it into separate events occurring at the time they were originally played. (This feature, as with most of the other editing features, is non-destructive: The original soundfile is unchanged.) Then I opened a new audio "instrument" and pasted the bass and snare sounds into it, leaving the hi-hat sounds on the

original instrument. Then, by cutting, pasting and quantizing, I created a stereo TR-808 drum track consisting of the two instruments (Fig. 1).

A second piece of music called for the use of some whale sounds, which

Figure 2



overcome this limitation. The first is better suited for mixing together small sections, but does not incorporate any controller information (such as volume or pan). The second method is recommended for mixing entire tracks or sequences, and includes controller

I recorded in stereo from a sound effects album and laid in at the proper place in the track (Fig. 2). Here I made use of the "Edit SoundFile" command to remove a pop that was on the original recording. This command opens Sound Designer II (Version 2.0 or greater), where you can process the soundfile data you recorded using Studio Vision. Quitting Sound Designer brings you back to the Studio Vision file you were working on, with your modifications to the soundfile in effect.

Up to this point I had experienced no problems in recording or retrieving any digital audio on my hard disk. But as I discovered, the longer the soundfile, the more you tax your system. When I attempted to overdub a pair of vocal



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tracks to accompany a MIDI sequence I had created, my first pass was successful, but before I could complete my second pass I repeatedly got an error message and recording was aborted. I was able to play back the file up to the point at which recording stopped. I determined that the hard disk was only half full, but even after defragmenting the drive using Symantec Utilities, I was unable to proceed further. I thought I had worked around the problem by copying and pasting various sections of audio onto the remainder of the file, but when I played it back I was informed that the disk was either too slow or too badly fragmented to continue playback.

Subsequent investigation revealed that a soundfile may have been recorded to a bad sector of the hard disk. (Here's a tip: When formatting a new hard drive or cartridge, test it for bad sectors before you use it for digital recording. Some formatting programs allow you to remap bad sectors so that they are never used. Do it if you can. La Cie, Ltd. offers a helpful utility for this purpose, called Silverlining.) But I'm still scratching my head about this, because I got the same result re-recording the same overdub onto a 650MB ProStore—the state-of-the-art medium for digital recording. Finally, I was able to accomplish my task by taking all other SCSI devices out of the chain, except for the internal hard drive and the ProStore. When I recorded the digital audio to the ProStore and then copied it to the R45, it played back successfully. Go figure.

One feature worth special mention is "File Management." After you've completed recording and editing your digital audio, you can use this option to "compact" your soundfiles, removing unused information and saving valuable disk space.

Overall, I am very impressed with the way Studio Vision was put together. As with any revolutionary first generation software, it is not entirely bug-free. For example, the "Mix" feature did not always work reliably, and I did experience a lockup at one point. But it's obvious that a lot of careful planning went into its implementation, and it has paid off. Studio Vision is a powerful, flexible tool for the audio professional. And if you are already familiar with the complexities of Vision, the learning curve for its big

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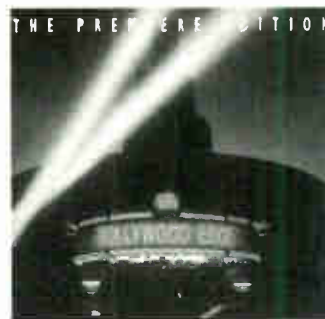
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brother is easy in comparison. I was impressed with the manual; it's well-organized and there is even a section called "Tips, Audio Idiosyncrasies, and Troubleshooting" that you might find helpful in unraveling your own digital audio mystery.

This is by no means a complete report on Studio Vision. For example, I haven't taken the time to explore the sync-to-SMPTE options yet, and space does not permit me to go into a feature-by-feature evaluation of the program. But I believe this is an

important development for anyone who wants to operate in a Macintosh-oriented studio environment. Studio Vision retails for \$995, with a \$495 upgrade path for registered users of

Vision. ■

*Paul Potyén is an associate editor of Mix and a veteran musician, composer and producer.*

## CD-Quality Sample Playback From a Macintosh Card

SampleCell, recently released from Digidesign, incorporates powerful new 16-bit sample playback options for Macintosh II-based audio production systems. Having spent several hours using SampleCell, I can report that the

number of features and the flexibility of the system make it more difficult to describe than use.

The NuBus card provides 16-voice polyphony—allocated to eight outputs—all under MIDI control. An intuitive graphic software interface allows you to load Sound Designer or AIFF files either from your hard disk or from your CD-ROM drive. (If you don't already have one, you'll want to buy a CD-ROM drive in order to take advantage of the CD-ROM disc that Digidesign has included with the package. It's loaded with 630 megabytes of 16-bit sounds.) While SampleCell doesn't directly sample its own sounds, it is compatible with MIDI Manager, making it an ideal complement to other audio production software such as the Sound Tools and Audiomedia hard disk recording and editing systems. Sound Designer II SC is also included in the package, making it easy to transfer samples to and from any sampler via MIDI.

The card is designed to accept up to 8 megabytes of standard Macintosh RAM chips for storing samples. Configurations are easily saved using the SampleCell Editor, and the files on CD-ROM offer you a choice of memory-hungry or "light" versions of many instruments to suit your needs. For those who are inclined to tweak soundfiles further, the Editor also offers a dizzying array of features that provide anything from sophisticated real-time control of sounds from a MIDI controller to detuning and scaling options. SampleCell retails for \$1,995 without any RAM installed, or for \$2,995 with 8 MB of RAM. Digidesign, Menlo Park, CA; (415) 688-0600.

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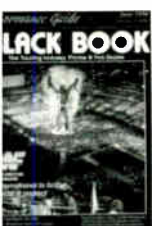
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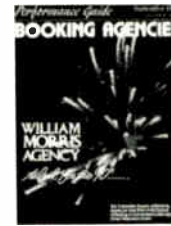
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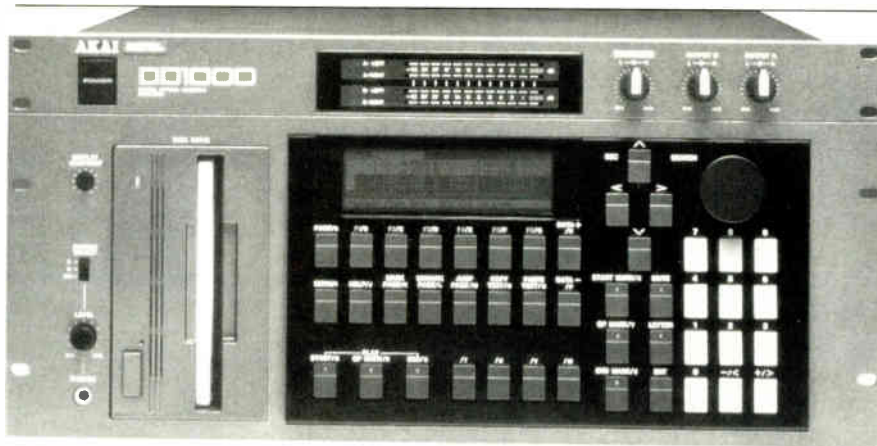
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by Alan Parsons

# AKAI DD1000 MAGNETO OPTICAL RECORDER



**F**or a company with roots in domestic hi-fi, Akai has become a big name in pro audio over the last few years. Products like the S1000 and S900 samplers have raised the Akai profile to a healthy level in recording studios and concert halls. Other equipment, particularly the A-DAM 12-track recorder and the Akai/Linn MPC60 drum machine/MIDI sequencer, have established a *style* of product innovation that sets Akai apart from its competitors.

When I first saw the DD1000 at APRS in London last June, I was slightly apprehensive. At first glance I thought it was just another stereo hard disk editor; but when I found out it was an optical system, able to record four tracks on a *removable* disk, I was intrigued.

Akai has opted for an all-black "designer" look instead of the light grey front panels it has favored in the past. However, the device still retains an intrinsic Akai character. The LCD screen is reminiscent of the S900/1000 units, both in appearance and in operation.

The DD1000 can record 25 stereo minutes at 48kHz sampling rate per side of a removable Sony magneto-optical disk (about the size of a standard CD in its case). This increases to 30 and 45 minutes per side at 44.1 and 32 kHz, respectively. Mono recording doubles the recording time, of course, though no more than two actual recordings (mono or stereo) can be played together. The DD1000 is a 2-in, 4-out device, and as such cannot really be called a 4-track recorder in the conventional sense. But two stereo or mono tracks can be recorded in two passes. These can be synchronized to a relevant external time code. There are comprehensive, non-destructive editing facilities; cue lists for sequential events; and a playsheet mode for triggering recordings via MIDI or with the onboard keypad. Inputs are balanced XLR analog, AES/EBU digital or optical. Recording is 16-bit with 8x oversampling, and 24-bit internal processing is claimed. Interfaces include MIDI, RS-422, SCSI for add-on optical drives, word/video sync and a Centronics printer port.

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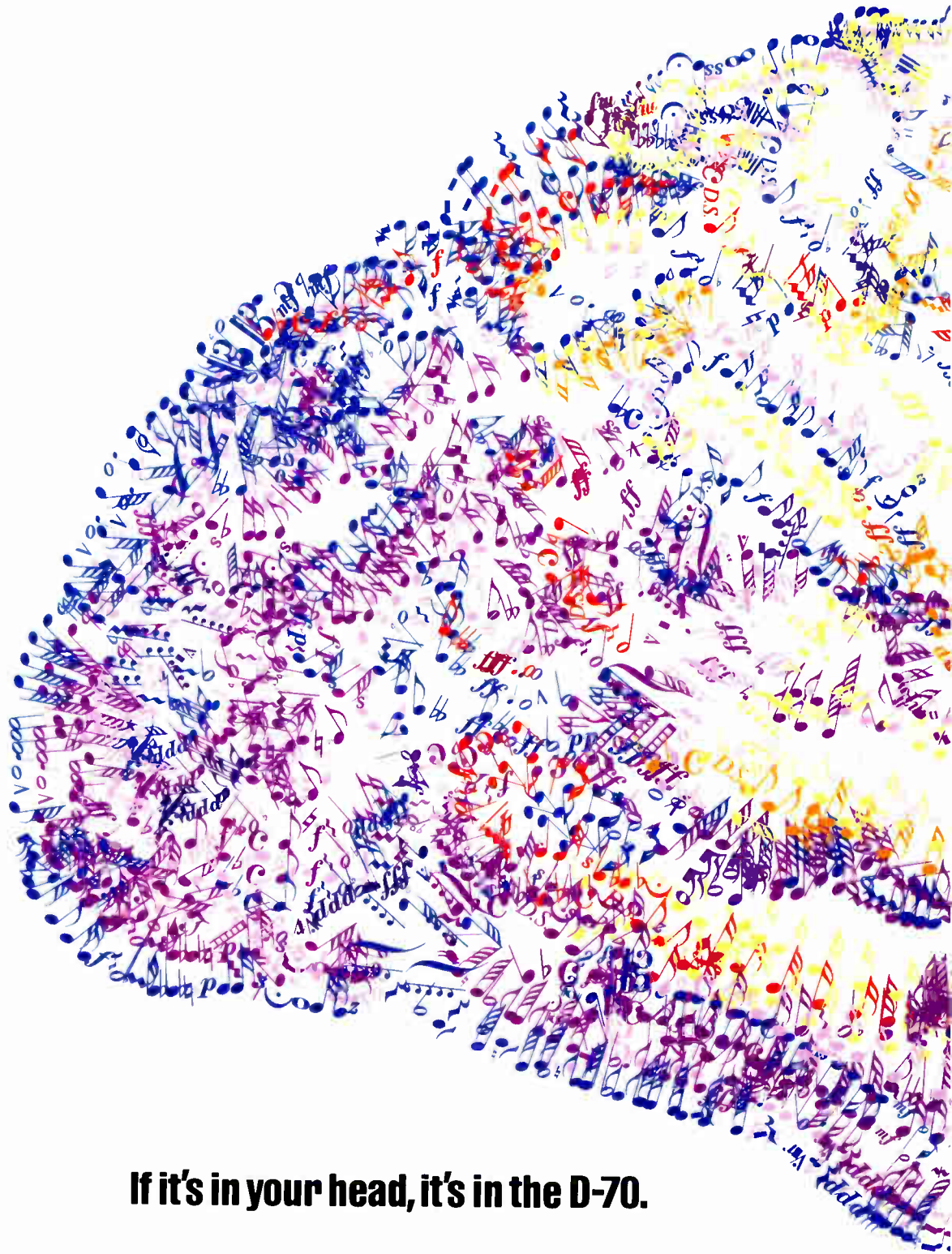
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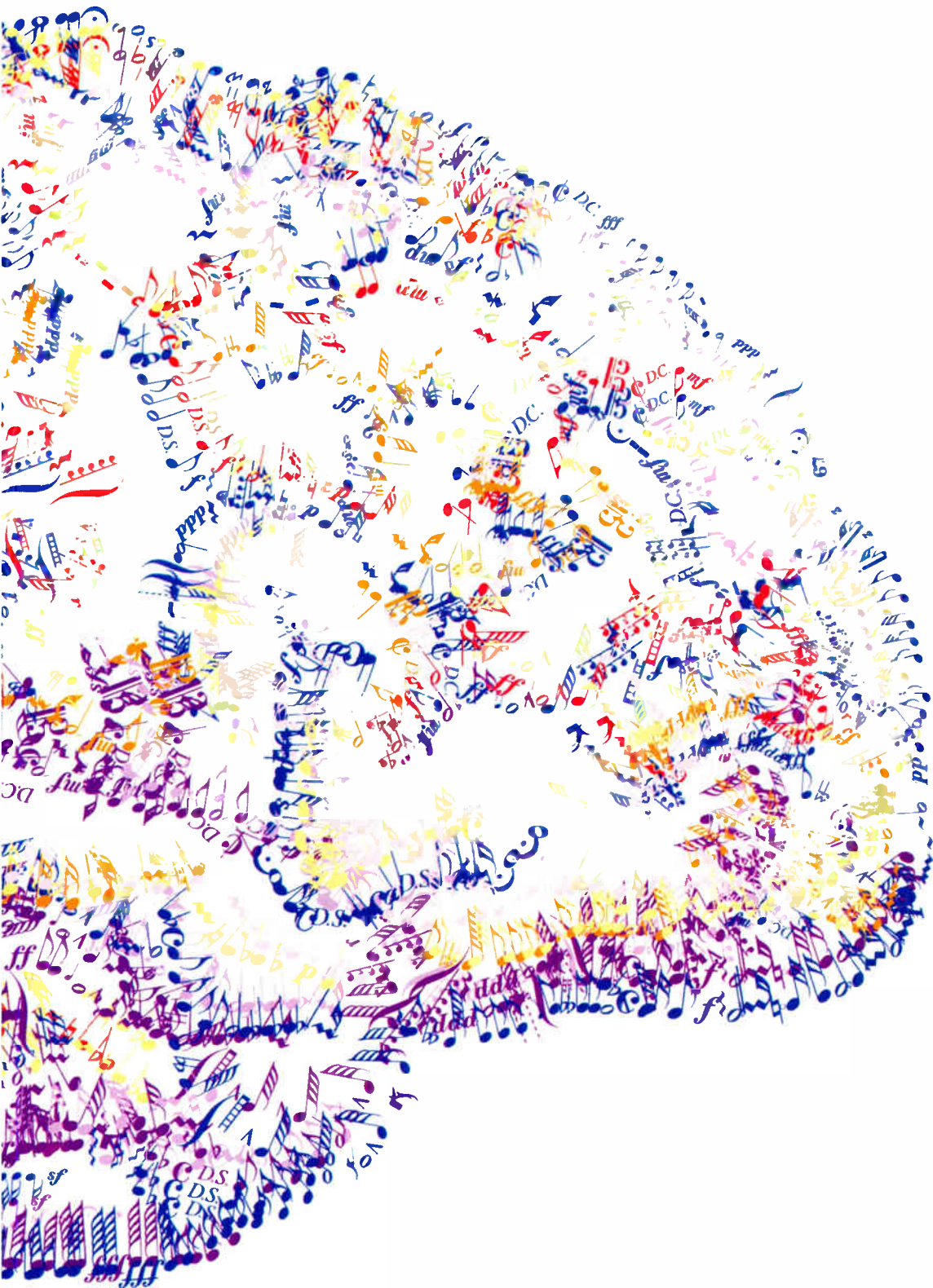
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The ergonomics are well-thought-out, with not too many multifunction buttons. There are six basic operational modes: Record, Edit Cut, Q List, Song, Playsheet and Disk. Help information is available on all pages.

The Disk mode simply allows formatting the optical disk and renaming and deleting files. Disk formatting is extremely fast (only ten seconds), but the (optional) verifying process takes 30 minutes per side. It seems sensible to verify all disks just in case; however, I didn't and had no problems.

A Setup mode selects sampling rates, time code formats, and external sync parameters. There are also facilities for generating a 1kHz alignment tone. Two footswitches can be assigned to duplicate the function of any panel key—a nice idea. Setup parameters can be saved to disk, so the user can define a set of defaults suitable for a particular application—the next time the disk is used, all the settings can be re-initiated.

Data are generally modified by means of four sensibly laid out cursor control keys and a rotating jog wheel. For incremental changes the "+/-" keys can be used. Name and numerical data can also be directly entered easily after pressing a button marked "letter."

Time display options include the four conventional SMPTE/EBU time code formats, feet/frames at 24 fps, and bars/beats and clocks (at a specified tempo and time signature). The tempo setting parameters for the bars/beats and clocks display are curiously located under a page in the Edit Cuts mode, rather than under Setup Mode, which would have made more sense.

### Recording

Recording is accessed, logically enough, by pressing the button marked "record." A page on the LCD shows the default name of "Take 1 \*New \*" as the "Take to be recorded," and we are offered the choice of analog or digital inputs. A helpful warning appears if no valid signal is present at the digital inputs.

Stereo or mono input, emphasis, sampling rates and clock sources can also be modified on this page and saved as templates for future use. DAT users will be pleased to learn that the AES/EBU input on the DD1000 seems perfectly happy with a digital signal from a DAT's S/PDIF output, but note that all the DD1000 XLRs are wired pin 3 hot.

If "Take 1" (the normal power-up default name) has been recorded on a previous occasion, a display shows "Exists" alongside. If not renamed, the take will immediately be erased once the "record" soft key is pressed. Also, if the record function is re-entered following any editing of a take, the most recent take remains armed for re-recording. I think this is a mistake. With the press of one button, it is extremely easy to (forever) delete the take that you preciously labored to edit. It would have been much better if the next available "New" default (e.g., "Take 2," "Take 3," etc.) was offered for recording whenever the Record page is accessed. Hopefully, Akai will address this problem in a future update. For now we will have to content ourselves with using the write-protect tab on the disk whenever we're in doubt. Fortunately, I have very few other serious quibbles about the DD1000. Onward!

Also on the Record page is a soft key marked "overdub." In the old-fashioned world of tape recorders, this means "play the first take and record a new take on another track or tracks." The DD1000 illogically insists that a new name for the overdub take is selected *before* entering the overdub page. If we don't, the *original* take gets re-recorded, wiping the first recording. I would prefer to see the just-recorded take assigned automatically as the "Take to be played" and the new overdub to be assigned a default name, which could be changed later.

### Edit Cuts

Once a recording is made, we usually want to trim the unwanted silence before the start of the recorded material. Pressing the "edit cuts" key swiftly

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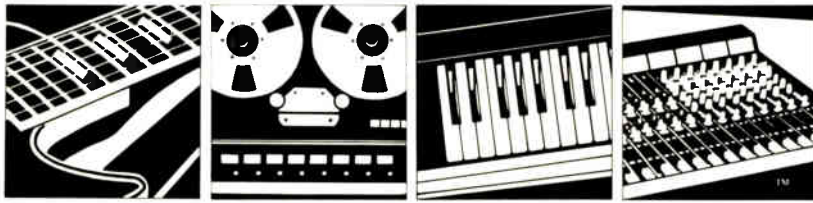
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takes us to a waveform display of the entire take. The display can be zoomed in and out or its *display* amplitude magnified vertically to give a resolution of individual samples. It can also be modified to show only left or right channels, L+R in mono, or both channels together. Graphic displays are updated remarkably quickly. Up to 50 non-destructive cuts can be specified and saved for each take, while the original take on the disk remains intact. The saved cuts themselves are merely data rather than audio, and occupy a minuscule amount of disk space.

A cut can be created "on the fly" by pressing 1 on the keypad while the take is playing. This specifies the start of Cut 1. Pressing 2 on the keypad marks the start of Cut 2 and so on, up to nine cuts. If the jog wheel is moved during playback, a cursor moves through the take and the replay is interrupted briefly while the new disk location is found. This is like cueing an analog tape across the heads to find a particular event, but at lightning speed and without pitch change. If the play button is held down, a 300ms section is automatically "looped" at the cursor location. This time-saving facility is one of the DD1000's strongest features.

A soft key marked "detail" permits using the jog wheel to rock a sound section as though it were a piece of analog tape. For most edits, using the visual data made for more accurate cuts than scrubbing the audio, but this depends on the degree of accuracy required and the type of material recorded. While audibly jogging, playback can be specified as once, twice or three times normal speed.

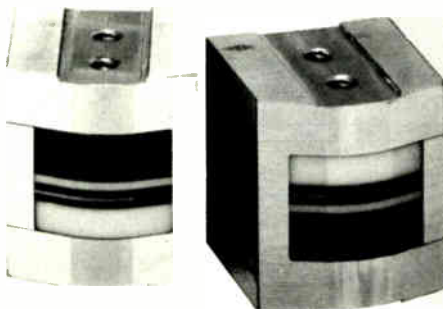
Cuts are easily copied, modified, or deleted. Useful facilities are provided for copying and pasting time references to coincide with other cuts or events specified elsewhere in the machine. Cuts must be saved before leaving the Edit Cuts page.

### Cue Lists

Once recordings have been made and cuts specified, the nerve center of the machine is dominated by *cue lists*. A cue list is a series of instructions to be executed in a particular order. For instance, we might want to ask the machine to do something like, "play the take called Boogie3-cut 1 twice, immediately followed by take 6-cut 3, and I want to hear it at output A."

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Here's what a printed Cue List looks like for this example:

```

: : .0 Fade A : : .0 to 00 dB Cv:
: : .0 Fade B : : .0 to 00 dB Cv:
: : .0 Cue A Boogie3-cut1
1:07:12.4 Cue A Boogie3-cut1
2:14:24.8 Cue A take 6-cut3
  
```

The first two entries are defaults that simply fade up both channels to 0 dB at a time of zero. Cv is the fade curve (currently fixed at exponential). Also at zero time, Boogie 3-cut 1 is played. This lasts for a little over one minute and seven seconds when it plays again. As soon as it has finished for the second time (at about two minutes and 14 seconds), it is "butted up" to Take 6-cut 3.

Fades and level changes up to 60 seconds long are specified as separate *fade* events. Rapid fades help eliminate bumps on edits, while longer fade times are useful in video post-production for ducking music under dialog and for CD compilation.

The Retake function allows re-recording a cue list as a new take, so unwanted material can be discarded to save disk space. For instance, we may only want to keep one bar of music from a five-minute take. Of course we can't do a retake unless there is enough space on the disk. Unwanted source takes can be deleted on the Disk page to free up memory. If space is in short supply, an alternative solution would be to back up onto a digital tape format and load this onto another disk, or copy selectively to a second disk drive.

The MIDI buses can also be addressed within a cue list. Both MIDI program changes and individual MIDI notes can be output at a specified event time. Any cue, fade or MIDI event can be added to a cue list irrespective of whether the previous instruction has been completed. So, a MIDI program change can be sent in the middle of a recorded piece, or an additional take/cut can be added to one that is already playing.

Once you get the basic idea, creating and editing a cue list is straightforward. Editing can be carried out on an individual cue, or on a block of events. It is particularly useful to be able to "time slip" a whole series of events, rather than having to slip each event in turn.

Further parameters on individual cues can be accessed on the Edit Q page. These include crossfade time, output level, and pan or balance, according to whether we are working in

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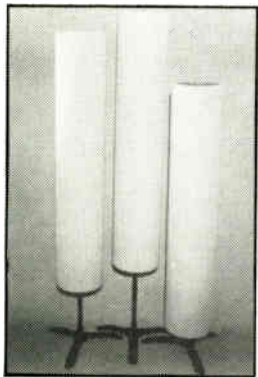
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### FIELD TEST

mono or stereo. Variable preroll and offset functions are provided, which are essential for any serious video post-production.

A much easier method for instructing the DD1000 to play a simple series of take/cuts is to use the Song mode. Anyone familiar with a chaining facility in a sequencer will be very much at home here. Just specify the take and cut, output A or B, and the number of repeats before continuing to the next step. An optional *overlap* or crossfade time can be specified for each step. For many musicians this will be the answer to a dream: the ability to sequence an audio recording. It is also the quickest means of compiling a 12-inch mix I have ever seen.

### Playsheet Mode

I had the most fun with this mode, which offers the ability to physically “perform” the takes and cuts in real time from the front panel keypad or via MIDI. Thus, the Playsheet mode can effectively replace nine cart players in a radio studio, with no cartridges to load or recue. For video dubbing, sound effects can be spotted in on the fly and trimmed later if necessary. Vocal fly-ins are as easy as pie, as are MIDI-triggered samples and solos.

Considering the reputation for slowness of the Sony optical disk medium, the response time for the playing of a triggered cut is remarkably fast. However, there are still some users who demand a totally instantaneous attack time. A cunning piece of software design enables Akai to prime the attack portions of cuts into RAM, so attacks can be absolutely “on the button” in 2-track mode. For some reason, only the cut assigned to Key 1 can be primed for instant response when working in 4-track mode.

When triggering takes and cuts from MIDI, the note and channel that triggers a particular take and cut can be set, along with velocity-sensitive triggering on a scale from 00 (no velocity response) to 99 (dramatic dynamic response). An incoming MIDI program change can call up a particular assigned Playsheet. As in the Song mode, a similar setup page exists for level, fade-up and fade-down, and pan/balance.

The DD1000 is fantastic for playing ultra-long “samples” triggered by a sequencer or other MIDI devices, but

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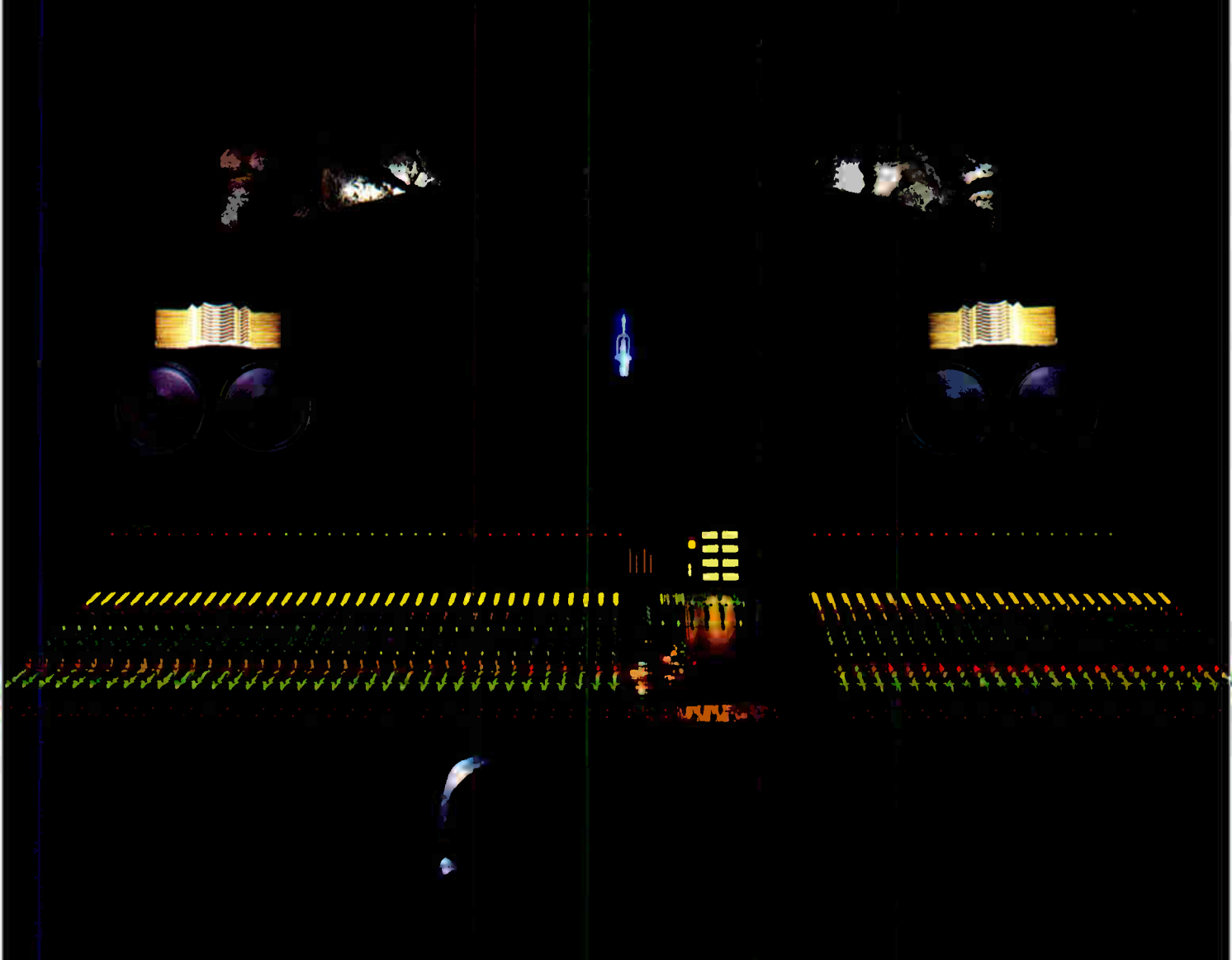
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rapid retriggering of the same cut a la "N-N-N-N-Nineteen" can cause burbles in Playsheet mode. A true sampler is better for this kind of application.

### Time Code and Synchronization

A likely use for the unit is "laying off" material from other sources while referencing an external time code. Although the manual does not make it immediately clear, this is easily done by setting the Time log source to SMPTE/EBU, selecting "Ext Time" and pressing Record. The recording starts as soon as valid external code is received. The DD1000 can be made to chase the incoming code on playback by putting the take into a cue list and Pressing a soft key marked "orignl." This tells the DD1000 to play the take at the same time code reference point as it was originally recorded. I discovered an unfortunate bug in this facility that delays the signal by exactly one frame on playback. Until this is cured, it will be necessary to enter a one-frame-advance time code offset, which is easily done.

Recording while referenced to an external code is halted if there is any break in the code input or if the code is invalid in any way. I'd like to see an option for switching to internal clock once a lock situation had occurred, to cover for bad or interrupted code. I also think that code received at an invalid time (i.e., later than the end point) should produce an error message. It is not made obvious on the display whether a recording has been interrupted because of an external problem.

### A Few Observations

One of the strengths of the DD1000 is that it is a completely self-contained unit. Many editing systems based around personal computers are much more difficult to hook up and carry around, and most of them can't handle more than two tracks.

Another big plus for the DD1000 is an onboard sample rate converter. This means, for example, that you can record or sample digitally off CD (at 44.1 kHz) and record a digital signal directly onto DAT at 48 kHz.

Because it has no capability to change pitch via MIDI, musicians will only find the DD1000 useful to trigger takes that are intrinsically complete and at the right speed and pitch. I



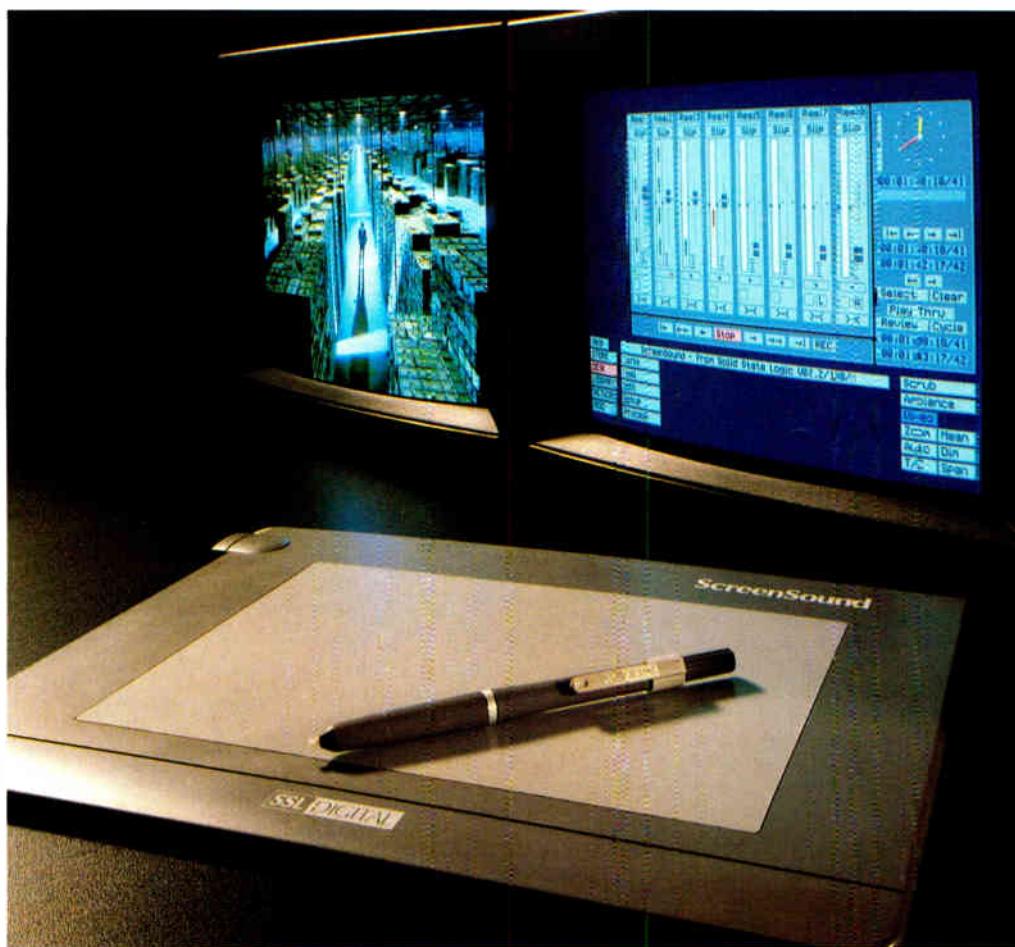
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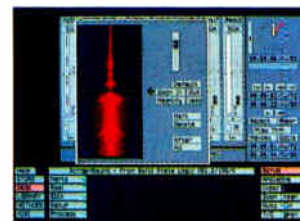
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Above all, ScreenSound is a dedicated system - purpose-built to bring the advantages of hard disk sound manipulation to audio post production.



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A short time ago, A.R.T. stunned the recording world with the release of the SGE Mach II. Offering 12 simultaneous effects and a 400% more powerful processing section, the Mach II offered spatial realism that defied description. The all new DRX uses that same processor and is expressly designed for studios and live sound applications. The DRX will do 10 simultaneous audio functions and features an exciter, compressor, limiter, noise gate, expander, envelope filter, 24 different reverb algorithms, 21 different delays, sampling, pitch transposing, panning, equalization, leslies, stereo flange and chorus and more—over 60 effects to choose from with bandwidth to 20 KHz! The creative power is astonishing. The noise gate can gate off microphones so the wash from live drums doesn't trigger your effects buss. The compressor can smooth out wild dynamic swings on vocals. The exciter will increase the edge and clarity of any type of material. The noise gate can "turn-off" noisy guitar amps in between songs or allow you to run higher gain levels without feedback on vocal and drum mics. The limiter can hard limit any source so that clipping can be totally prevented. And you can pick and choose effects and mix and match at random into 200 memories!



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found non-tuneability to be a nuisance when a take had been recorded at a pitch standard of A-440 when I needed to re-pitch it to A-442. I imagine this would be easy to implement on a future update, since the machine can run at several different sampling rates.

Akai has indicated that the machine will continue to develop. Planned future expansion includes large screen interfaces for the Macintosh and Atari ST, and a hardware remote controller, along with pitch change, time stretching, digital EQ and other processing. Also to be implemented soon is a triggered Record facility that operates at an adjustable level threshold or from a MIDI event. I have suggested that Akai add an external time code event start on the main Record page, which would avoid the rather cumbersome process of going through the Overdub mode and the pre-erasing procedure.

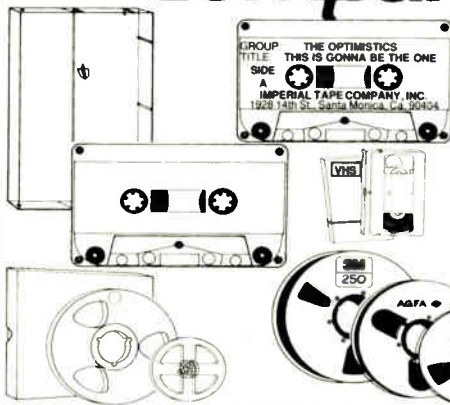
Sound quality is dependent to a large extent on the quality of the A/D and D/A converters in a device of this type. Akai has established a good reputation in this area, and the DD1000 is an excellent example of the fruits of its research. For many users, the inherent "sound" of the unit itself will not be governed by the audio electronics if only digital inputs and outputs are used. This seems to be the way of the future.

Last October, for the first time, The Alan Parsons Project performed concerts in a huge sports stadium in Belgium. The DD1000 did us proud for effects and sequenced loops, and stood up admirably to the rigors of the road. I am hoping to use it shortly for the mixing-to-picture of a video shoot of this same occasion. (You may have noticed that I have actually bought a DD1000 since I started writing this article.)

I must admit to being genuinely excited about this product. The whole concept of the removable disk means hours saved in the backup procedures necessary on other systems. It will find many a happy home among studios, musicians, post-production houses and in broadcasting. ■

*As an engineer, producer and composer, Alan Parsons is no stranger to the studio environment; his past credits include The Beatles' Abbey Road, Pink Floyd's Dark Side of the Moon, and, of course, The Alan Parsons Project.*

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by George Petersen

# PROFESSIONAL DAT BUYER'S GUIDE

The floodgates have opened, the cynics have been silenced, and it appears that DAT is here to stay. While many smaller and home studios may be able to get by with a consumer-grade DAT recorder (with discounters selling home machines for as little as \$599), professional users require a professional machine. Features such as balanced +4dBu inputs/outputs, multiple sampling rates, digital interface ports, hard-wired remotes and even SMPTE time code capability are fast becoming *de rigueur* on the latest offerings from professional DAT manufacturers. More than 20 pro models are offered currently or are coming to market in the months ahead, and these are presented here, alphabetically by manufacturer.

From **Audio + Design** (Pangbourne, U.K.) comes the ProDAT 1A,



**Stellavox**  
**StellaDAT**



**Fostex D-20**

which incorporates a basic Sony DTC-1000 DAT recorder and transforms it into a three-rackspace unit for the professional user. Modifications include electronically balanced analog inputs and outputs, Apogee 944G input filters, 44.1 or 48kHz recording from analog or digital sources, four-stage error status display, and copy-prohibit switching. S/PDIF and AES/EBU digital ports are standard, as is a sync facility that allows slaving record/repro functions to the word clock derived from an external source.

The ProDAT 1A retails at \$3,995 and is distributed in the U.S. by Gotham Audio, 1790 Broadway, New York, NY 10019; (212) 765-3410.

No, **Bruel & Kjaer** has not entered the DAT manufacturing business. However, in cooperation with Panasonic Professional Audio, B&K is now offering a complete portable digital recording system in a compact flight case. Priced at \$6,200, the package includes an aluminum Zero/Halliburton padded

case, two B&K Type 4006 omni mics with interchangeable UA-0777 nose cones, adjustable stereo mic mount, Panasonic SV-255 portable DAT recorder with rechargeable 2.2-hour battery pack and recharger/AC adapter, battery-operated dual phantom power supply, and all necessary cables.

Bruel & Kjaer Professional Audio Group, 185 Forest St., Marlborough, MA 01752; (708) 481-7000.

The first DAT recorder capable of time code operation, the **Fostex D-20** reads and writes SMPTE data in both the newly adopted IEC and the Fostex DAT time code standards. The D-20 reads time code at all functions and speeds, including pause mode. And by attaching an accessory cable to the unit's rear-panel, 30-pin connector, all time code and subcode indexing data can be copied simultaneously when making digital-to-digital tape dubs.

The D-20's four-head design allows off-the-tape monitoring of recorded signals as well as instant punch-in/out. Other features include  $\pm 10\%$  pitch control, copy-protection switching, 44.1/48kHz recording, AES/EBU digital I/O, balanced XLR analog inputs/outputs, external sync in/out, RS-422 serial control port and a synchronizer port for interfacing to external audio/video sync devices, such as the Fostex 4030 or 4035. Current models offer Sony BVU-950 and BVH-2000/3000 emulation; Fostex will update older D-20s to incorporate this new feature at no charge, with the customer paying shipping costs. Previously only sold direct by Fostex, the D-20 is now available through Fostex pro audio dealers and retails for \$8,000. Options include the Model 8320 Intelligent Controller, which allows remote operation of all front panel controls, displays SMPTE or absolute time, and provides 799 locator points.

The hot news from Fostex is the P-DAT, a compact, portable recorder with IEC and Fostex-standard SMPTE time code capability. So far the company has only offered a few sneak previews of the unit, but features include 44.056/44.1/48kHz sampling rates, four-head operation (with confi-

dence monitoring), AES/EBU digital I/O, mic preamps with P12/P48 phantom power, built-in limiters, tone or internal mic slating, onboard heater, inputs for running to house sync, jam sync mode and Sony BVU-950 emulation (master designation only). An internal mid-side mic circuit routes de-

### Panasonic SV-3700



coded stereo to the headphone output, giving an idea of what the stereo image sounds like when recording discrete M-S tracks in the field. Expected pricing is \$8,000, with the first production units officially unveiled at this April's NAB convention in Las Vegas.

Fostex Corp. of America, 15431 Blackburn Ave., Norwalk, CA 90650; (213) 921-1112.

The **JVC DS-DT900** was first shown at last fall's AES show in Los Angeles, with initial deliveries slated to begin last month. This rack-mount studio DAT incorporates IEC-standard SMPTE time code (drop-frame or non-drop) operation, and other features include balanced XLR analog inputs/outputs, AES/EBU digital ports and 44.1 or 48kHz sampling rates. The DS-DT900 incorporates PLL circuitry, enabling the DAT frame rate to synchronize with house video sync; rear panel connectors are provided for video sync in/out/return. The DS-DT900 retails at \$4,495.

JVC Professional Products, 41 Slater

### Sony PCM-7050



Dr., Elmwood Park, NJ 07407; (201) 794-3900.

Available in consumer and pro versions (both priced at \$10,000) is the **Nakamichi 1000** system. Weighing in at slightly over 70 pounds, the 1000 incorporates a modular approach, from its two-box processor/transport design to its extensive

use of interchangeable circuit boards that allow a machine to be tailored to specific needs. For example, the processor unit can control up to two transports for digital dubbing, parallel recording and

tape backup functions. Nakamichi is now delivering plug-in digital interface boards that provide AES/EBU, S/PDIF, SDIF-2 and word sync capabilities in a variety of combinations.

Among the Pro 1000's standard features are 48/44.1/32klz sampling rates, a wired remote controller, four-head design with read-after-write monitoring capability, balanced XLR and unbalanced RCA analog inputs/outputs, and a unique half-load transport mode that can rewind a two-hour tape at 400-times play speed in as little as 19 seconds.

Nakamichi America, 19701 South Vermont Ave., Torrance, CA 90502; (213) 538-8150.

Previewed in prototype form at last fall's AES show and planned for release this summer is **Otari's** professional DAT recorder. Providing full SMPTE/EBU time code capability, the rack-mount deck will also offer balanced analog inputs/outputs, gapless/seamless punch-in/out, AES/EBU digital ports,  $\pm 12.5\%$  varispeed, jog wheel controller, RS-422A serial control port and Otari standard 37-pin parallel in-

# Sound Effects Software

## Sound & Music Catalogging

- Organizes Tapes, DATs, Samples, Floppy Disks, Compact Disks, Broadcast Carts & LPs.
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## Dialogue (ADR) Spotting

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- Prints standard cue/line sheets as well as a variety of other forms
- Transfers data to Cueprinter for mixing cue sheets.

## Cue Sheet Printing

- Prints standard re-recording cue sheets in feet/frames or timecode on any size paper.
- Confirms footages to picture changes.

### LEONARDO SOFTWARE

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LEONARDO

## AUDITIONS

terface. The unit incorporates a heavy-duty transport, with head drum bearings and motors said to be rated for a 10,000-hour life. Projected pricing is under \$6,000; planned options include a time code chase synchronizer and a multimachine editor/controller.

Otari Corporation, 378 Vintage Park Dr., Foster City, CA 94404; (415) 341-5900.

First shown at last year's NAB show, the SV-3900 from **Panasonic** is a rack-mount studio deck with a wired full-function remote controller (Model SH-MK390) of all transport functions. Besides transport controls, the SH-MK390 provides a forward/reverse jog wheel (for shuttle searching at one-half to 15-times normal speed), numeric data entry keypad, and an LCD indicating operating status, program numbers and running time. The latter can be displayed as program time, absolute time or time

by eliminating the extensive serial control capabilities, the SV-3700 comes in at \$1,599. The unit includes a wireless control that allows remote operation of virtually all recorder controls, except the forward/reverse (0.5 to 15-times) jog wheel shuttle, which is located on the front panel. Some of the SV-3700's other features are balanced XLR analog inputs/outputs, 44.1/48kHz sampling rates, AES/EBU and S/PDIF digital I/O, 1-bit sigma-delta A/D converters, proprietary quad 18-bit DACs, three-way time display (absolute, program, time remaining), pushbutton fade in/out and an optional hard-wired remote.

Based on the popular SV-250, Panasonic's SV-255 is a second-generation DAT recorder in a portable 3.2-pound package (including rechargeable battery). Features on this \$2,700 machine include improved mic preamps (with a -128dBm EIN spec), MASH A/D converters, XLR balanced



Tascam DA-30

remaining on the tape. Some of the SV-3900's other features are four-stage, 1-bit analog-to-digital converters, quad 18-bit D/A converters, AES/EBU and S/PDIF digital ports, 44.1/48kHz sampling rates, pushbutton fade in/out, balanced XLR analog inputs/outputs, and fast forward/rewind/search speeds of up to 400-times play speed.

The SV-3900's unique features stem from its extensive control capabilities. Rear-panel DIP switches let the user customize the SV-3900 to individual situations. Standard 9-pin RS-422 serial ports (both in and thru/out) can be switched to follow ESBUS or P-2 protocols, providing compatibility with most editing controllers and automation systems. Since the remote unit can control up to 32 SV-3900 decks connected in a network, the \$2,100 SV-3900 is priced separately from the SH-MK390 controller, which retails at \$400.

Panasonic's SV-3700 shares many of the features of its sibling SV-3900, but

mic/line inputs, 48kHz recording, 44.1/48kHz playback, S/PDIF digital output, onboard limiter, and a dual mono recording mode. The latter routes a mono mic signal to the right channel at full level and to the left at -15 dB, offering a convenient backup when unexpected high-level sources (gunshots, emergency vehicles, etc.) could overload the normal-level channel.

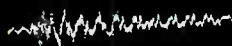
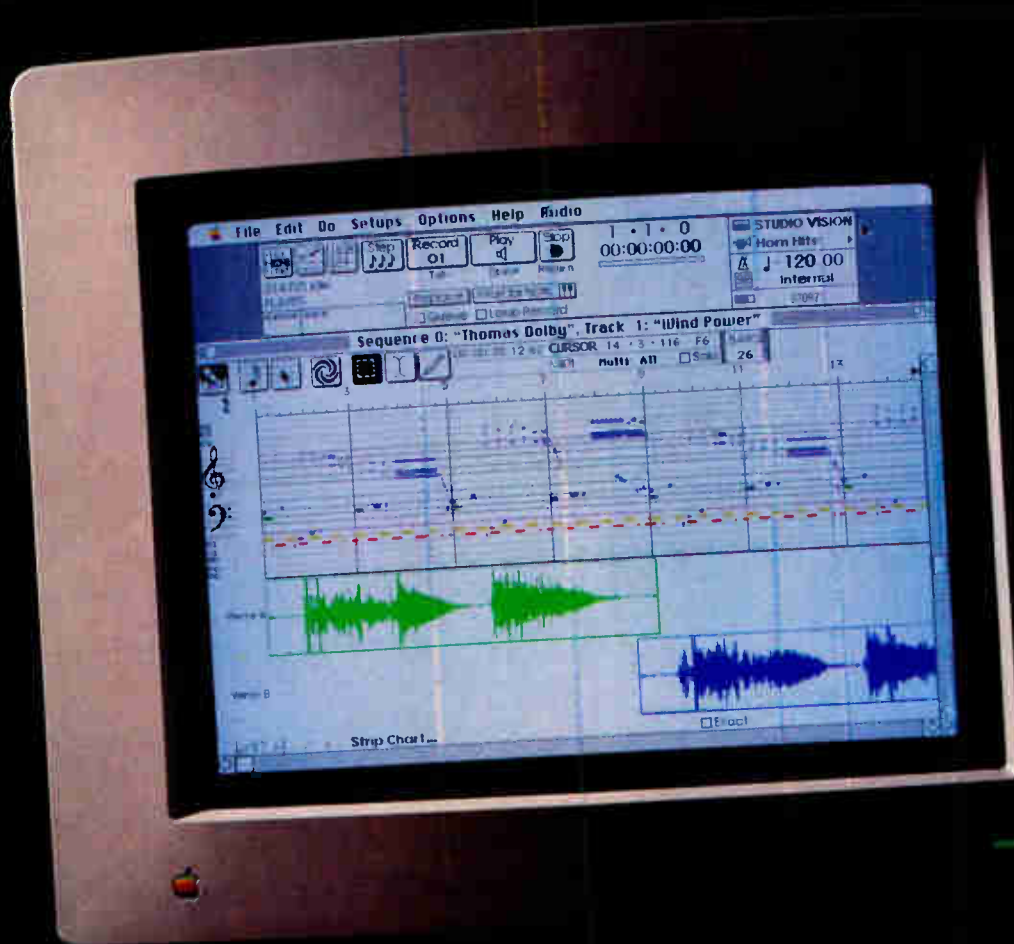
Panasonic/Ramsa, 6550 Katella Ave., Cypress, CA 90630; (714) 373-7277.

The **Radio Systems** RS-1000 is a modified, high-performance deck based on the Sony DTC-1000. Designed for broadcast applications, the RS-1000 provides large, quick-access controls that are as simple to use as a cart machine. Start and skip IDs act like the primary and secondary tones on a broadcast cart, for fast cueing to audio and recueing to the next cut. The system can also handle automation data, such as audio muting, "next event" sequencing, relay closures and log-

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## AUDITIONS

ging. In addition, the RS-1000's operational software is written so that the unit appears as a multi-slot carousel machine to an automation system.

Some of the RS-1000's other features include balanced XLR inputs/outputs, S/PDIF digital ports, 44.1/48kHz recording, serial and parallel control interfaces, and thumbwheel controls for manual access to cut sequencing. The RS-1000 is priced at \$3,995; also available is the RS-1000 Pro, a simpler version (lacking the microprocessor functions and substituting balanced 1/4-inch TRS input/output jacks instead of XLRs). The RS-1000 Pro is \$2,395, including a wired remote control.

New from Radio Systems is the RS-10, a modified DTC-1000 designed for the theatrical sound market. The RS-10 records only at 48 kHz and has no remote control, but instead offers a footswitch output jack that advances the deck to the next cue when a skip ID is detected. This parks the tape in a play/pause mode, ready to go when triggered by the house sound mixer/technician. The RS-10 retails for \$2,295.

Radio Systems, Inc., 110 High Hill Rd., Bridgeport, NJ 08014; (609) 467-8000.

Slated to begin U.S. deliveries last month is the PCM-7000 Series, the flagship models in **Sony's** line of professional DAT machines. All of these rack-mount models are time code-capable and can be equipped from an extensive line of options allowing users to custom-configure a machine to suit any particular application. An accessory time code reader/generator (priced from \$1,300 to \$1,500) can be fitted to any of the decks, as can RS-232C ports, providing flexibility in post-production, broadcast or automation environments. In the same manner, the entry-level PCM-7010 (retailing at \$4,500) can be accessorized to be essentially similar to the \$8,000 mid-line PCM-7030. Priced from \$11,000, the top-of-the-line PCM-7050 incorporates extensive editing capabilities and is designed to be integrated into a turnkey DAT editing system with the addition of the optional RM-ID7200 and a PCM-7030 deck.

Features common to the entire 7000 Series are switchable 44.1/48kHz operation, internal/external sync switching, forward/reverse jog wheel shuttling, 64-times oversampling on the A/

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## Music To Your Eyes

JVC's DS-DT900N R-DAT recorder is designed to integrate perfectly into any video post production environment. All of the features needed by audio and video professionals are standard on the DS-DT900N, but optional on other machines. Features like video sync and SMPTE time code for pinpoint synchronization with video, parallel and serial remote control, and AES/EBU digital inputs and outputs.

With a manufacturer's suggested list price of less than \$4,500, no other professional R-DAT recorder gives you the features and performance of the DS-DT900N.

For more information about the DS-DT900N, call 1-800-JVC-5825 or write JVC PROFESSIONAL PRODUCTS COMPANY, 41 Slater Drive, Elmwood Park, New Jersey 07407.

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## PROFESSIONAL





## AUDITIONS

D converters, and a large, fluorescent display of elapsed time, SMPTE location, record/playback level and operational status. Options include single and double remote controllers, and several digital I/O configurations.

The Sony PCM-2000 is a DC-powered portable deck designed for location recording. Priced at \$5,000, the unit offers balanced line and mic inputs with phantom power, a three-position low-cut filter, and -10 or -20dB attenuation. Other features include AES/EBU digital I/O, 44.1/48kHz recording, word sync input, and powering from the same NP-1A rechargeables used in Betacam camcorders and the PCM-F1. One option is the BVG-200, a piggyback accessory that brings SMPTE time code capability to the PCM-2000. In addition, the BVG-200 provides a word clock output in sync with an incoming video or film sync signal and extends the PCM-2000's battery running time to two hours.

Sony's PCM-2500 was the first DAT recorder developed specifically for studio applications. While it shares the same transport as the consumer DTC-1000, the PCM-2500 offers a variety of features for the pro user, including balanced XLR inputs and outputs, 44.1/48kHz recording, AES/EBU, S/PDIF and SDIF-2 digital ports and a word sync output. The PCM-2500 is priced at \$3,550 and comes with both hard-wired and wireless remote controls.

The TCD-D10PRO is Sony's compact, portable recorder featuring XLR balanced mic and line inputs, 48kHz recording, mic attenuator, and switchable low-cut and limiter circuitry. The unit's digital input/output differs slightly from the AES/EBU and S/PDIF standards, but functions with the AES/EBU ports on Sony PCM-1630/2000/2500/3402, and S/PDIF ports on the PCM-2500. The TCD-D10PRO is priced at \$2,900 and includes carry case, two rechargeable batteries, AC and charging adapters, digital I/O cables, and a handheld remote controller that combines a pistol-grip mic mount with fingertip access to record, play, stop and pause functions.

Sony Pro Audio, 3 Paragon Dr., Montvale, NJ 07645; (201) 930-1000.

Good news and bad news: The good news about StellaDAT (from Swiss manufacturer **Stellavox**) is that deliveries of this versatile portable re-

recorder have already begun in Europe. The bad news is that U.S. deliveries won't start until next month. StellaDAT boasts a rugged, all-aluminum body, and its modular design provides a wide assortment of plug-in accessories that can reconfigure the deck in a matter of minutes. Some of these include an onboard mixer with up to four inputs, individual phantom mic powering, infrared wireless or hard-wire serial remote control, limiters, any type of input/output connectors (XLR, Lemo, RCA, Tuschel, etc.), several DC supplies (with up to ten hours of power), various digital ports (AES/EBU, SDIF-2, S/PDIF) and IEC-standard SMPTE time code. Projected pricing for a typical time code-equipped StellaDAT is \$10,000 to \$11,000, depending on options selected.

Stellavox is distributed in the U.S. by International Audio Technologies, 13897 Willard Rd., Chantilly, VA 22021; (703) 378-1515.

Introduced just a year ago, **Tascam's** DA-30 rack-mount studio DAT machine is now priced at \$1,499. Features include a full-function, hard-wired remote, balanced XLR (and unbalanced RCA) line inputs/outputs, AES/EBU and S/PDIF digital ports, 44.1/48kHz sampling rates, 64-times oversampled A/D converters (using sigma-delta modulation), and 18-bit D/A converters. A large meter/status display is provided along with a "margin" function that shows the available amount of headroom before clipping. A back panel, 15-pin parallel connector offers remote access to transport controls for computer control or automation applications.

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

Launched at last month's NAMM show in Anaheim is the **Yamaha DTR2**. This two-rackspace deck features digital and analog recording at 32/44.1/48 kHz, RCA and balanced XLR inputs/outputs, S/PDIF digital ports, wired remote control, 1-bit sigma-delta ADCs, and Twin Pulse Density Modulation DACs. At press time, pricing was not finalized, but initial deliveries should begin in March or April.

Yamaha, 6600 Orangethorpe Ave., Buena Park, CA 90620; (714) 522-9011. ■

*When not writing for Mix, George Petersen operates a Third World-class recording facility in the San Francisco area.*

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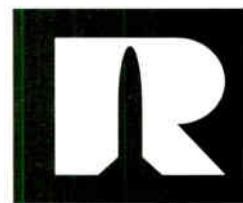
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**JBL CONTROL MICRO™ MONITORS**

Designed for on-console placement in recording studios, fixed installations or any application where space is limited, the Control Micro Series of monitors is from JBL. Professional of Northridge, Calif. Each enclosure measures 6.25 x 6 x 5.5 inches and features a full-range driver with magnetic shielding for use near video or computer equipment. Priced at \$160/pair, the Control Micros are available in black or white and include mounting brackets to simplify placement. An accessory subwoofer—the Control SB Micro—is a compact 7.5 x 20 x 11.5 inches and uses a Dual Chamber Bypass design with an 8-inch woofer that extends bass response to below 40 Hz. The SB retails at \$190.

Circle #275 on Reader Service Card

**WOHLER AMP-2 RACK-MOUNT MONITOR**

San Francisco's Wohler Technologies has launched the AMP-2, a two-rack-space powered monitor with a frequency response of 100-16k Hz ( $\pm 5$ dB) and a maximum SPL of 104 dB at two feet. The AMP-2 contains three power amp and driver combinations: The outer units handle MF/HF reproduction, with a center speaker carrying summed low frequencies.

Other features are balanced XLR and unbalanced RCA inputs, LED peak meters, LED matrix phase indicator and extensive magnetic shielding.

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# NEW PRODUCTS

**PROSPEC ACOUSTICAL MATERIALS**

Illbruck, the Minneapolis-based manufacturer of Sonex acoustical control products, has introduced ProSPEC, a line of materials for transmission loss and noise reduction applications. ProSPEC Barrier is a non-resonant sheeting, loaded 1-pound-per-square-foot; with its polyester webbing core, it can be grommeted, stapled or nailed for extending walls over plenum spaces or placement above suspended ceilings to stop leakage. For absorption, ProSPEC Acoustical Foam is a 1-inch polyether foam in 24x48-inch sheets with an adhesive backing. ProSPEC Composite offers both absorption and transmission loss characteristics, with a vinyl barrier sandwiched between 1-inch foam and a 1/4-inch foam decoupler with an adhesive backing.

Circle #277 on Reader Service Card

**SENDIT 4X3**

The 4X3 (\$399) from Sendit Electronics (Burbank, Calif.) is a single-rack-space device that adds additional effects, cue or stage monitor sends to any console. The unit's four inputs and multiple outputs are 1/4-inch TRS, and work with balanced or unbalanced lines. Three controls adjust the send levels for each input, and multiple inputs or outputs can be stacked to provide any number of aux send configurations.

Circle #278 on Reader Service Card

**DIGITAL PROCESS DPH-4**

Designed for home recording/rehearsing is the DPH-4 powered, 4-channel stereo headphone amplifier from Digital Process of South Laguna, Calif. Priced at \$170, the DPH-4 features stereo phono jack inputs and individual volume controls for each of the four headphone output jacks. Specs include a 15-25k Hz ( $\pm 0.5$  dB) frequency response and a signal-to-noise ratio of 80 dB.

Circle #279 on Reader Service Card

**STEREO SEPARATION METER**

FM Systems Inc. (Santa Ana, Calif.) has unveiled the SPM-1, a compact device that measures and displays the stereo content of any program material in a 0-50dB range, in 1dB steps. The SPM-1 allows the engineer to create a specific stereo environment that can be repeated for matching stereo continuity in subsequent mixes. The unit can also measure the loss of stereo caused by signal processing, such as compressors and limiters, and can quickly distinguish between signals with low stereo separation and dual-mono tracks; a red LED lights when stereo inversion is detected.

Circle #280 on Reader Service Card

**MIDI FOR ACOUSTIC PIANOS**

Introduced by Gulbransen/Crystal (Earth City, Mo.) at last month's NAMM show in Anaheim is the KS20, a retrofit kit that brings MIDI output to acoustic pianos. The system uses optical sensors, which, according to the manufacturer, do not affect piano action. The KS20 sends full aftertouch information and other features, including 64 presets for defining keyboard zones, control buttons and sliders. The latter can be used to alter volume, attack rate, tempo, tuning, pitch bend, etc.

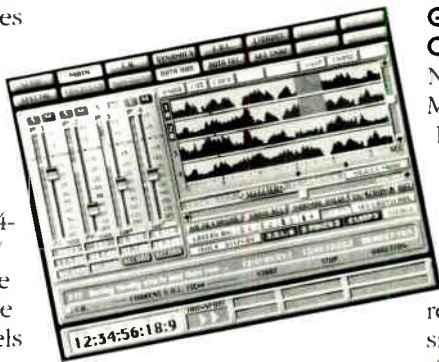
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**SYMETRIX DPR44**

With the initial deliveries slated to begin last month, the DPR44 Recording and Editing Station from Symetrix (Seattle, Wash.) is now available. The DPR44 features simultaneous 4-track, 18/24-bit record/playback; cut-and-paste editing to digital sample resolution; four channels of real-time EQ, compression/limiting, expansion, gating; optional 4-channel mixing; dynamic automation and recall of all system parameters; CMX list format compatibility; and interlock to VITC and LTC time code, video sync and word clock. A new function, Autolayer Track Record™ allows sequential vocal or ADR tracks to be automatically routed to different track layers; later, these can be combined and crossfaded into a single seamless take. Prices range from \$65,000 for a 4-channel system with over 200 track-minutes of storage.

Circle #282 on Reader Service Card

**SYTEK EQ-4M1**

The EQ-4M1 from Sytek Corp (Chicago, Ill.) is a single-rackspace unit combining a low-noise, transformerless mic preamp with a 4-band, parametric, state-variable equalizer. Among its features are a discrete transistorized input stage, balanced line and mic inputs, switchable peak/dip or shelving EQ modes, +8 VDC phantom power and phase reverse switching. The unit is available on a "try before you buy" basis and includes a 5-year limited warranty.

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**GML DYNAMIC GAIN CONTROLLER**

New from George Massenburg Labs (Van Nuys, Calif.) is the Model 8900 Dynamic Gain Controller, an all-discrete, analog 2-channel compressor/limiter said to provide reduced distortion, smooth "soft knee" operation and sonic transparency. Features include true RMS detectors on both channels (each with separate peak amplification); hard or soft knee operation; link switches for side chain, stereo or multiple-unit operation; 4-segment instantaneous ratio meter; and a 40-segment tricolor display of true gain throughout the unit.

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**SONIC SOLUTIONS MINI EDITOR**

The Sonic Mini Editing System from San Francisco-based Sonic Solutions is an entry-level offering, designed for facilities requiring basic 16-bit DAT editing capability. Priced at \$8,750 (a complete system with a Mac II family computer and hard disk for 80 minutes of CD-quality stereo storage would be around \$20,000), the Mini features seamless waveform editing and real-time playback of edits, and can later be expanded with other options, such as digital mixing, multitrack editing, varispeed, machine control, PQ editing, NoNoise™ processing and the Start CD Maker for cutting reference or short-run compact discs.

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**HOT OFF THE SHELF**

For upgrades or new installs, try the **Inovonics Model 390** insert recording electronics for sprocketed mag film drives. Record/play and playback-only versions are available, and the 390 can be used alone or multiples can be rack-mounted. Call (408) 458-0554 for details...Eight free applications notes on the **Lexicon PCM70**, **LXP-1**, **LXP-5** and **MRC** units are now available. See your dealer or call Lexicon at (617) 736-0300 for a copy... **James & Aster** is the licensing agent for ten production music libraries,

with hundreds of LPs, tapes and CDs available in every music style on needledrop, per-production or annual blanket licenses. Call (212) 982-0300 for info...The **Room Mic Footswitch** (\$49.95) is a simple XLR in/out device that allows a musician to control the studio talkback mic or any other application where hands-free mic switching is needed. Call (615) 833-2105 for info...JBL has begun a new leasing program for **Soundcraft 3200** consoles equipped with GML moving fader

automation. Call (818) 893-8411 for the inside track...The **Peerless Jumbo Mount** is engineered to handle 20- to 35-inch video monitors in wall- or ceiling-mount applications. For a free product guide call (800) 729-0307 or (708) 865-2941...The all-new **Electro-Voice Music Product Catalog**, listing electronics, stage systems, mics, speaker components and accessories can be yours free by writing EV at 600 Cecil Street, Buchanan, MI 49107...Sintec offers several fiber optic designer

kits, with all components needed to construct a ten-meter (expandable to 60 meters) single- or bidirectional data link. Call (201) 996-4093 for details...The **Alpha Audio DR-2 Digital Audio Hard Disk Recorder** now includes discontinuous time code support. Especially useful for conforming dailies, the DR-2 can now automatically locate to a discontinuous time code location in one-tenth of a second. Call (804) 358-3852 for more info. ■

by Dan Daley

# HIGH PLAINS DRIFTER

## MAX HIGHSTEIN'S SOUTHWEST PROJECT STUDIO

**B**usiness 101: The distribution of business generally follows population density patterns, and the percentage of that density requiring a specific product or service determines the support an individual business receives. Pretty basic, right? Even for recording studios.

Except that technology, like money, changes everything. The rushing curve of affordable, high-quality technology that made home and project studio recording possible and viable still looks

and Muscle Shoals have been around a long time, but they reinforced the axis by providing an escape route for recording artists for whom celebrity or wealth allowed a detour for a more leisurely approach to making records.

But sooner or later everyone returned to the main road. However, between faxes and modem interfaces, the recording industry has been opening branch offices in places fairly distant from the beaten track.



like that of an F-15 with full afterburners heading straight up. The net effect of all this is that just as many people no longer require commercial studios for some aspects of recording, studios may no longer need to be in the high-population density areas that have traditionally supported them. The jagged New York-Los Angeles axis—with its hot spots like Atlanta, Nashville, Chicago and Dallas—is no longer the main highway. Sure, places like Woodstock

### Footprints In The Sand

The population density equation will ultimately hold true for most in the long run, if for no other reason than the need to be near the agencies and other sources of gigs. But if the work isn't location-dependent—and that's the case with much of what goes on inside project studios—then the geographical possibilities become considerably wider.

Max Highstein, late of Los Angeles,

PHOTO: CAROLYN WRIGHT

decided that New Mexico, the "Land of Enchantment" according to its license plate, would be a good place to open a branch of the project world. Settling in Santa Fe in 1989, the new age recording artist and his wife bought a house in a spacious subdivision. The house had one thing that sealed the deal: The previous owner was Kent Reynolds, a music software designer for Roland Corp., who had built one semi-connected room of the residence into a studio. The 23x18x10-ft. room already had cable troughs installed and was, says Highstein, "really nicely proportioned for acoustic music."

This room, over the course of the next year, was turned into Max Highstein's Natural Sound, the home of an eclectic mix of project studio business. Highstein has been a recording artist on the California-based Serenity label for the past seven years, recording his own brand of new age music. He had started out recording his songs on an 8-track deck in his Los Angeles living room. "I needed to go on to bigger things, though," he explains. "Recording acoustic instruments like pianos in a single room under headphones was very stressful and constraining. Moving to New Mexico

seemed logical because of the growing arts community there and the receptiveness to this kind of music."

#### Offbeat Markets

The acquisition of a larger, more professionally designed and equipped space would also allow Highstein to branch out in search of other audio avenues. He'd already written and produced a couple of relaxation tapes for Serenity, and was recently commissioned to write and produce a children's version of the tapes. Serenity also has Highstein handling some of its promotional work, compiling and editing samplers and "cassingles" of its artist roster at Natural Sound, as well as discussing the possibility of Highstein producing other artists on the label there.

In addition to that work coming out of Los Angeles, Highstein has been talking to local television spot producers, sussing out the indigenous jingle scene. Highstein says there are several decent-sized agencies between Santa Fe and its larger neighbor, Albuquerque, about 50 miles down Interstate 25. The new age and relaxation projects

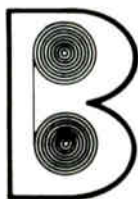
will be the studio's anchor clients, at least in the beginning. Studio revenues are complemented by royalties from Highstein's own recordings, including a new age tape, which he claims has consistently sold 500 units per month for the last several years through specialty bookstores. "The human potential movement has hundreds of people creating their own products," he suggests, "although I don't know if that alone is enough to keep me going all year. Between the agencies in the area and the growing local artist community wanting music for gallery openings and things like that, there's a lot of potential for offbeat markets." Highstein acknowledges that he's looking into every conceivable angle to enhance the commercial viability of Natural Sound. "I just invested about \$50,000 in construction and another \$70,000 in equipment purchases," he says.

Highstein's equipment list is typical of many project studios. Tascam predominates—an MSR-24 multitrack, a Model 38 8-track, an M-3500 32-channel console and a MIDIiZER for video synchronization. For digital recording, Highstein's studio sports a Sony PCM-501 with a VHS digital recorder and a DAT deck. Outboard includes the bas-

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ics from Yamaha, Roland and Alesis, JBL/UREI compressors, Rane and UREI equalizers, BBE and Aphex exciters, and Furman gates.

The synths are a Korg MIR, a Yamaha DX7 IIFD, a Sequential Prophet-T8, a Kurzweil 1000-PX and a Yamaha KX88 keyboard controller, all of which appear to place second in Highstein's heart to his new Yamaha seven-foot grand piano. Sequencing is handled by Performer software in a Mac Plus. The mic closet has units from Neumann, AKG, EV and Audio Technica.

Highstein designed the studio himself, incorporating his seat-of-the-pants technical expertise acquired by being his own engineer over the years with local elements of style and design. The control room was added onto the existing studio room by Highstein. Exposed beams and adobe bricks compose the walls around the sliding glass doors that lead to the recording room. There is a pitched ceiling in the control room with an apex of ten feet and it is beamed with pine and oak timber. The rear of the room is latticed with a regional touch of *latilla*—young,

thin pine trees whose attractiveness is matched by function—the vertically laced saplings act as diffusers due to their irregular shape, and they steer waves into the bass trap. A parquet island in the center of the control room is surrounded by the synthesizers.

One irony of Natural Sound—and one shared by plenty of other project studios—is that while it's configured like any commercial studio, the living room mentality remains part of the design process. Acting as his own engineer for virtually all of his work, Highstein hits "record" on the multi-track, then runs out to the recording room to play the piano. The wall between control and recording rooms acts as an intrusion into a mental pattern established long ago in the living room. Fortunately, the Tascam 24-track has a programmable punch-in/out function; otherwise, punches would require the development of a sort of schizophrenia that is probably not often seen and even less tolerated in the Southwest.

Highstein's gamble was calculated, although even at this point he's not sure how things will turn out in the long run. Before investing in the studio, he talked to some studio owners

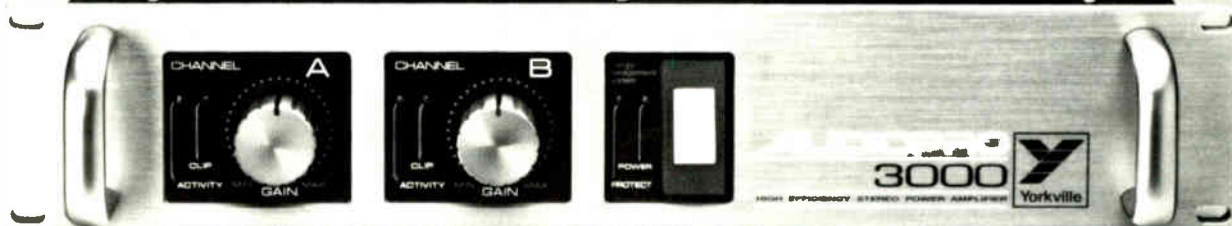
in the area to get an idea of what sort of work was around. He's already sold a small amount of time to outside users, which is not a direction he wants the studio to go in. "I want to project myself as a producer and the studio as an extension of my capabilities, he says.

"The area is growing very fast: The population has about doubled in the last few years," Highstein estimates, to the point where he says the locals are complaining about people from Texas and California moving in. "A lot of these people are artists. It's becoming sort of a satellite of Los Angeles, and that could help build a supporting base for the business down the line. That's what I'm banking on."

A combination of tentative umbilicals to a major market and the development of a local audio community is theoretically workable, but Max Highstein's attitude remains cautious. He might be able to take some measure of optimism from New Mexico's own laconic state slogan, however: *Crescit eundo*—"It grows as it goes." ■

*Dan Daley is a Mix contributing editor. His personal slogan is "oderint dum metuant." Look it up.*

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# LIFTING THE IRON CURTAIN

by Linda Jacobson

*"If you're going on tour in Russia, bring nylons, Marlboros and felt-tip pens. Bring all your own liquids, too, whatever they may be. But don't use my name—the KGB is watching."*  
—General Manager, U.S. Sound Reinforcement Company

If you read *Performance*, the weekly international concert touring mag, you may have noticed that last summer the publication started listing among its "markets" such places as the People's Republic of China (where Ray Charles recently toured), Czechoslovakia (B.B. King performed there), Russia (Billy Joel), Berlin (Grateful Dead) and Hungary (Laurie Anderson). With the Iron Curtain pinned back, the Berlin Wall knocked down, the Czech leader a Zappa

fan, and the words *perestroika* and *glasnost* in Americans' vocabulary, our musical stars suddenly have the opportunity to introduce their art to new cultures. And our booking managers, road managers, production crews and sound system engineers suddenly have a whole new kettle o' fish to gut.

Audio Analysts, which has offices on both U.S. coasts, was the first to bring American rock 'n' roll to the citizens of Russia, when Billy Joel performed there in the

summer of '87 and recorded a live album. The Audio Analysts team brought all the people and gear they would need for their six-week stay—monitors, mixing boards, processors, amps, transformers, the works. The staff included Brian Ruggles as house engineer, Russell Lynn as assistant engineer and Mario Leccese as crew chief.

Audio Analysts' Bert Pare explains some of the methodology of Russian touring: "When a tour gets booked in Russia, the Russian consulate [in the U.S.] sends a representative to one of the shows the artist is doing in America, to talk to people planning to go [to Russia], provide rules and regulations, and warn them what not to do, such as not wearing shorts on city streets—most roadies usually wear just t-shirts and shorts—and not taking photos of train stations and military installations.

"All the paperwork has to be approved by Russian embassies," Pare continues. "You have to give them your passport months ahead of time to make sure everything is processed right."





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"Once they were there, my crew basically had no problem with the venues or the [electrical] power, since the venues [three Olympic stadiums in Moscow, and the Leningrad Sports Complex] are very large, and it's easy to put on a big production in them. There's always lots of power in those buildings; we just brought our own transformers to step down the voltage. The only logistical problem was in rigging our soundpoints, because of the lack of experienced [labor] there. Our riggers had to do everything with interpreters down on the floor telling the Russian labor what to lift and how high. They're used to opera, not big rock 'n' roll productions, but the venues are adaptable and the acoustics are very decent.

"One problem had to do with the crew, though," Pare adds. "We had a lot of [Russian] army guys as our crew—that was their labor force for us—and because there's no incentive for them to work, 100 of them may show up in the morning before the show, but only 50 would show up at night—most of them just enjoyed the show and went home. Mind you, the house crew—a permanent staff, about seven or eight people—was excellent and helped a lot. Billy's piano leg broke one day, and they went into their shop and made one. It was heavy because it was made of steel, but the people were great.

"In fact, everyone's really nice there. All the local people were quite enjoyable, and our crew felt comfortable. The only other problem had to do with food. Trying to get into restaurants is hard; the good ones are booked six months ahead of time, and we found out afterwards that they're booked full not because of space, but because of the food shortage. Even at hotels with great North American food, our crew couldn't get half the stuff on the menu because of the

shortages. So their only condition on going back there for another show was that we bring our own food, canned food. But that's it."

Laurie Anderson recently performed in Czechoslovakia, Hungary and Yugoslavia, touring with a group of 12, including her sound engineer, Robin Danar, and road manager, Rob Brennar. Like other American tours that head for Eastern Europe, Anderson's team hired a sound and lighting crew in Europe (in this case, London) for the entire run.

"That helps keep the surprises down—I wouldn't have wanted to rely on a Yugoslavian sound system!" says Anderson's manager, Steve Cohen of Original Artists in New York City. "The money [the promoters in Eastern Europe] can afford to pay is lower. We wouldn't have even gone there, except Laurie especially wanted to perform in Prague.

"For us, Yugoslavia is the same as, say, Spain or Italy. For the artist, it's really a place worth

—CONTINUED ON PAGE 151

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World Radio History

by Linda Jacobson

# NEWS FLASHES

## Singapore's New Entertainment Complex

On the island off the southern tip of the Malay Peninsula—Singapore—the sound reinforcement firm Electro-Acoustics Systems Pte. Ltd. recently designed and installed an audio system in the innovative new Singapore Broadcasting Auditorium.

Used for live performance and TV taping, the auditorium features a wide, shallow seating area: main floor and balcony with 860 seats. The large stage area is fronted by an orchestra pit. The interior is designed to be acoustically dead, and the audio system is equipped with processing gear for creating different ambiances.

According to Electro-Acoustics' technical director Eugene Y.J. Chan, Singapore's most comprehensively equipped facility for sound, lighting, video production and staging "needed a system to support live shows, drama and speeches, and also to effectively blend taped music simultaneously with an orchestra."

Designed to provide a maximum 100dB SPL with 10 dB of transient headroom, the 4-channel sound system comprises a central channel, stereo channel, supplementary channel and effects channel. Three operating modes provide mono, stereo or 3-channel sound—the latter combines the central, stereo and supplementary channels to help achieve synchronization in audio/visual applications. The house console is a 32-input Hill Series 200 mixer. For processing, the system employs an ADD-3 digital delay, EV 2230 graphic EQ, Symetrix 501 comp/limiter and Klark-Teknik DN701 reverb.

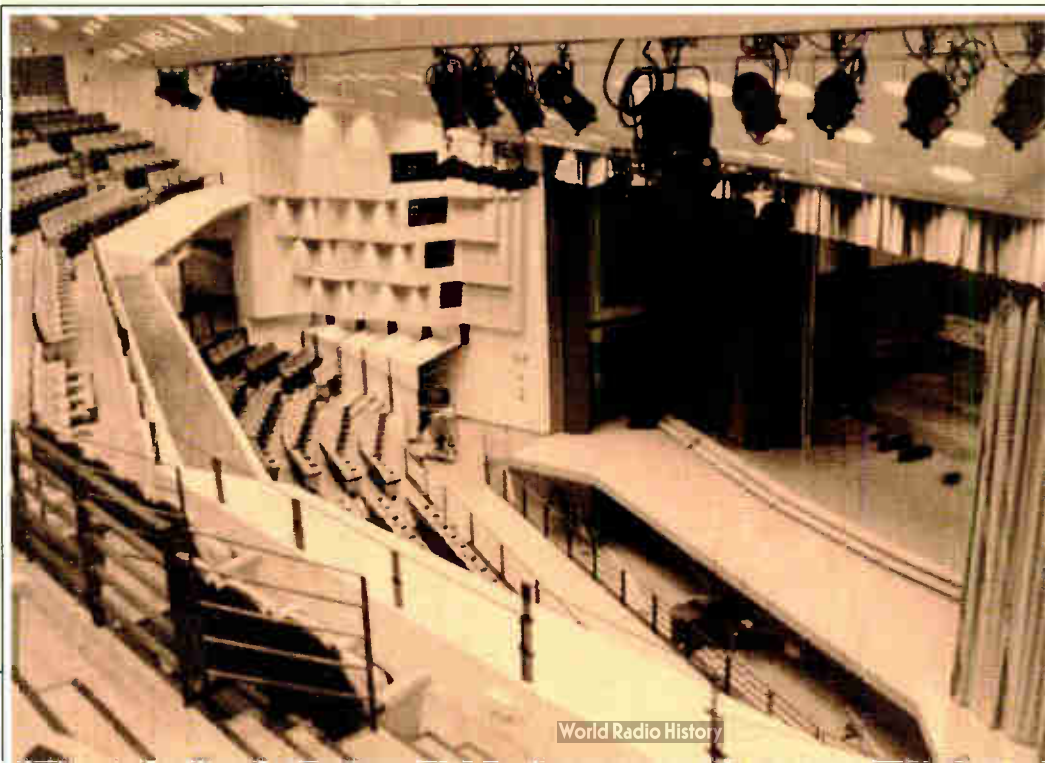
All speaker components are Electro-Voice. EV PI15-3 three-way speakers installed along the stage's side walls handle special effects and reverb. HP6040 and HP640 high-frequency horns and DH1A high-frequency drivers, and TL606AX cabinets for the low end, are clustered above stage center, left and right. Installed above and below the balcony are

68 PRO-8A coax speakers.

The stage area uses a separate sound system to eliminate delay problems and let performers hear a direct feed from the pit. This system uses eight EV FM-1202 floor monitors, with mixing on Hill's 24-channel Monitor Series 3 board. The entire system is powered by 13 power amps made by HH Electronics of England.

## JBL Rigging Hardware

JBL Professional is promoting safety standards throughout the industry by allowing general distribution of its Concert Series™ rigging hardware. Designed in conjunction with Sound Manufacturing Inc. (N. Hollywood, Calif.), the hardware previously was available only with JBL's Concert Series loudspeaker systems. Now it's available to all qualified users. JBL reports that other manufacturers are implementing the Concert Series hardware into their enclosure designs. Interested? Call Sound Manufacturing's Stan Miller at (818) 764-5200.



*Interior of the Singapore Broadcasting Auditorium*



### Grand Ole Opryhouse Installs Paragon Console

The beloved Grand Ole Opry, on the air for 65 years, now has a new house console—a custom 64-channel, 10.5-foot Paragon board made by Audio Teknology Inc. (Portland, Ore.), and installed by the Opryland Theatre crew in the balcony of their Nashville landmark theater last month.

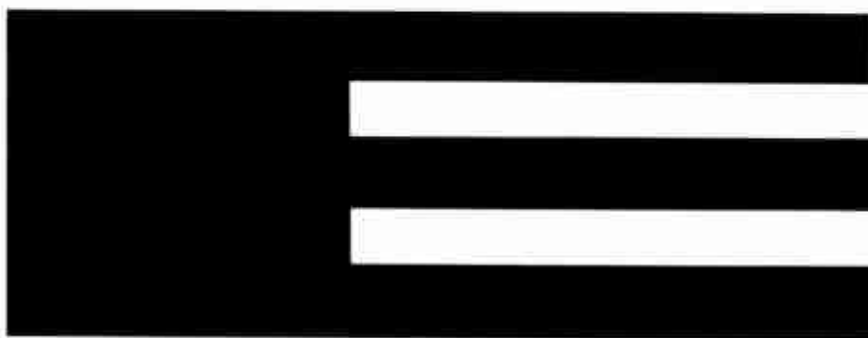
Opryland's director of engi-

neering, Hugh Hickerson, oversaw the installation. He says, "The shows were just demanding more inputs. We're miking more and more things separately now, we need more stereo instrument inputs, more special effects devices, and more inputs on the drums. Our original console, which went in when the theater opened in 1974, had 20 inputs. The next one had 40, and now we have 64. We

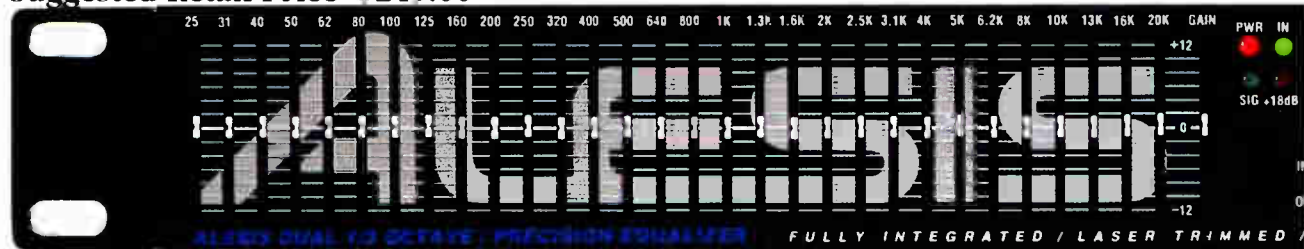
went with the Paragon because it's something we expected to live with for a number of years, and we thought nothing out there that wasn't custom offered the features and facilities for the price of the Paragon."

The Paragon console works in conjunction with a 10-input Soundcraft monitor mixer and the on-air Neve console that's been serving Opryland since '74. The Opryhouse's first experience with Paragon consoles involved a 40-channel board rented for the Country Music Association Awards show last October.

The new console is the fourth one produced by ATI. Designed as a universal sound reinforcement console (works for front-of-house or as monitor mixer), the Paragon board features full dynamics processing (gates and compressors on each channel), eight dual-stereo effects returns, 16 masters, 16 aux sends per channel, four mono and four stereo matrix outputs, and nine VCA masters.



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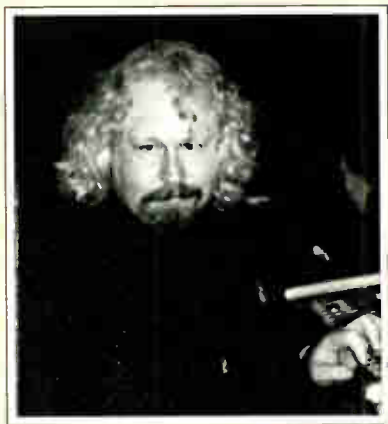
# M.L. PROCISE

## On Tour with ZZ Top

Martin Luther ("M.L.") Procise III wins the "Most Time Spent at the Board for One Band and Never Bored" Award. The band: ZZ Top (for whom he's mixing the year-long "Recycler" tour). The board: a one-of-a-kind Harrison HM5 with 20-channel extender, 52 mic preamps, and 16 line-level return channels. Designed by Showco and built by Harrison, "It's the most versatile console around," Procise says.

Procise has worked for the Dallas-based Showco for 16 years. He's mixed the biggest, including the Bee Gees' *Saturday Night Fever* tour, eight years of Michael Jackson and The Who. Involved in audio for 20 years, Procise hails from Fort Wayne, Ind., where he started out handling sound for a rock band.

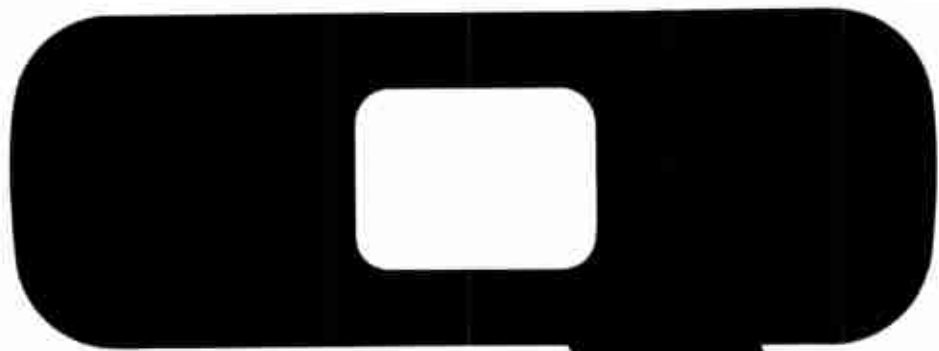
Today, Procise figures he's mixed about 350 shows for ZZ Top. "This tour is different, though," he notes, "because I have everything I've ever wanted in terms of effects gear and consoles. I've got the ultimate technology at hand, including the world's most linear transfer system, and an awesome digital crossover



system. "Billy Gibbons has different vocal approaches for me to work with. I go for a dynamic, open vocal sound for the older songs, and on newer ones I take a more compressed, limited-bandwidth ap-

proach to tighten the harmonies. For the guitar, I built an iso chamber onstage with Sonex in it and put the amp in there, miking it with a Beyer MC 740. The MC 740 drives a Tube-Tech mic preamp, goes through a Tube-Tech compressor and program EQ, and mixes with a Sennheiser 409 for a more gritty, colored sound. We get a monstrous, in-your-face guitar sound that's loud but extremely clean."

Providing house sound are 80 Showco Prism boxes with eight front-fills and 20 sub-bass cabinets. "Showco is a *technology* company, not just a sound reinforcement company," Procise says. "With the Prism system, our goal is to supply enough electrical energy so we can apply enough acoustical energy to have 10 dB more headroom above and beyond what you'd normally want in a rock system. If we, as an industry, concentrate on developing better products that don't have distortion characteristics, we can have the best of both worlds: good, loud shows with lots of impact, *and* good, clean sound."



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LIVE SOUND



**Bag End Bows AF1 A**

From Bag End in Barrington, Ill., comes the new AF1, a full-range, Time Aligned™ three-way speaker system using an 18-inch bass driver, 12-inch midrange and 4x6-inch constant-directivity horn tweeter in a ported enclosure. Available in carpeted or black textured-paint versions, the AF1

measures 43x22x18 inches, weighs 144 pounds, and has 1/4-inch and banana inputs. Specs include a 40-19k Hz (±3dB) frequency response, 103dB (1W/1m) sensitivity, and power handling of 300W (continuous sine wave below 125 Hz) or 800W (instantaneous peak above 125 Hz).

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**TOA Publishes Applications Notes**

You can gain free insights to TOA Electronics' new Engineered Sound product line by perusing the company's new application notes. The first App Note explores the Saori digital sound reinforcement processor. To get your free App Notes, call TOA at (800) 733-7088 ext. 244, or contact your TOA dealer.

**Soundcraft Delta Monitor Console**

Designed for live sound applications, the Delta Monitor console from Soundcraft (Northridge, Calif.) incorporates the chassis design of the successful Venue and Delta consoles as a 12-bus monitor mixer with up to 40 inputs. Channels feature balanced line and mic inputs, 4-band EQ with sweepable mids, highpass filter, phase reverse and PFL. Each monitor output has two sweepable notch filters and a "panic dim" that can cut the output by 6 dB if feedback becomes a problem.

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#### Weighting Filter for RTA A

Packaged in a male/female, in-line XLR-3 tube, the AC-10 (\$44) from Audio Control (Mountlake Terrace, Wash.) is designed for use with the company's SA-3050A real time analyzer. The 12-48VDC phantom-powered AC-10 also works in other applications requiring A- or C-weighted curves. The curves are selectable via a simple slide switch and conform to national and international standards.

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#### Big Power, Small Package

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## SOUNDCHECK

#### Global News & Notes

Hot Brit night spot the Lime-light added a BBE 422A to the sound system serving its main dance area to correct phase and amplitude distortion; the installation was handled by Trevor Cash International in Herts., England...Nexo recently won contracts paving the way

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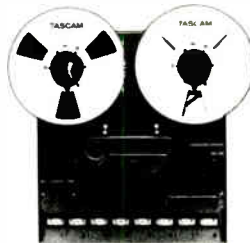
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for the Parisian speaker manufacturer to provide SL2000 systems to Harrogate Conference Centre in Great Britain, via Wigwam Acoustics, Spain's Orquesta Barracuda and Orquesta Montesblancos, via distributor 220, and a half-dozen dance clubs in Italy, via Orthophono... American gospel group The Winans sang out their praises on tour in the UK; a Soundtracs SPA 3200 console provided by London's RMPA Systems made for a glorious mix; also touring internationally with the SPA board is Bob Geldof, supported by UK rental company SSE... Several Canadian facilities—including Winnipeg Stadium and the CBC—recently installed EV DeltaMax speaker systems... Luciano Pavarotti sang his way through Mexico's Monterrey and Mexico City, supported by the staff and gear of Northern California's Pro Media (El Sobrante)... Australian Monitor (Gladesville) won the contract to supply P.A. equipment to the world's largest rodeo stadium, Alberta, Canada's Calgary Stampede... Brazilian sound company Instalson purchased 100 EV MT-4 and 25 Vega R-42A systems to use at Brazil's annual nationwide Carnaval celebration...

### And In This Corner...

Maryland Sound Industries (Baltimore) recently unpacked its ATI Paragon P40 console and broke it in on a two-week Anne Murray production... Glam Slam, Prince's nightclub in Minneapolis, boasts new Electro-Voice MT-4 and DeltaMax sound systems, installed by dB Sound (Des Plaines, IL)... Some basketball fans say the sound system at the Palace of Auburn Hills (Detroit) is the NBA's finest; it includes more than 56 Electro-Voice horns, drivers and woofers in the main P.A. and 60 smaller speakers on the balcony levels, all installed and optimized by Dearborn's KLA Laboratories... NYC rockers may have noticed the new 32-channel Soundcraft Series 500 board at the Marquee

Club, the live music venue that opened last spring in Chelsea; **Bondy Sound** installed the system... **Pro Media** (El Sobrante, CA) wowed its client NeXT Computers by supplying, optimizing and running a Meyer Sound-based system for a press event at San Francisco's acoustically challenging Davies Symphony Hall... Southwestern audio and stage lighting firm Quickbeam Systems (Albuquerque) added Apogee speakers (3X3, AE-5 and AE-12 cabinets) to its Crest-powered concert sound system. Meanwhile, Apogee Sound's Joe Manning says of the new SSM loudspeaker, "We can't build 'em fast enough!"; SSM installations include the Schubert Theater in L.A. and Michael Feinstein's Broadway productions, and a palace in Turkey has specified 44 of the cabinets... Speaking of Apogee Sound (Petaluma, CA), Pat Maloney is the new customer service manager... Chick Corea and his Elektric Band just finished a world tour in which they used the full line of Bag End loudspeakers... Enjoying new JBL speakers are: **Audio Services Inc.** (Jackson, TN), which designed its own concert sound system using a dozen 2241 woofers, 16 2226 woofers and eight 2445 compression drivers; **Emerald City**, a Dallas nightclub that purchased SR 4700 Series cabinets from **Sound Southwest** (Sunnyvale, TX); and the corporate A/V facility at **Spartan Foods Tower**, where a full-blown JBL sound system (including Soundcraft Delta consoles) was installed by **Communications Equipment Company** (Greenville, SC)... Thanks to new UL stickers, QSC's Model 1200 and 1400 power amps have been chosen to run an extensive Soundolier paging system at Chicago's ten-story Harold Washington Memorial Library, opening this month...

**Sound reinforcement pros:** keep those cards and releases coming (photos appreciated, too). Send to *Mix* Sound Reinforcement Editor, 6400 Hollis Street #12, Emeryville, CA 94608, or fax to (415) 653-5142. ■



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# Nash Live It Up



**C**ROSBY, STILLS & NASH

stopped in at the Champs de Brionne outdoor amphitheater in southern Washington state this past summer and put on an excellent show. The band was hot, the sound system was clear and distortion-free, and the mix was nicely balanced—and in stereo.

The bandmembers included longtime CSN collaborator Joe Vitale on drums and Michito

**ARTICLE & PHOTOS BY RICHARD MADDOX**



Sanchez on percussion, both of whom play on the new *Live It Up* album. Jorge Calderon on bass and Kim Bullard and Michael Finnegan on keyboards and backing vocals rounded out the band.

Both Sanchez and Vitale used full kits, so before the tour started it was decided that a separate mixer would be used for the drums, percussion and bass. Dave Lohr, just off a Pink Floyd tour, was chosen to handle the rhythm section mix.

Stanley Johnston, the main house mixer, was responsible for the keyboard, guitar and vocal mix. He's mixed CSN's sound for a number of past tours and studio recordings, including *Wild Tales* (Nash), *Wind on the Water* (Crosby and Nash), *Oh Yes I Can* (Crosby) and *Replay*, *Daylight Again* and *Live It Up* (CSN). He's done tours for other artists over the years as well, including Joni Mitchell, Boz Scaggs,

America, Alice Cooper and Manhattan Transfer.

Johnston and Lohr first worked together at Northwest Sound in the early '80s, at the time of Northwest's merger with Maryland Sound. It's no mere coincidence, then, that the sound company chosen for this tour was Maryland Sound Industries (MSI).

The mains consisted of 48 two-way cabinets with Technical Audio Devices (TAD) drivers (one 15-inch and a horn) and eight subwoofers. The total number actually used depended on the venue, since there were both outdoor and indoor shows.

There were even a few all-acoustic performances tossed in with just Crosby, Stills and Nash, sans band. Those shows used pickup P.A. systems.

One advantage of outdoor shows is the tightness in the bottom end that can be achieved without having to compensate for an arena's reverberation build-up. The eight subwoofers at Champs de Brionne were driven off of a dbx 120X subharmonic synthesizer, which came off a submix of the bass, drums and synths. The cabinets were driven by Crest 8001 amps.

With CSN the vocal sound is of

utmost importance, which is why the MSI two-way system was chosen. The drivers are identical to the ones used in many studio monitors (such as A&M's Studio A), so the clarity of the sound is virtually guaranteed.

Johnston loves the MSI system: "By using the TAD drivers," he says, "we eliminate the problems and phase inversions that normally occur on multi-crossover systems. These have only one crossover point, using a modified Yamaha crossover, because the TAD high-end driver's response goes from 2 kHz to 22 kHz."

Even with the stereo mix, you can walk across the sound field in front of the mix position and not hear any of the phase anomalies normally prevalent in live, multi-speaker sound systems. It's one smooth-sounding system.

At the Champs de Brionne show, Crest 7001 amps were used to drive the 15-inch speakers. The horns were driven by Ramsa amps. Total system power was over 35,000 watts. And with the TAD system, just a light touch of parametric EQ was all that was required to balance the system.

Neither Lohr nor Johnston like to use pink noise and an analyzer to set

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up a system. Before the tour began, they collected some "test CDs"—recordings they've worked on or ones they know inside and out—to use as reference material to get a rough EQ and level before soundcheck. A Crown RTA-2 analyzer was on hand to let them have a visual ID of the exact frequencies of any resonances in the system.

The mixers were new Ramsa WR-S840 boards. Lohr's percussion mix was routed from his main outs right into Johnston's mix using the main stereo bus of Johnston's board. It was the first time Johnston had used the Ramsa board. "It's sonically better," he says, "but the [Yamaha] PM3000 is easier to use with confidence—probably because I'm so familiar with it."

With only five days of rehearsals before the tour commenced in Austin, Texas, last May 31, Johnston and Lohr had to get familiar with the boards and outboard gear quickly. Johnston admits it takes a bit of time to get accustomed to using a new setup before things really gel, "to pick up on the minor things that make a big difference, like subtleties in the echo. Working with them [CSN], to pick up some

of the subtle things they do, it takes a few shows."

Johnston thanks his studio background for developing his "less is more" live sound technique. "I find that most recording engineers try to eliminate as much 'stuff' as possible to get the cleanest sound on tape," he says. "If you start out that way doing a live show, you end up with a much better sound."

### Miking Techniques

Even the largest-budget tour doesn't necessarily go with the most esoteric mics. More typically, tried-and-true mics are encountered. For the CSN tour the vocal mics were Shure SM87s. The drum kit was miked with SM57s on the snare, hi-hat and cowbell, and Sennheiser 421s on the toms. The kick used two mics, a 421 and a new E-V mic specifically designed for kick drums. E-V 452s were used for the cymbal overheads. For the percussion setup, 421s were used on the timbales, Fender M1s on the congas and 452s for the hand-held rhythm percussion.

On this tour Stephen Stills used two Marshalls, while Graham Nash and David Crosby both used Mesa Boogies.

The electric guitar sound was always miked, using either a Shure SM54 or a Sennheiser 421, depending upon the room and how each had their guitar sound adjusted for that show. The grand piano was miked using a pair of AKG 414s, while the bass and electronic keyboards went direct.

Once into the board, the mics and direct feeds were submixed in a number of combinations to create various delay effects groups. The total mix was done in stereo using a vocal submix, keyboard and guitar submix, and percussion submix. The main mix was then run through an Aphex Exciter before heading back to the stage and the power amp racks.

The voices were channel-patched through dbx 160X compressor/limiters (typically set for 3:1 compression and soft knee, except for Stills who had a hard knee since he typically lunges at the mic), and then run as a group through a BSS DPR-402 de-esser. The drums and percussion were run through dbx 900 noise gates before being mixed and fed into the second board's main mix bus. Various digital effects processors, delay and reverb units were incorporated into the mix, including a

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To pre-monitor effects, Sony MDR-V6 headphones were used to cut out the live sound's second or two of delay. Headphones are essential in a live performance when a delay effect has to be set up to match a song's rhythm.

### The Performance

The "Live It Up" tour was built around three sets—an electric first set, featuring well-known Crosby, Stills or Nash songs like "Love the One You're With," "Chicago" and "Change Partners," as well as several songs off *Live It Up*, an acoustic second set, featuring each performer as soloist and in a duet; and a final electric set.

During the acoustic set all three singers came together for "My Country 'Tis of Thee" from Crosby's 1989 solo album *Oh, Yes I Can*. The backing track of acoustic guitar was prerecorded from the album's master tape and played back during the show on a Panasonic SV-3500 DAT machine.

The CSN tour used two SV-3500

DAT decks. One recorded each show, while the second was used to play back pre-show music and the guitar parts for "My Country 'Tis of Thee". A TEAC CD player was also used to play back material during the show. The opening *a capella* choral part from the Graham Nash song "Wind on the Water" was taken directly from the CD with just a bit of digital delay added to ensure continuity with Nash's live vocal for the remainder of the song.

Nash summed up his feelings about the album and tour: "We wanted to bring this band into the '90s. We've always been kind of a serious band, and this time we wanted to make things just an edge lighter. We wanted to have fun with this."

From the sound of the band, and from the enthusiasm of the audience, it's obvious that CSN are still alive and well, living it up in the '90s. ■

*Richard Maddox is senior studio engineer at Muzak, a freelance writer and author of World Satellite TV and Scrambling Methods and Troubleshooting and Repairing Satellite TV Systems.*

## Bringing High-Tech to the Wilderness

To hear the promoter tell it, you'd think the venue was the greatest outdoor amphitheater ever built. But to the tour production manager, it's simply another example of "Tour Hell." Reality, of course, lies somewhere in between.

The venue in question is the Champs de Brionne outdoor amphitheater located in George, Wash., one stop on the Crosby, Stills & Nash "Live It Up" tour.

Champs de Brionne is a natural bowl-shaped amphitheater some 700 feet above the Columbia River. The location is gorgeous; the sun shines some 310 days of the year; it's an ideal venue—except that it's in the middle of nowhere. It's 2-1/2 hours to Seattle or Spokane. Even so, every summer weekend the place is packed.

The stage, a permanently installed Michael Brown stadium model, is perched on the edge of a cliff. The lighting truss and speaker scaffolding are the only permanent

parts above stage level. All backstage facilities are located below the stage, cut into the cliff.

Bob Sterne, CSN's production manager, isn't completely enamored of the Champs facility. With the stage a good 20 feet above the truck dock, the ramp to the stage is angled at a steep 40 degrees, making both load-in and load-out difficult. And except for some decks in front of the backstage trailers, the entire area is dirt, as are the two poorly maintained roads leading to the backstage area.

Mike Gebauer, facilities manager for Media One, the venue's booking agency and facilities management company, takes a different view. He talks of the fantastic view from the backstage deck, of the 250,000 square feet of sod placed in the amphitheater, and of the 110 feet of air-conditioned mobile homes installed last year for backstage offices and dressing rooms.

Considering the summer-only usage and the fact that it's just the third year of operation, Media One thinks they've done pretty well. The crowds seem to agree. ■

—R.M.

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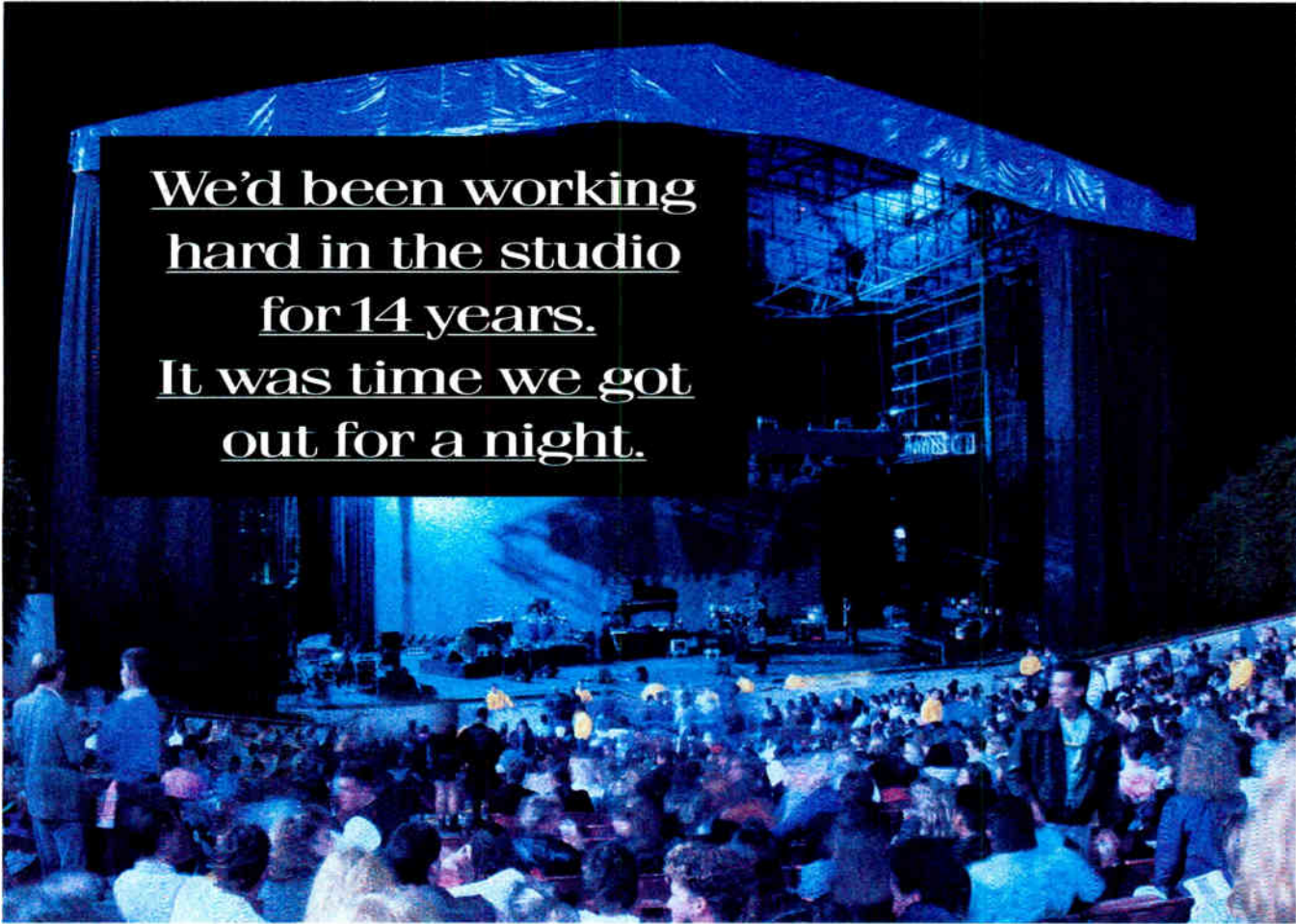
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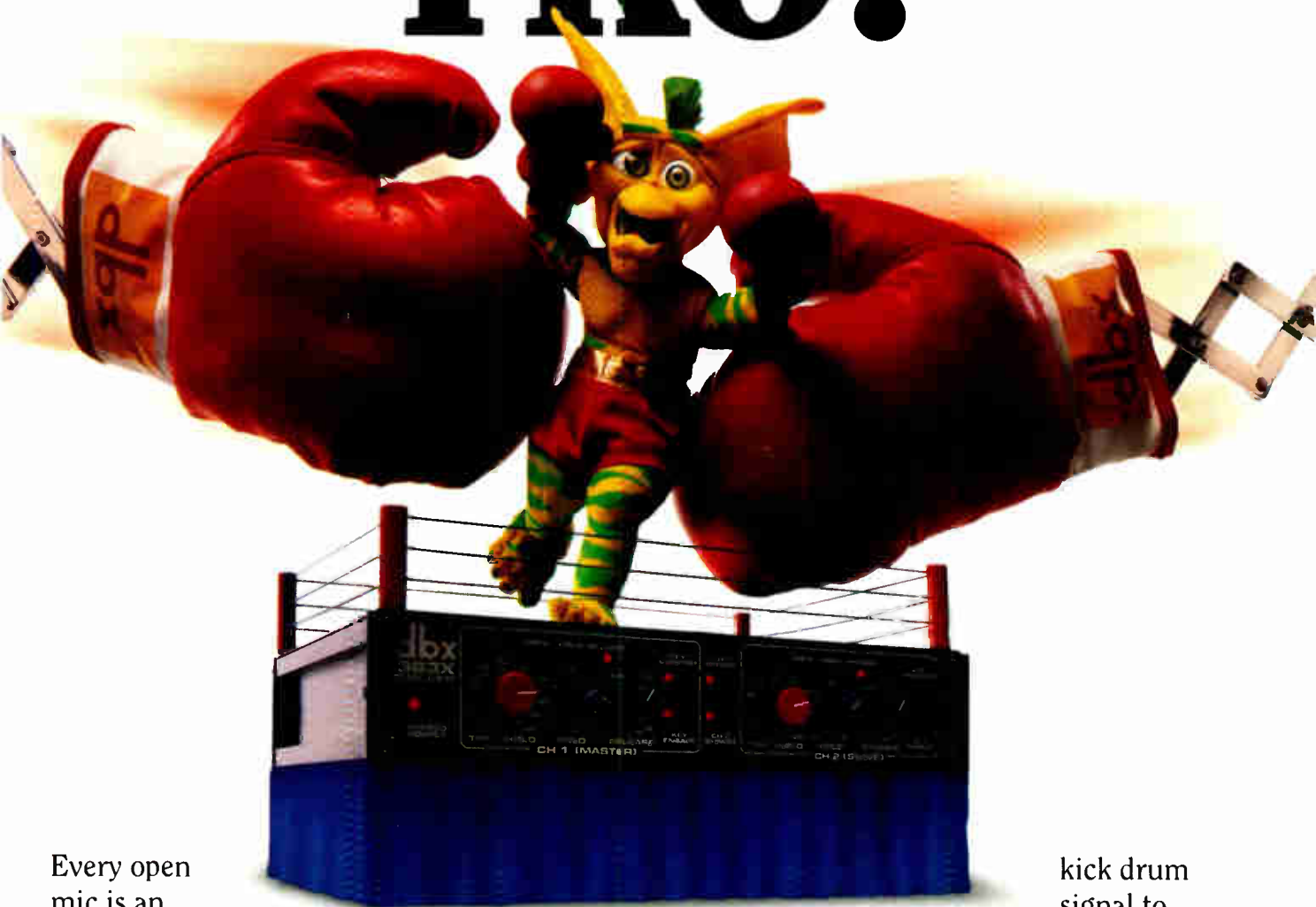
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by Craig Anderton

# WHO'S MINDING THE STORAGE?

**D**o you really, deep down, trust computer systems? Me neither. They try their best, but after all, they *were* programmed by humans, so they already start life at a disadvantage. What's worse, they use parts designed and manufactured by humans. And since musical instruments and signal processors are computer-based, every time we trust a device to not lose its mind without a moment's notice, we run the risk of watching hours, or days, of work disappear into the blissful state of nothingness so eloquently described by Baba RAM DOS.

Paradoxically, the reliability of most systems is the main reason people don't worry about backup—turn on a programmable reverb or synth, and the programs you created yesterday are almost always still there. But glitches can occur, pilot error is always a pos-

sibility, and lithium batteries don't last forever. In these days when tunes are routinely remixed or bumped around from one studio to another, it's important to have all your sounds backed up. There are a bewildering number of ways to do this, however, and not all are equally satisfactory.

Before looking at these options, what exactly are we backing up? In the world of MIDI, it is *system exclusive data*: information concerning a MIDI device that (usually) pertains only to that particular device. Even though a great many aspects of MIDI are standardized, data such as patch parameters are impossible to standardize, since parameters used for a typical analog synthesizer would be meaningless to, for example, a digital reverb. Sys ex data has no channel identification; it instead includes a *header* that alerts

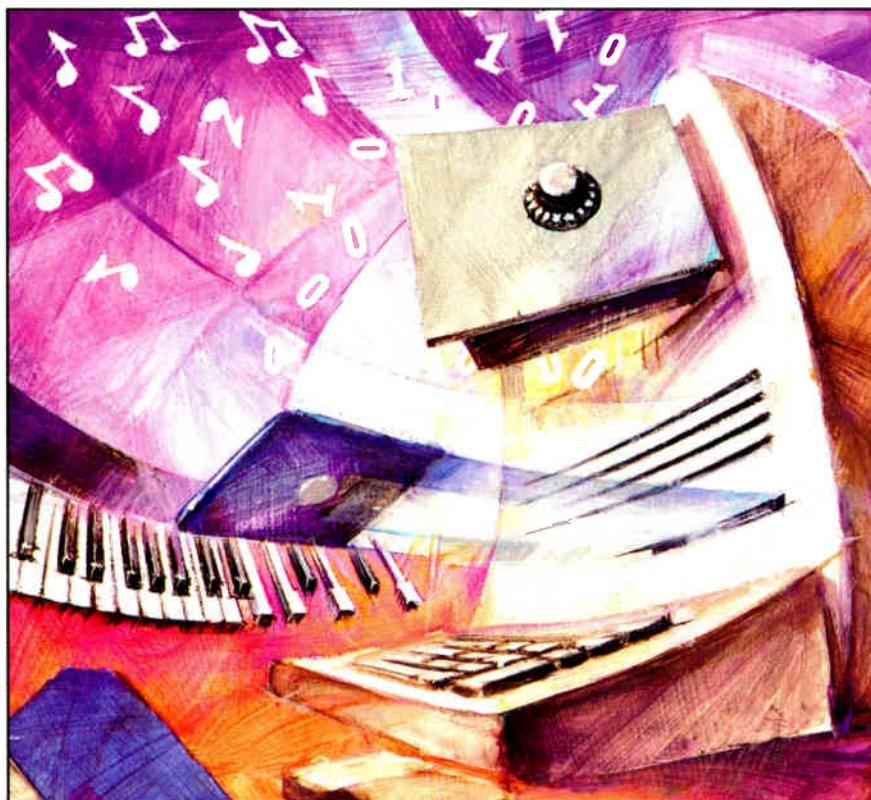


ILLUSTRATION: DAVE MARRS

the system when sys ex information is about to be transmitted, and which equipment will respond to it (each manufacturer has a unique identification code).

Sys ex can be almost any size. Data for a single patch may take up a few bytes or kilobytes; saving all of a synth's parameters could take 100 K or more. This variable complicates the sys ex storage process for reasons that will soon be apparent, especially since the trend is to longer and longer sys ex files.

#### Sys Ex Storage By Computer

Since computers by nature load and save data, they can be taught to store sys ex in a number of ways.

- Sequencer storage: Most modern sequencers can record and play back sys ex data as part of a sequence, and some even allow editing (a good way to learn about the nuts and bolts of sys ex, by the way). Virtually all programs warn about recording long sys ex messages and playing them back as part of a sequence since this can cause "burps," but there's no reason that a "sequence" can't contain just a single, long sys ex dump for later playback into your system. Another option is to put sys ex at the head of a sequence, in order to load all the correct patches into your instrument prior to starting.

Unfortunately, different sequencers generally cannot share sys ex files. The Standard MIDI File spec allows for patch data to be saved as Standard MIDI Files, but few companies seem to be taking advantage of that fact. C'mon, get with the program!

- "Universal Librarian" software: Compared to sequencers, this is usually a more sophisticated way to store sys ex, since you can shuffle patches around, maybe generate randomized variations on patches, and create multiple banks of patch sets. The main disadvantages are that you need a separate program, and, even though many librarians are considered "universal," they still may not support a particular MIDI device unless you write a "template" for that device yourself.

- System management software: A good example of this is MIDIBoss for the Atari, by Johnsware. It shows your setup onscreen and can send sys ex files, program changes and MIDI vol-

—CONTINUED ON PAGE 150

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by Hank Bordowitz

# MINING METAL

## HARD ROCK PRODUCERS REVEAL SOME TRICKS OF THE TRADE

**T**

here are probably half a dozen good sociological and demographic reasons for hard rock/heavy metal's five-year run at the upper reaches of the pop music charts. Better than 15% of the top 200 albums and top 100 singles are part of this movement. It has been postulated that this music accounts for 40% of record sales world-wide. These are impressive numbers for a genre that used to be underground, the sole domain of late night FM, college stations and devoted fans. Something has been going on, and while scientific explanations are possible, it might be worthwhile looking at the people who are behind the scenes.

"I'm a hard rock fan, but I've got to tell you, I really enjoy listening to pop rock," admits Mike Clink, who



PHOTO GREG FREEMAN

PHOTO ROSS HAFLIN



is currently in the studio producing both Megadeth and Guns N' Roses. "That's how I really got my start, working with Ron Nevison when we were doing Starship, Heart, Survivor and bands like that. It was just through default that I became a hard rock producer. If I had produced

**Top: Guns N' Roses; Bottom Left: Motley Cru**

the new Heart record, it would be Mike Clink, the pop guy. But it was Guns N' Roses that climbed the charts.

PHOTO: WILLIAM HAMES



### **Poison**

and now I'm a hard rock guy. It's so funny, because half of the stuff I have done has been pop stuff."

"I got into music playing in bands," Bruce Fairbairn notes. Best known for his work with Bon Jovi and Aerosmith, he most recently worked on the latest AC/DC project. "I'm a trumpet player. The bands that I started playing in were all R&B bands. Then my band started playing Chicago and Blood Sweat & Tears because we had a horn section. I started getting more and more into the rock music that I was playing to make a living. When I left performing, I was playing more rock music."

"My first productions weren't hard rock productions," Richie Zito remarked shortly after completing the latest opus by Cheap Trick. "Absolutely not. But I think I'm happy about that, because there were things that I picked up along the way that I can bring to all of my

productions, no matter what sort of music it is. I think they could make my productions have a wider range."

As this indicates, the people producing metal records lately often have been in the pop arena. And given that, there are many levels of what gets pigeonholed as "metal," from Bon Jovi to Celtic Frost, Aerosmith to Voivod. With that wide a spectrum, even within the genre there is striation. Nonetheless, the people who produce metal have several things going for them. They seem to be in tune with fans' ears. Metal fans are notoriously hard to please, and pleasing 10 million of them with one record would have seemed tantamount to a miracle five years ago. The people who have the creative reins over turning metal into pop know the

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**MUSIC & RECORDING NOTES**

elements that make both good pop and good hard rock records.

“I’ll put some guitar amps in here, for instance,” Jack Douglas expounds, pointing to the door between the back corridor and 321 Studio C. Douglas is putting the finishing touches on a record by Adam Bomb. In the last 20 years, he has struck more heavy metal (like gold and platinum) with heavy metal than perhaps any other producer, with over 11 million Aerosmith albums alone. “Then we’ll put the Marshall out in the other room. Then I’ll open the back doors, isolating the studio from the hall. I like to get a certain amount of leakage into the drums, and everywhere else, because that’s what makes a guitar sound really gigantic. Leakage is your friend.”

Another extremely important facet of good metal is the drum sound. Metal drums are monsters, known to blow speakers at half-volume if properly recorded. Most of the producers have specific techniques for getting that sound down, many involving issues of where they record more than how.

“The room is really the sound,” Clink maintains. “I don’t use a lot of samples. On the bands that I work with, I just make the room work. With Whitesnake, I was at Granny’s House, up in Reno. The room didn’t sound right, so before we cut the tracks, I brought in all this Celotex and put it up on the walls and made it really live. As far as the drums go, I actually make the room work for me.”

“I use Little Mountain Studios because it’s convenient to me, because I live in Vancouver,” says Fairbairn. “Also, it happens to have a particular sound to it that I like, and that is pretty good for making rock’n’roll records, for drum sounds, especially. There are two studios there. The place is originally a warehouse. In between the studios is a big loading bay where they used to back up trucks. It’s just a big cement cavern a couple of stories high. You can access it through the main rooms of the studios, and what we like to do is just send our drum sounds out into that room, and use that for our drum ambience. It’s just one of those lucky combinations of walls that make drum sounds really come alive.”

“321 Studios is very versatile for that kind of stuff,” Douglas comments about the refurbished former Record Plant. “And now, with Studio E, that big

cement room, as soon as we tie into there—my God—drums will sound phenomenal!”

Another important element of a good metal record is continuously intense energy. Even the “metal ballads” have to have this quality. There are several ways that the producers keep the energy level up through the session. Tom Werman, who has produced Motley Crue and just got out of the studio with Stryper and Glass Tiger, stresses speed.

“In other words, my usual time is ten weeks,” he says. “Ten to twelve weeks is average. I think we did all guitars, rhythm and leads for Motley Crue’s *Girls, Girls, Girls* in something like 12 days. We had everything done in five weeks, except for vocals. We’ll have fun in the studio, but they do not come in and use the studio to party or goof off. They just like to have a good time while they record.”

“My overall kind of approach is to always keep the band fresh, and try to provide as much encouragement as I can,” Fairbairn adds. “Even if you think that the particular track you are trying to get a hold of is not getting there, always make the band feel like it is going in the right direction. Given a lot of encouragement, sometimes they’re just able to turn that corner. I try and take an attitude like, ‘Let’s try and put this thing down for the energy. Let’s go and put this thing down because it’s fun to play.’ That feeling will come onto the tape, and that’s what will make that particular track or particular part right.”

“I also try and recognize when it’s time to pull the plug. There is a point after which you are really beating a dead horse and you’re wasting everybody’s time. You’ve got to recognize that, and say, ‘Look, we get it this time, or we just put it away and do it tomorrow.’”

“Another thing you can do,” suggests Fairbairn, “especially for guitar players’ solos, is get them to play it two or three times. Pretend to be fiddling with the EQ or something, and you just record it. Those guys always play their best stuff when they think they are not going out on tape—when they’re not worrying about, ‘Is my E string going to buzz and am I making this bend sharp enough to put it in tune?’ I find when they are not thinking, they do their best playing.”

“It cannot feel like work,” admonishes Keith Olsen, producer of hits for

Whitesnake and more recently in the studio with the Scorpions. "You have to go in there, and the vibe in the room has to be so much fun that you really want to go. You plant a seed of an idea; you don't dictate an idea. When you toss out an idea with a creative bunch of guys in a band, you get feedback from that. You get a dialog going where, all of a sudden, ideas start flowing, and it starts mushrooming. That's how you create the magic."

"I think part of our job is to keep the environment creative," notes Zito. "You try to just keep it fresh. Sometimes that means springing something on someone unexpectedly. Like, 'Let's do a guitar solo,' when nobody was expecting to do a guitar solo. Every minute that I'm there, I'm thinking about keeping it creative, keeping it fresh for the band and the artist. I don't really have rules. I get there and assess each day. Hopefully, every day is better."

A remarkable aspect of this group of producers is how aggressively low-tech most of them are. While Douglas worked his way through the studio hierarchy and learned studio theory with pencil and paper as a member of

the first class at the Institute for Audio Research, most of these producers would be more apt to leave the sound details to the engineers. Zito, Fairbairn and Olsen all come to production after careers as musicians. None of them have formal engineering training. The qualities of sound matters more than how it is captured. Yet this attitude also applies to Clink, another studio veteran with more engineering credits than production ones.

"I've produced for many years," Fairbairn notes, "and you'd have to be an idiot not to understand and be able to function in an engineering kind of world. I've kept my mind open to all that. But I don't really enjoy specializing in that. I don't like any equipment. I don't like any of it. The best piece of equipment I use is probably the tape recorder. I don't have a particular favorite piece of outboard gear." Fairbairn's favorite mic is the one in the studio with the worst response. "The talkback," he half-jokes. "It's the most used piece of equipment by any producer."

"Nowadays, it seems like it's pretty standardized," Zito notes of studio equipment. "Probably nine out of ten

things we all have in common, in terms of the kinds of things we use. A lot of records are mixed on SSLs, so I'm quite happy about that console as a major piece of equipment, because of its versatility and flexibility. Whenever a piece of equipment solves my dilemma at that moment, it's my favorite piece of equipment. But there's not one thing I wind up relying on any more than any other thing."

"I find one piece of gear that I use more often than not is the Otari MTR-90 24-track," Clink says. "Whenever I've had a problem in the studio, it's never been with the console, because you can work around that. It's never been with microphones, because you can always work around that. It's always with the tape machines. The source that you put the actual music down onto, you have the problems with. So I bought an MTR-90, and that's what I use to record with all the time. It is the most reliable, it sounds good, it just *works*. I usually mix onto a Studer 800, but to track, I always use the MTR-90."

"There *are* certain pieces of gear that are great for certain things," Olsen points out. "That same piece of gear



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will sound terrible on something else. By experience, you just learn. The best piece of equipment in the studio is a great song. If you get a great song, and when you are recording, get a great performance of that great song, sound almost doesn't really matter."

Indeed, given their druthers, most of these producers would rather cut tracks live. Hard rock is a live medium, and apparently the less you mess with that, even in the artificial environs of a recording studio, the better.

"I always track live," Zito says. "I enjoy it when a band is playing live, even with a rough vocal. I try to have it sound as close to how it's going to sound when it's finished while we're tracking. If there's going to be keyboards on any given track, I'll spend the time in advance of the track to sequence three keyboard parts that are vital to a track. I like to have them going on at the same time as the guitar, bass, drums and vocal so we can see how everything is going to play."

"I like to start out with everyone playing," Clink concurs, "and if it doesn't work out, or someone's having

a problem, you eliminate the players one by one until you get something that works and is energetic. If I have to, I will eliminate one of the players, if he's dragging the track down, if he's having a problem."

As with any project, when a metal

**Metal drums  
are monsters,  
known to blow  
speakers at  
half volume if  
properly recorded.**

band goes into the studio, it's for keeps. What comes out at the end of the ten weeks Tom Werman spends behind the glass will hopefully give millions of people hours of pleasure. Unlike a live show, where a misplayed note is a passing annoyance, a clinker is forbidden on a record. An off night on the road might lose some fans in Omaha. An off day captured on tape

has cost bands recording contracts.

"Going into the recording studio is a very intimidating situation," Olsen says. "You are recording something that you hope is going to be played for years to come. It's going to be your mark on society. It's man's eternal quest. It's all these things. So, yeah, going into the studio and saying, 'This is the vocal that is going to be listened to by millions and millions of people over and over again,' is very intimidating. And the worst part about it is, after you've had a big record, on the next record the intimidation factor just gets greater. You know that you are not only going to be judged by the millions of people who bought your album, but by everybody else out there. How many rock fans are there in this country, 35 million? If you are going to be judged by one in eight people—holy Toledo, that would make me not want to go in the studio."

But they do; all of them. And more often than not, these six producers come out shining. Like gold. Like platinum. ■

*Hank Bordowitz is a New York-based freelance writer.*

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by Peter Caranicas

# SOUND SURVIVAL

## HOWARD SCHWARTZ RECORDING BRACES FOR THE RECESSION

**H**oward Schwartz has his ear to the ground. "We're going to hear a lot of screaming now," says the president and owner of Howard Schwartz Recording, the audio post facility located 19 stories above New York's Grand Central Station. "Ever since the Gulf Crisis started, it has become obvious to everyone that something's wrong out there. In commercials, the indicator of that is talent screaming, producers screaming."

We'll also hear screaming from audio post houses, Schwartz may well have added. Many such facilities are caught between a rock and a hard place. On the one hand, the onset of an economic recession has shrunk business and placed downward pressure on rates. On the other hand, the technical arms race among facilities to be first with the most advanced equipment makes it necessary to spend big bucks on hardware in order to attract and hold clients.

How does a large operation like Howard Schwartz Recording survive in today's economic climate? "It's going to be tough," Schwartz admits. Even though his shop is one of the largest in New York, with advanced equipment, a long track record and a

solid client base, he's far from complacent. In fact, he has a specific strategy for staying ahead of the game; the same strategy that helped him grow so successfully in good times, he claims, can now help him survive the coming leaner years.

That strategy is based not on technology but on sales. "Sales is everything," says Schwartz. "Equipment is secondary to the people. It's important to attract the right people, to create the right atmosphere. For every creative position at Howard Schwartz, you've got to be 90 percent sales, 10 percent mixing. A good mix, a good crossfade is a great sales job."

Successful sales efforts, in Schwartz's view, create an aura that attracts clients. The best way to reach video editors, agency producers and other potential clients, he maintains, is via word of mouth with the message, "The only place to work in New York is at Howard Schwartz." Schwartz himself personifies the importance of sales through personal contacts. Many of the "old buddies" he used to work with as agency producers are now highly placed advertising executives—in many cases agency presidents.

Such a de-emphasis on technology



PHOTO: STI-VE PREZANT

may seem strange for a facility known for its state-of-the-art post-production gear. After all, Howard Schwartz Recording has a total of eight audio-for-video studios, sporting names like Studios A and B, 7 and 8, East and West. The latter two are equipped with Sony PCM-3348 48-track digital recorders and recently installed Solid State Logic consoles with ScreenSound. The new equipment has already been used for numerous TV and radio commercials and for dialog replacement on the Avenue Pictures/BBC feature film *Object of Beauty*, which stars Andie McDowell and John Malkovich.

The facility's other equipment includes several Sony 1-inch VTRs, Magna-Tech dubbers, Adams-Smith 2600 synchronizers, and SSL 6000 G Series and Sony 3000 Series consoles. Its services extend to music mixing and sweetening, high-speed and real-time dubbing, cassette duplication, computerized trafficking of tapes, satellite up- and down-linking, eight sound effects libraries and a stock music library.

The majority of Howard Schwartz Recording's business consists of audio-for-video projects for ad agencies, broadcast and cable TV networks, motion picture companies, and corporate clients. Cable projects have included comedy shows for both HBO and Showtime. Broadcast shows have included the *Spy TV* magazine show for NBC and a PBS special with Spike Lee.

Like many other audio facilities with numerous clients who come from video post houses, Howard Schwartz Recording has been forced to make heavy investments in digital technology over the past few years. An increasing number of its video clients—firms like Broadway Video and Viacom—are now asking that everything be shipped on the D-2 format.

"It's digital studios, digital video, digital multitrack—digital everything for TV today," says Schwartz. "They want to stay in the digital domain, and they need a place to mix." And Schwartz has not been hesitant about purchasing the equipment to do the job. In late 1989 the company bought a Sony DVR-10 D-2 recorder, which has four channels of PCM audio and can go down several generations of video with no picture degradation.

"Today it's update or die!" says Schwartz. "The phrase used to be 'di-

versify or die.' That's not true anymore." But, once equipment gets purchased, the challenge is to keep it busy. That challenge is felt especially in New York City, where, Schwartz says, "There's been a dwindling of the client base for post in TV. That, combined with the proliferation of audio-for-video rooms, has eroded the profitability of existing rooms."

But even though the recession, combined with intense competition, is tempting many facilities to lower rates, Schwartz says he won't lower his: "The clients keep asking for more and more stuff, and we can't afford to provide it to them at bargain-basement rates." With agency work, rates are less of a consideration. More rate pressure comes from TV programming, where the volume of individual jobs provides more room for flexibility. Schwartz likes to stress to low-rate shoppers that the benefits of saving on rates are often offset by the extra time necessary to complete a job if the people working on it have less experience.

Another element of Schwartz's survival strategy is the control of costs—especially personnel costs. The studio now has about 35 permanent employees, and that number is shrinking. "We won't give up any position that's a sales tool, but these days we can do without that extra secretary, that extra messenger," Schwartz says. "I don't think any recording facility can look at the newspaper and not be worried. I don't think any recording facility can avoid feeling the pinch."

This belt-tightening comes to a facility that has been profitable for all 15 years of its existence, and is taking the necessary measures to stay that way. Schwartz started out in 1975 with a modest bank loan, leased 2,000 square feet, and promptly grossed \$250,000 in his first year. He has never looked back.

"Those were fun times," Schwartz says wistfully. "I'm not working in the studio so much anymore. And we'll never again equal the profitability of our early years, at least not in percentage terms." But what Schwartz misses most is the flexibility and maneuverability of his starting days: "It was so easy then to take a pot-shot at the big studios. Now I've become one of them." ■

*Peter Caranicas is a freelance writer living in Pleasantville, N.Y. He is the former editor of Millimeter magazine.*

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by Peter Caranicas

# POST NOTES

## **P**ortable Time Code DAT Sneak Preview

The first public showing of the new Fostex portable time code DAT recorder took place last November during an open house at AudioTechniques. The unit, based on the newly approved E.I.C. DAT standard, had no name or model number at press time. It will be formally unveiled at the NAB show in Las Vegas in April, with a list price around \$8,000. Deliveries to about 30 of Fostex's 600 dealers—including Audio Techniques in New York and Westlake Audio in L.A.—are scheduled to begin in June. The unit's target users, according to Fostex VP of marketing and sales Mark Cohen, are "film and video people. We're going after the Nagra market."

## **Tapeless Audio Post Opens at CPN**

CPN Television, a \$12 million teleproduction house that opened its doors one year ago in Clearwater, Fla., boasts an even newer audio post facility equipped with \$1 million of the latest gear. Centerpiece of the facility is a Neve VR with Flying Faders fed by a New England Digital Synclavier, plus "a ton of MIDI gear with 215-voice capability that all locks onto D-2 digital video," according to audio director Bill Cavanaugh. The video side of CPN, which serves a mix of clients, is looking to do network TV pilots in Florida's non-union environment. On the audio side, CPN is doing dialog replacement and other work for Cassette International, an industrial film unit of Times-Mirror, and is looking for additional clients. Cavanaugh, who

worked at NED for a year before joining CPN, is eager to apply the "sheer power of \$1 million of audio just for post."

## **Saving the Goods at JC Penney**

Some videotapes were being discarded because they didn't have good field ambience. Others were rendered useless by damaged or nonexistent audio. And all this was taking place in the large, professionally run in-house video facility of J.C. Penney, which posts over 100 videos per year for the corporation, as well as for outside clients. In order to overcome these audio shortcomings, the Dallas-based retailing giant decided to install a Studer Dyaxis hard disk recording and editing system. Once in use, it made life a lot easier for J.C. Penney senior audio engineer Don Ashley. In the past, he would quickly fill up a 16-track recorder with music, dialog and sound effects, and then perform submixes, stacking the tracks until the project was complete. Now he can mix all soundtracks in the digital domain with no generation loss. And the improved quality enhances credibility. "If it doesn't seem natural, I'm not doing my job right," Ashley says.



**The recently installed Lexicon Opus at General Television Network, Detroit.**

## **Adams-Smith Ships Super-Sync**

After six months of beta testing, Adams-Smith has officially released its Super-Sync software for the 2600 AV. "Now we can make 'this follow that' with any combination of frame rates," says company president Andrew Simon. Super-Sync is designed to sort through the frame-

rate jumble that results from dealing with multiple video standards (NTSC, PAL, etc.) and previously posted work. It also allows variable-speed synchronization as well as time expansion and compression on tape. Recent sales of the 2600 AV have been to NBC and ABC.

### Chace Makes Tracks for Overseas

Foreign versions of such Warner Bros. TV classics as *Maverick*, *Cheyenne*, *77 Sunset Strip* and *Surfside 6*, as well as the Columbia Pictures features *The Black Arrow* and *Below the Sea*, will have music and effects tracks created at Chace Productions' newly launched M&E sound department. The M&E process removes the dialog from an original composite mix in any format and replaces the missing effects and music using either digital sampling, Chace's digital effects library and synthesizer, or the company's new Foley stage. According to Chace general manager Bob Heiber, the M&E department was set up to serve the growing number of distributors who want to make "product more attractive to worldwide markets."

### Solving Sync Problems in CD Project

New York's TRA Productions, which specializes in music production for film and movie soundtracks, has installed a pair of Timeline's Lynx SAL time code modules in its facility. According to TRA chief Tom Spahn, the units were needed for a compact disc project involving four Kurzweil machines, an opera singer, a 24-track tape recorder, and a DAT recorder. Spahn is producing this project "so the music can be performed live with one or more vocalists and the synthesizers."

## POST BRIEFS

The most recent *MTV Video Music Awards* show featured prerecorded segments prepared by Doug DeFranco at New York's **National Video Center** using a Synclavier 3200 and a 16-track Direct-to-Disk™. **21st Century Limited** of Hollywood, CA, formed in 1989 by ex-SSL engineers Grey Ingram and Carlton Blake, is designing three audio post suites for General Television Network in Detroit and signed a deal with Warner Bros. Films for Audiomation moving fader automation systems for five of their dubbing consoles. The firm recently designed the facility at

525 Post in L.A., billed as the "first digital 24-track TV post room in the U.S."...**Bowen Music Production**, Indianapolis, has finished original music and sound effects for "Timetrek," a planetarium show for the Indianapolis kids' museum. Music was composed, produced and mixed by Jeff Bowen; sound effects were designed by Mark Evans. Production techniques included SMPTE time code, MIDI and digital sampling hardware, with hundreds of sound elements combined via computer mixdown into a 360-degree, 6-channel 3-D sound extravaganza...**EFX Systems**, Hollywood, the all-digital audio post facility, has been providing services for TV shows *thirty-something* and *The Days and Nights of Molly Dodd* and the feature *Roger Corman's Frankenstein Unbound*...**Poolside Studios**, San Francisco, recently completed audio post for "New England Enchantment," a half-hour stress management video produced by Mindsource Production for distribution in Japan. Timothy North composed the music; David Nelson engineered...New York post facility **Superdupe Recording Studios**, which has been recording, mixing and duplicating TV and radio spots for 20 years, has installed a DAR 16-channel SoundStation II digital audio workstation. The system supplements the firm's existing half-dozen 24-track suites for recording and mixing audio-for-video, with five machine synchronizing systems...Recent film projects handled by **Magno Sound**, New York, include *Blue Steel* and *Reversal of Fortune*...New York recording facility **The Power Station** has acquired stereo surround professional encoding and decoding equipment, developed by Shure HTS for live, live-to-tape, and post applications. Stereo surround will be used in TV and radio spots, music video remixes, and made-for-TV shows, according to Power Station technical director Ed Evans...Five Neve Orion consoles were recently purchased by **ABC-TV**, New York, for use in sports programming. Each software-based system consists of an on-air operator panel and a post-production operator panel connected by fiber-optic cable to one set of electronics...Post for k.d. lang's music video of Cole Porter's "So In Love" was recently completed at **Kappa Video**, Burbank, CA. An EditDroid system was used for offline work. ■

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—FROM PAGE 139

time levels, as well as provide mute and solo functions. In a way, this is like taking a "snapshot" of your current setup's sys ex (which can then be stored in one of 128 patches). In a sequencing setup, you have to run such a program before you can start sequencing, but it's still one of the easiest ways to save an entire setup.

Regardless of the storage method, there's also the issue of where to put all these files you generate. Floppies work, but soon you'll find yourself surrounded by them. Storing on a hard drive wastes space for data you might not use that much. A removable hard drive cartridge is an ideal solution; for not much more than the cost of a RAM card (assuming you already have the drive), you can store about 44 megabytes of sys ex—enough for lots of patches.

#### Sys Ex Storage Via Keyboard

As an added feature, keyboards with disk drives can often store sys ex. This is convenient if your storage needs are relatively modest, or if you want to dedicate your computer to other tasks. Usually the sys ex buffer will have a

limited amount of memory (a typical value is 64 K) that can handle small to moderate sys ex dumps, but not long ones. Storing sys ex in a keyboard also requires clearing memory somewhere in order to provide a buffer for storing data, so you may need to save sequencer or sample data before initiating a sys ex save.

#### Dedicated Sys Ex Storage Devices

This includes boxes like the Alesis DataDisk, which specialize exclusively in sys ex storage. Unlike keyboard storage, the DataDisk can use up to the full capacity of the disk, allowing for virtually any length of sys ex dump (except for long samples). I find these boxes most useful in setups with MIDI switchers, since you can call up a switcher patch that routes MIDI in/out for any given instrument to the data storage device. Although this is the most expensive storage method compared to using an available keyboard or sequencer, it's usually the most flexible.

#### Miscellaneous Tips

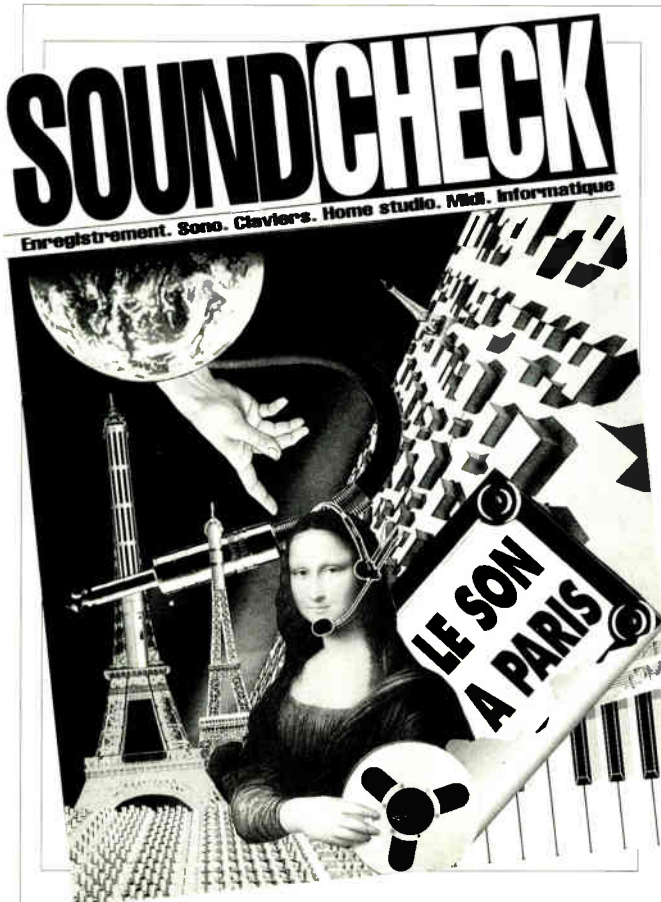
Don't forget about RAM cartridges. Although vastly more expensive than

storing data on disk, they offer the advantage of instant access (no need to boot up a program) and extend the number of programs the synth can access. Once a synth starts having 200 or 300 patches onboard, you may not even want to save and load banks of patches since the existing ones will handle most of your needs. RAM cards are also easily transportable from session to session, and you won't run into the format incompatibility programs for a given device that would occur if you store your synth data in a Performer sequence and the studio runs Vision.

Check which gear a studio has before the session so you can bring sys ex data in a compatible format, but just in case, also check for compatible software revisions of that gear.

I hope you find these tips helpful. Remember that it's always much better to say "I'm glad I just saved that patch," than "I *knew* I should have saved that patch!" ■

*Craig Anderton loves to find out as much as he can about musical electronics in as many ways as possible, then write about it so other people don't have to make the same dumb mistakes he did.*



# OOH LA LA! SOUNDCHECK

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—FROM PAGE 121, IRON CURTAIN

going to now," Cohen continues. "The problem is getting enough dates to make the tour pay for itself. We went through one promoter in Budapest who booked all five shows over there. We had a problem dealing with a city in Yugoslavia—the dates were switched around. A hall in Prague told us we had to do an afternoon show, and we thought it was going to be an evening show. We've come to expect problems. In Yugoslavia, especially, there are lots of gray areas about who's selling the show to whom, and who's ultimately responsible. We don't have great communication, physically; it's a problem getting faxes.

"There's another problem dealing, literally, with communication. Laurie translates her show to the native language of wherever she goes, to the extent that she can perform songs in that language or project subtitles. The task of getting the translation, putting it into the computer and shooting slides, having people read phonetically, and getting it taped, is immense. For this tour she translated lyrics into Czech, Hungarian and Slovenian. But we just received a fax from the promoter in Budapest that says:

*"There are two different languages in Yugoslavia: In Belgrade and Zagreb, Serbo-Croatian; in Ljubljana, Slovenian. As presently there is a big ethnic conflict between these countries, it is impossible to project or sing Slovenian text in Zagreb and Belgrade. Therefore, we are working on a Serbo-Croatian translation, which we'll send to you tomorrow evening."*

"World War I started over there," Cohen laughs. "We don't want to start World War III!" ■

*Journalist Linda Jacobson runs Wordswork, providing high-tech writing, editing and publishing to businesses in the San Francisco Bay Area.*

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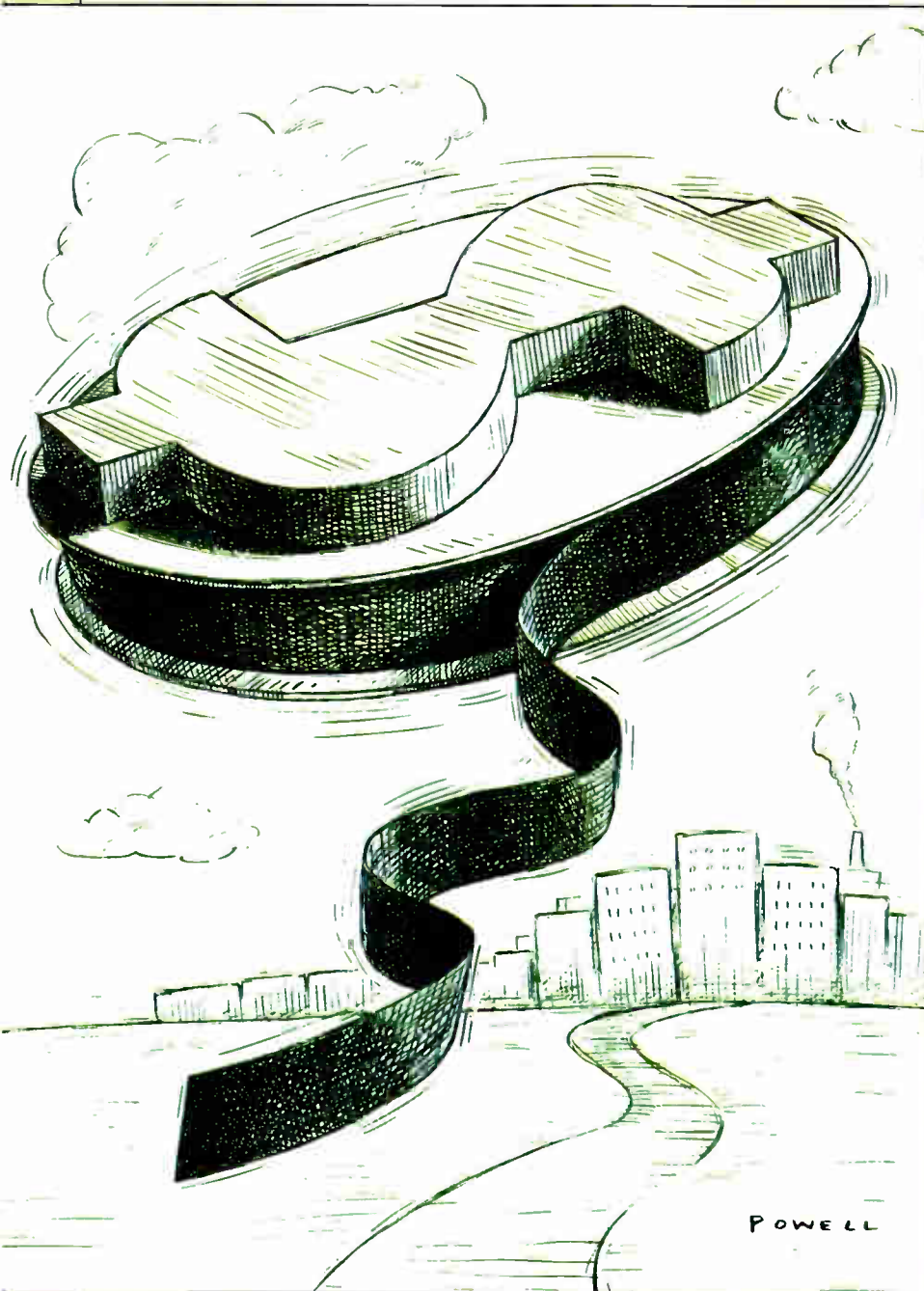
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by Philip De Lancie

# BASF's BIG BUY

## THE AGFA TAPE DEAL



sumed a dominant position. What effect will this have on Agfa tape users, and on the market in general? Does BASF's willingness to commit significant resources in this area mean that the company foresees continued growth in the demand for magnetic tape products like prerecorded cassettes? To explore BASF's outlook and its plans for current and future products, I spoke with Terry O'Kelly, U.S. director of sales, at BASF Corporation Information Systems in Bedford, Mass. Our conversation follows:

*What were the primary motivations of the two parties in transferring Agfa's magnetic tape business to BASF?*

I can only speak for BASF. One reason was to increase our capacity, because both our consumer and professional businesses are growing tremendously. Our factories are running full out right now, and we still can't keep up. We would have had to invest a great deal of money in new factories and new equipment. This way we add existing factories that were not running at full capacity. And by managing them differently, we can increase our productivity tremendously. Rather than having some factories trying to make all different kinds of products, they will concentrate on the individual products to which they are best suited.

Another reason for the acquisition is to allow us to concentrate on our core business of magnetic media storage. We'll be one German company producing magnetic media to compete worldwide, rather than having BASF and Agfa compete against each other for the German or European or U.S. markets. And it could be that Agfa wanted to get down to its own core business also, which is more in imaging and

Now that BASF's bid to acquire Agfa's magnetic tape business has been approved by the German government, the deal is virtually certain to proceed without a hitch

toward its scheduled completion in January 1991. So by the time you read this, Agfa will have ceased to be a player in the audio duplication market, while BASF will have as-

graphics. In fact, we are negotiating right now to sell them our printing plate business, because that's more in their area.

*Are these BASF-Agfa transactions part of positioning for the coming "single market" in the European Economic Community and the opening of Eastern European economies?*

Our interest in increased capacity is related to the great potential in Eastern Europe. There are a great many natural resources in Russia and some of the other Soviet Bloc countries. And if they properly develop economically, then you've got huge markets available there as well. Certainly, BASF is looking at that, but it's very long range.

*What share of the audio duplication tape market would you estimate that BASF will have post-acquisition, and who are your major competitors?*

We are at greater than 50% market share. Our big U.S. competitors are Aurex and Sunkyong.

*Given the substantial financial commitment represented by the acquisition, is there any concern at BASF about the effect of a slowing U.S. economy on markets for audio duplication products?*

Entertainment is one of those nice markets to be in, because even when things are bad overall, this market stays relatively good. If the economy slows down and things get tough, people will continue to appreciate things like entertainment or music for diversion or inspiration, though the company may not invest as much in new capital equipment. But so far our market is not in any stage of decline. In fact, if it's decided that the Bedford facility should serve not only the U.S. but also Mexico and Canada, then there

will be an expansion of our manufacturing operations here.

*What about the increase of petroleum prices since the Iraqi invasion of Kuwait? Will that have any significant effect on prices or demand for your products?*

Higher oil prices could make it harder for tape manufacturers, cassette shell manufacturers and duplicators, because our margins are very thin. If our costs go up and our prices don't, then the business becomes questionable, which isn't healthy for anyone. Already, the people who are supplying us with our polyester base films are talking about price increases, but whether or not we will see that is still open to conjecture. If film prices do go up and stay up, we could see increases in tape prices as well. But I don't think costs will rise enough to affect demand for prerecorded music tapes, because the total manufacturing cost of raw materials in a duplicated cassette is such a small part of what actually gets charged at retail. We are only talking about a difference of pennies or a nickel per cassette.

*Are there any other important factors influencing the audio duplication market right now?*

The use of digital bins is one thing that's good for both duplicators and manufacturers, because now we can start concentrating on the real high-performance tapes. That's what's going to be required to eke out the maximum performance from the audio cassette. I didn't expect the demands on tape stock to be so great, but most people now want their cassettes to sound identical to the digital masters they give the duplication houses. The cassette really wasn't designed for that, and the standard ferric oxide tape

doesn't seem to have that kind of potential. You can get more out of it with Dolby HX, and Dolby S will help in the future, but you really need new high-performance formulations like advanced chrome and ferric cobalt. So we're talking about better quality tapes, which is something that BASF and Agfa have been pushing all along.

*Among the existing BASF and Agfa audio duplication formulations, which product lines will continue to be offered?*

We'll be offering all the ferric tapes. Agfa's chrome tape, 647/947, probably will not be continued. That was pretty much manufactured by us anyway; they just slit it and packaged it.

*Will you be differentiating the various ferric products from one another by suggesting to your customers particular applications for which each is most appropriate?*

The main thing will be to maintain customer consistency. Consistency is a prime criterion of quality in audio and video duplication, and there is no advantage to customers to suddenly change over their duplicating lines from one tape to another, adjusting tensions and so forth. We don't want to inflict that on any of our customers. So, because consistency is so essential, we will guarantee our customers no changes in the tapes they are accustomed to, until such time as we introduce new products that supersede the existing Agfa or BASF products.

*When might that be?*

It could be some time off. We have to sort out our factories and our processes, and we have to decide which of the aspects of these two different product lines are the ones we should keep. The Agfa ferric



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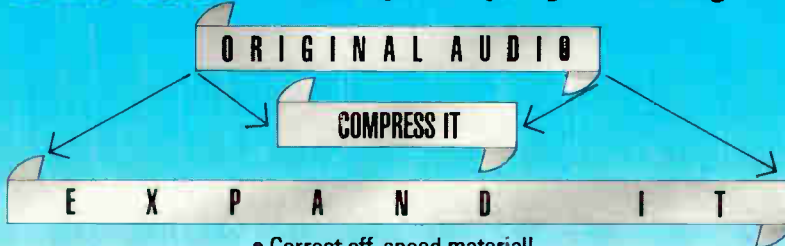
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seems to have outstanding mechanical qualities, whereas BASF LHD has outstanding electro-acoustic properties. If we could come up with a way of using our formulation in an Agfa manufacturing process we would have products that incorporate the strengths of each.

*Agfa had planned to introduce a ferric cobalt duplication tape. Is that still in the works?*

We are evaluating that right now. I believe that it will be available sometime in the first quarter of 1991. Ferric cobalt has one big advantage: It can take a lot of energy at 6-8 kHz without breaking up. The analog tapes used in loop bins used to nicely compress things in that region. But with these new digital bins, all the energy that is on the digital production master is passed on to the cassette, and we are finding there is a weakness at the upper midrange with current duplication stock.

Ferric cobalt has its own problems, mainly in terms of long-term durability. It loses high-end response as it's played over and over again, due to restrictive forces. When you press or squeeze the tape between capstan and pinch roller, or run it over sharp guides, the magnetic flux of the high end begins to deteriorate. So we are working on a reformulated chromium dioxide tape, which will have some of the strengths of ferric cobalt.

The new tape will eventually replace Chrome-D, our single-coat chrome. We're not going to give up any of chrome's great advantages in terms of bias noise, ultralow print-through, very low modulation noise and the squareness ratio, which is the switching field distribution that gives chrome some advantages with high-frequency transients. Chrome is also an extremely clean and easy tape to run. But with this new formulation we can reduce low-frequency distortion and raise MOE at the same time as we solve the saturated output problem in the up-

per midrange, making it equal or superior to ferric cobalt.

*When is the new chrome likely to be available?*

If we can manufacture it here in Bedford, and do so fairly quickly, it would be out sometime in 1991. If not, it would be 1992 in the U.S., though Germany will move to it very quickly.

*Once you have both the ferric cobalt and the new chrome on the market, how will you advise duplicators as far as choosing between the two?*

It's hard to say. It depends on how the tapes actually perform once they're out. We still believe that chrome makes a superior tape, but we know that there are some people who don't like the kind of distortion they hear when they try to drive it very hard. The ferric cobalt can be driven very hard without those kinds of distortions—though it has other kinds of distortions—so we will be able to deliver to those people the kind of sound they are looking for.

*How do your current markets break down between chrome and ferric products?*

At BASF, we were selling about 35% chrome. That would come to about 18-20% of the combined Agfa-BASF sales. But chrome is expected to be the segment of the market in which there will be the greatest growth, especially with new formulation tapes.

*Is a tape for use in Philips' new Digital Compact Cassette format among those new formulations being planned?*

I've seen mentions that DCC would use chromium dioxide tape, and I don't know who would know more about chrome than BASF, since we are the only ones who make both the tape and the particle. I don't have any specific information on our plans at this time, but if DCC becomes popular, it should help BASF tremendously.

*What facilities will BASF have for the manufacture of magnetic tapes and related products after the Agfa acquisition is finalized?*

We will have three factories from Agfa, located in Berlin, Munich and

Avranches, France. Then we have our plants in Germany [Willstaett], France [Gien], Indonesia, Brazil [Manaus] and here in Bedford.

*What about Agfa R&D facilities in Europe? Are they being consolidated with BASF, or will they remain independent?*

There will be a consolidation of R&D staffs. I think that the Agfa people will move into BASF offices.

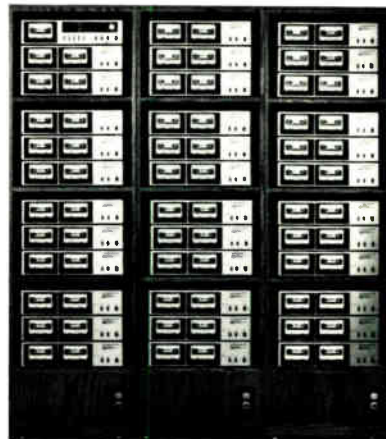
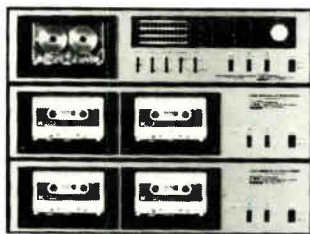
*Is BASF to continue offering the Agfa-XT restoration service for*

*shedding tapes?*

No plans have been discussed to discontinue it. It's a service that seems to be of great benefit to the those in the industry who have tape libraries on older stock. I don't know if we'll be able to continue doing it in the U.S. That depends on how much of that equipment comes to us here and how soon we could set up the lab. ■

*Tape & Disc editor Philip De Lancie is a mastering engineer at Fantasy Studios in Berkeley, Calif.*

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by Phillip De Lancie

# TAPE & DISC NEWS

## Matsushita + MCA = Powerful Position in Entertainment

What impact will Matsushita Electric Industrial Company's \$6.6 billion purchase of MCA Inc.—the largest ever U.S.-to-Japan ownership transfer—have on the American entertainment industry? MCA's activities, according to the Associated Press, are about one quarter in music and half in film and video. At giant Matsushita, audio products, marketed as brands like Panasonic, account for 9% of business, while video makes up 27%. The merger of these hardware and software activities will put Matsushita in a strong position to influence the fate of present and future technologies for delivering entertainment to consumers. But the move, which leaves Warner Music Group as the only domestically owned major label complex, isn't expected to bring a foreign flavor to the company's films or music anytime soon. Matsushita's president, Akio Tanii, has said he intends to let MCA management continue to run entertainment operations without interference.

The continuity of management comes as good news to Jeffrey Binder, president of Duplitratics, which makes digital master reproducers for audio cassette duplication. One of his company's systems has been on site for evaluation at the Gloversville, N.Y., duplication plant of Uni Distribution, the MCA Music Entertainment Group's newly renamed distributing arm. According to *Billboard*, a 100% increase in Uni's cassette duplication capacity is in the works. So it was with some relief that Binder reported to *Mix* that his contacts at the company expect the buyout to

have no effect on their plans. "If all goes well," says Binder, "they'll be converting the entire facility to digital." That could mean a sale of ten reproducers for Duplitratics at Gloversville, with related master making gear going to MCA's master preparation facility in the Los Angeles area.

## PDO Parents Pull Plug

Philips and Du Pont have decided to dissolve Philips & Du Pont Optical, the joint venture they formed in the mid-1980s. The move comes as overexpansion of capacity holds down prices and profits in the CD replication industry. PDO operates four optical disc replication facilities, including one in North Carolina that is among the largest-capacity plants in the U.S. Du Pont's interest in PDO's consumer-oriented operations will be acquired by Philips. PolyGram, which is 80% Philips-owned, is expected to negotiate to purchase at least some of the plants. PDO's activities in professional products, including CD-ROM, WORM and rewritable discs, will be sold to third parties.

## Music Sales Up Worldwide

1989 was a year of moderate growth for the world's music industry, according to final figures compiled and released by IFPI (International Federation of Phonogram and Videogram Producers). As reported in *Billboard*, the trade group's numbers showed global retail value rising 6.4% over 1988 to \$21.6 billion. The growth, which was smaller than in preceding years, was led by a 50% jump for CDs to 600 million units. Cassette sales grew as well, up 11% to 1.540 million units. The decline in sin-

gles, which sold 357 million units, slowed to only 3.5%.

Though IFPI reported that 450 million LPs were sold, the group noted the format's imminent disappearance from some markets. For instance, by the end of January, EMI will be the sole remaining major label group with vinyl pressing facilities in the UK. CBS has announced plans to convert its plant at Aylesbury to video duplication, and supply vinyl product to the UK from its pressing plant in Haarlem, Netherlands.

## Specialty Gears Up for DAAD

Concept Designs has announced the delivery to Specialty Records, a division of the Warner Music Group's WEA Manufacturing, of its new Master Making System and Master Transfer System. The MMS and MTS modules are designed for loading digital audio into Concept's DAAD digital master reproducers at a rate of greater than ten times real-time. The systems are built around Honeywell VLDS digital instrumentation recorders, which store data on VHS-format tape. MMS accepts SDIF-2-formatted data, feeding it into a solid-state buffer before recording it twice on tape to reduce the likelihood of dropouts. MTS reads the data from the tape into the DAAD memory, loading up to eight reproducers simultaneously.

## SPLICES

Spoken word duplicator **Cassette Productions Unlimited** (Irwindale, CA) has opened a full-service creative production center. The new division will be headed by Toni Boyle, who comes to the company from **Nightingale-Conant...Bach Duplication** (Garden Grove, CA)

has installed a new Versadyne 1500 Series audio cassette duplication system of one master and two slaves, including an SR-150 slave reader and PT-250 production totalizer...AME has restructured the operations of its Mass Duplication Division in Los Angeles, El Segundo, CA, and North Bergen, NJ. Four executives have been promoted in the move: Yolanda Nash, Chip Viering, Donna Contero and Bob Creamer...Allison Industries has merged with Tri Force Media. The two companies, which manufacture and market audio and videocassette shells and related products, will operate under the Allison name out of Allison's headquarters in Hauppauge, NY...Agfa has announced production increases for its line of DAT tapes, citing higher-than-anticipated demand since the line's introduction at September's AES convention...Sony Audio Visual Products has introduced a line of monaural in-cassette duplicators which operate at 16 times real time. The CCP-1300 is a master unit with one master position and three slave wells. The unit may drive up to five CCP-1400 slave units, which have four positions each...Pioneer Video Manufacturing (Long Beach, CA) is building a second U.S. facility in the Los Angeles area for manufacturing eight- and 12-inch laserdiscs. The 265,000-square-foot plant, slated to begin production in April, will use six automated production lines to raise PVM's LD pressing capacity to 1.6 million monthly by the end of the year...Optical Disc Corporation (Santa Fe Springs, CA) has announced nine Certified Recording Centers around the country to produce Recordable Laser Videodiscs for single-copy or low-volume applications. The move is part of a program to ensure quality standards at facilities using the ODC 610A system...CD mastering and cassette duplication for the latest New England Ragtime Ensemble album on the GM Recordings label has been handled by Digital House in New York City. ■

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# C O A S T

## N.Y. METRO REPORT

by Dan Daley

Blue Nile?...Not really. Producer Nile Rodgers is leaving his six-year roost at Skyline Studios, where he maintained offices and an Akai 12-track-equipped pre-production suite. Rodgers and his new record label, Ear Candy, have leased a 10,000-square-foot floor at 149 Fifth Avenue, near 23rd Street. "We like that neigh-

**David Byrne in New York at BMG/RCA's Neve VR60, recording Cole Porter's "Don't Fence Me In" with his Brazilian band for the Chrysalis release Red Hot + Blue.**

## SESSIONS & STUDIO NEWS

### SOUTHERN CALIFORNIA

Former Doors keyboardist **Ray Manzarek** was in **Mad Dog Studios** (Venice) working on the soundtrack for the film *L.A. Woman*, which he is producing and directing. Two Doors songs, "Love Street" and "Strange Days," have been recut, and five new songs were recorded with Manzarek producing and **Michael Dumas** engineering...**Sound Chamber Recorders** (Pasadena) had **Mark Isham** in working on soundtracks for *Reversal of Fortune* and *Mortal Thoughts* with engineer **Steve Krause**...Producer **Danny Sembello** was at **Skip Saylor**

mixing **Guns N' Roses** with **Lori Fumar** assisting...**Madonna** was at Burbank's **Master Control** working with producer **Lenny Kravitz** and engineer **Josh Chervokas**...

### SOUTHEAST

In Nashville, **Johnny Cash** was at the **Music Mill** mixing a PolyGram project with producer **Bob Moore** and engineer **David Ferguson**...**Robert Cray** went to Memphis to record "some down home, down in the dirt blues" with **John Hampton** at **Ardent Studios**. *Midnight Stroll*, Cray's third release on Mercury, was produced by **Dennis Walker** and mixed by Hampton...In New Orleans, **Art Neville** recorded a solo piano piece for Rounder Records at **Ultrasonic Studios**. The song is for a New Orleans piano master compilation album that also features **Champion Jack Dupree**, **Eddie Bo** and **Allen Toussaint**. **Ron Levy** produced and **David Farrell** engineered...**Doppler Studios** in Atlanta recorded the music, sound effects and voices for "Behind the Wall," a documentary look at Berlin from post-WWII to the present...At **New River Studios** of Fort Lauderdale, FL, the Trinidad-based group **Shandileer** was in recording tracks with engineer **Johnny Afoon** and assistant **Riley Connell**...At **New Vision Recording** in Charlotte, NC, **Counterpoint Productions** produced an album by heavy metal band **Gypsy** with **Bill Connor** engineering...

### NORTHEAST

At **Power Play Studios** of Long Island City, NY, **Eric B. & Rakim** were working on their next album with engineers **Anton Pukshansky** and **Greg Gordon**...At **Science Lab** in NYC, **Mic Murphy** was laying tracks for his solo album with engineer **Stephen Seltzer** and assistant **Leroy Quintin**...At **Soundworks NYC**,



PHOTO: MITCHELL SEIDEL

borhood," said co-president Tom Cossie. "There are lots of agencies and it's a very up-and-coming area."

The label is a joint venture with BMG International under the aegis of RoCo, Rodgers' and Cossie's production company.

—CONTINUED ON PAGE 161

**Recording** (L.A.) mixing RCA Records artist **Stacy Earle** with engineer **Brian Malouf**; **Pat MacDougal** assisted...At **One on One Recording** in North Hollywood, Elektra recording artists **Metallica** were tracking with **Bob Rock** producing, **Randy Staub** engineering and **Mike Tacci** assisting. Also at One on One, **Bob Clearmountain** was

# C O A S T

producer **Junoir Vasquez** mixed the **Steve Winwood** track "One and Only Man" for Virgin Records. **Mark Plati** engineered mixes and programmed keyboards for the project...Get Hip recording artists **The Cynics** were at Pittsburgh's **Audiomation Studios**, recording with producers **Gregg Vizza** and **Scott Warner**...At **Susquehanna Sound** in Northumberland, PA, **Living in Canaan** completed their latest cassette with engineer **Dave Goodermuth** and producer **Fred McNaughton**...**David Rosenthal** was in at the **Hit Factory** (NYC) co-producing and doing keyboard work for Epic artist **Deborah Blando**...Also in Manhattan, **Gail King** remixed **Vanilla Ice's** "Play that Funky Music" at **Electric Lady's Studio B**, with **David Sussman** engineering and **Adam Yellin** assisting...**Kajem Recording** of Gladwyne, PA, was chosen to record New Jersey rocker **John Eddie** for Elektra Entertainment...

## NORTH CENTRAL

At **Tone Zone Recording** in Chicago, jazz pianist **Joan Hickey** was tracking with engineer **Bill Bradley**. Backing Hickey were drummer **Joel Spencer** and Timeless All-Star bassist **Buster Williams**...Also in Chicago, **Harry Connick Jr.** recorded vocal overdubs and a solo vocal/piano track for *Godfather III* at **Universal Recording**. The producer was **Steve Goldman**; **Joel Moss** mixed the session... Remaining in the Second City, **Idful Music Corp.** reports **Red Red Meat** were recording an LP with producer **Brad Wood**; and from Portland, OR, **Calamity Jane** mixed three tunes for an upcoming single as they passed through town on tour...**Absolute Music** of Minneapolis completed music production for PBS and two sports documentaries...In Dearborn Heights, MI, **Studio A** had gospel sensation **Witness** mixing their second album,

with **Michael Brooks** producing and **John Jaszcz** at the controls...Classical guitarist **Lee Dyament** was at **Hatchery Studios** (Warren, MD) recording three original songs for Virgin Records...**Turbos Recording Studios** (Inkster, MD) remixed **Scott Campbell's** "I'm an Accident Waiting to Happen," which is on the soundtrack to the movie *Mirror, Mirror* starring Karen Black and Yvonne DeCarlo...

## SOUTHWEST

**Village Productions** in Tornillo, TX, did production work on new age artist **Mark Moore's** CD, as well as work for **Tony McElveen**...**Congress House Studio** (Austin, TX) reports **Will Sexton** recording an album for Zoo Records and **Napoleon Machine Gun** working on their demo. **Mark Hallman** engineered and produced both sessions...Also in Austin, **Sixth Street Studio** was visited by **Train Wreck**

—CONTINUED ON PAGE 178

## L.A. GRAPEVINE

by Amy Ziffer

L.A. is full of studios whose owners have evidently made New Year's resolutions to upgrade their facilities, many with the same thing in mind: attract a broader client base and boost rates. Will media facilities start to feel the heat from "traditional" music studios as they elbow in on post-production work? Maybe, but then again the general feeling seems to be that there's more than enough work to go around. Viewers aren't turning off the TV in droves (in fact, there obviously is enough room for a fourth network after all), and box

—CONTINUED ON PAGE 177

**Scotland Yard (L.A.) studio** owner/producer **Steve Harvey** at the new **DDA DMR12 console**.



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—FROM PAGE 158, N.Y. METRO

Cossie said the arrangement would give Ear Candy marketing flexibility for its products in 36 territories worldwide.

According to Budd Tunick, production manager for Nile Rodgers Productions and head of A&R for the new label, offices will be constructed first, then a recording facility is planned for the space. Rodgers' production company already owns a Sony 3324 multi-track, and both SSL and Neve consoles are on Ear Candy's wish list. Space is the motivator behind the move; Ear Candy will hire a number of new employees. The studio aspect is economically motivated. "As a record company, we figured we've poured enough money into studios around town for a long time, so why not build our own?" Tunick said.

Rodgers, who has produced a wide range of artists including Madonna, the Vaughan brothers and David Bowie, will continue to do projects outside the framework of Ear Candy. "We'll miss him," said Skyline studio manager Barbara Moutenot, "but we expect that

he'll continue to do some projects here in the future." As she spoke, Rodgers was working on ex-Cars Ric Ocacek's current project at Skyline.

Some changes at Martin Audio: vice president of sales Mike Bogen and four sales personnel were let go November 5. The sales layoffs reflect Martin's desire to aim at a more precisely targeted clientele, said sales manager Dave Bellino. "We've found that focusing on a particular part of the market is the only way to be profitable in the '90s," he said. Bogen's departure was not related to the changes in Martin's business approach, according to Martin general manager Louis Franconi, who added that Bogen and the company parted on amiable terms but did not disclose the reason for Bogen's departure.

Bellino stated that Martin would still deal with a range of clients, including home and broadcast users, but would focus on the upper portion of those markets, users who are contemplating or have high-end implementa-

—CONTINUED ON PAGE 178

## SPARS



### B E A T

b y · P e t e · C a l d w e l l

In the early 1980s, just as SPARS was getting started, The Association of Professional Recording Studios (APRS) was founded in the United Kingdom. Today APRS has over 100 studio members. Although there are some differences, the two organizations are quite similar with respect to goals and operations. They are indeed sisters. Over the years SPARS has maintained a friendly, though rather loose, liaison with its British sibling. Recently, APRS followed SPARS' lead by changing its name to The Association of Professional Recording Services, justifying a broader, more diverse membership base.

This year at the L.A. AES show, APRS representatives were invited to attend SPARS events, including the general membership meeting. The APRS delegates seemed particularly interested in SPARS educational programs, and they attended and participated in the meeting of

the SPARS Educational Associates.

Last year in Japan the JAPRS was born. Patterned after its English-speaking cousins, JAPRS is growing fast. During a recent tour of U.S. studios, Hideo Tanaka, president of JAPRS and of Tokyo's Hitokuchi-Zaka Studios, hosted a supper meeting for SPARS leaders in L.A. Representing SPARS were former president Chris Stone, chairman of the board David Porter, president Pete Caldwell and executive director Shirley Kaye. Members of the Japanese recording industry press were also present. Discussions centered around SPARS programs and operations, U.S. studio rates and policies, and inquiries into how the two organizations might work together in the future.

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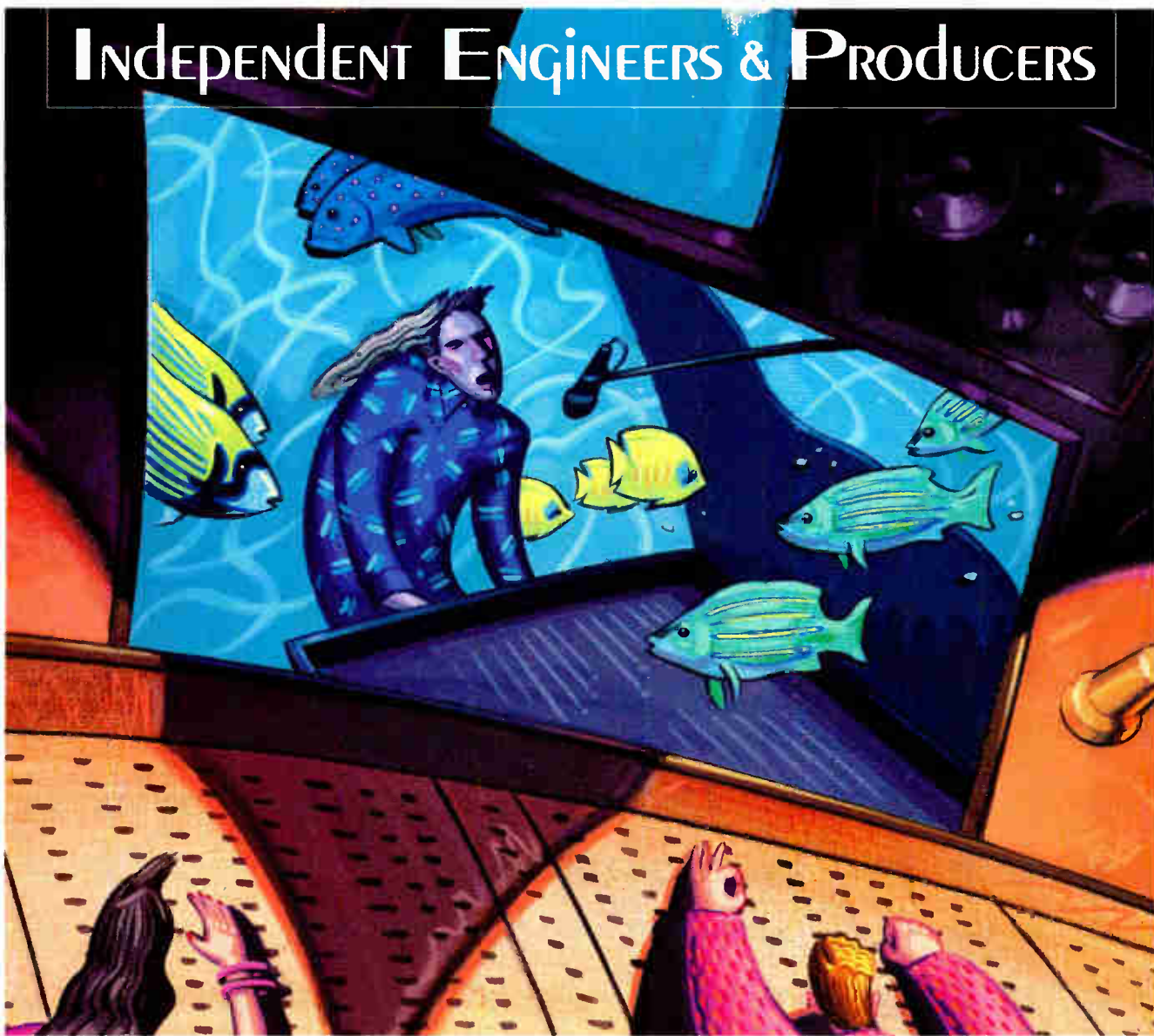


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## A

**GLENN S. ABBEY**; *Engineer & Producer*; **TWIN VALLEY AUDIO**, 4834 Crckett Ct., Raleigh, NC 27606; (919) 851-4406; FAX: (919) 856-1442. **Credits & Services:** Clients include Glaxo Pharmaceuticals Inc., Raleigh-area radio stations, auto dealers and t-busineses; album projects for international and local musicians; on-location audio for industrial video; and The North Carolina Humanities Council. Created sound effects and recorded a dramatic production for the nationally syndicated radio program "Soundings."

**M. DAVID ACOSTA, J. DEON HILL**; *Engineers & Producers*; **SILENCE INCORPORATED**, PO Box 710, Maplecrest Stn., Maplewood, NJ 07040. **Credits & Services:** Studio production: Nu Shooz "I Can't Wait" Hot Tracks remix; Kool & the Gang, "I Sweat" remix; Frankie Castle, "It's So Hard" remix; Steve Washington/George Clinton, Roxie, mixing and remixing. Live engineering: Dan Reed Network, Adrian Belew, Chuck Berry, Shadowfax, E.B. King, Roomful of Blues, Buddy Rich, Dave Mason, Danzig, Bonnie Raitt, The Band, New Riders of the Purple Sage, John Lee Hooker, James Cotton Blues Band, Al Stewart. We are an independent production firm with a broad background in many facets of entertainment production. Our experience integrates audio, film, video and computer technologies. An extensive roster of skilled performers, composers, arrangers and technicians awaits your beck and call. Productions are recorded at world class facilities. We offer the knowledge and exploitation of the latest in emerging technologies to fulfill any possible need.

**RANDY ADAMS**; *Engineer & Producer*; **FUTURE AUDIO**, 7700 Carpenter Freeway; Dallas, TX 75247; (214) 263-0746. **Credits & Services:** I specialize in organizing and recording large-scale live and studio productions, usually supervising audio-for-video, sound reinforcement and multitrack recording. From the initial planning to the release of the final product, your project will be in good hands. Some recent projects include The

Alexandria Sanctuary Choir for Pathway Press, The James Robinson Bible Conference, The A/G Missions Project, The Freedom Concert, Hosanna/Integrity, Country Crossroads and many others. Also live mixing for special events and concerts, especially those featuring large choirs and orchestras.

**STEVE ADDABBO**; *Producer*; **AGF ENTERTAINMENT LTD.**, 30 W. 21st Street, 7th Floor, New York, NY 10010; (212) 366-6633; FAX: (212) 366-0465.

**TONY ALVAREZ**; *Engineer & Producer*; **BOOM SONIC MUSIC**, 5325 Sunset Blvd.; Hollywood, CA 90027; (714) 594-3889. **Credits & Services:** Credits: Dorian Heart, Federation of Love, The Underthings, Syd Straw, Babylonian Tiles, Dina D., Bad Credit, LA's Most Wanted, Crossroads. **Services:** An up-and-coming producer/engineer of the new school. Technical and musical chops that deliver tracks of the highest quality.

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**FRANK ARN**; *Engineer & Technician*; **BANTAM SOUND SERVICES**, 11225 Magnolia Blvd., #308, N. Hollywood, CA 91601; (818) 907-5181.

**ALQUOR ARMICK**; *Producer, Technician & Music Computer/Programmer*; **HOOK CITY PRODUCTIONS**, 1592 Lago St., Ste. #221; San Mateo, CA 94403; (415) 349-8385.

**BRIAN ASCENZO**; *Engineer, Producer & Music Computer/Programmer*; 13712 Ascot Dr.; Sterling Heights, MI 48313; (313) 977-7375; (313) 754-0236.

**EDDIE ASHWORTH**; *Engineer & Producer*; **ROGUE RECORDINGS**, 2629 Manhattan Avenue #202; Hermosa Beach, CA 90254; (213) 372-9327; FAX: (213) 374-5422.

## B

**BRITT BACON**; **TOPANGA SKYLINE RECORDING CO.**, 1402 Old Topanga Canyon Rd.; Topanga Park, CA 90290; (213) 455-2044; FAX: (213) 455-2774. **Credits & Services:** Albums: Chicago 16, Bob Dylan *Knocked Out Loaded*, W.A.S. *Headless Children*, Bangles *The Bangles*, David & David *Welcome to the Boomtown*, Fea *I Hate Living in the City*, BAN *New York*, *Alight if You Like Saxophones*, Joni Mitchell *Dog Eat Dog*, Alcatrazz *Alcatrazz*, Paul Anka's 1989 release, Bob Dylan's 1989 release, *Walking Wounded*'s 1989 release, *Rising Force* *Firing Force*, Sante Fe's 1989 release. TV/radio/films: A.T.&T., 3M, Coors, First National Bank, Thom McCann, Superior Beer, Cheer, Fiesta Cigs. Artists: Peter Cetera, Steve Vitz Billy Preston, Ted Nugent, Miles Davis, Yngwie Malmsteen, Dave Arin, T. Bone Burnett, Kerla Bonoff, Linda Rondstat Martin Sheen, Lynn Redgrave, Burgess Meredith, Osamu Kitajima. Producers: David Foster, Humberto Gatica, David Sugierson, David Kafne, Luis Pisterman.

**DEAN BARLIN**; *Engineer & Producer*; **4 CATS STUDIO**, 325 W. 52nd St., Apt. 4H; New York, NY 10019; (212) 582-8663; FAX: (212) 327-5428. **Credits & Services:** 24-track 2" and 16-track 1/2", extensive MIDI setup, pre-production/finished master recordings. Digital mixdown. Producer/engineer/songwriter. Has experience in synth/drum programming to aid artist in arranging/crafting songs to meet today's standards. SMPTE-based synchronization of multitracks to computer allows for flexible arranging possibilities with virtually no track limitation. Automation and specialized guitar preamps available. 15 synths with extensive sound library. Credits: musical direction for Rupert Holmes, 3 years; featured guitarist on recording hits *Pina Colada* and *Hi!*; sound scoring for CBS-TV and Fox TV. Mas-

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ter recordings: Erika Records, *Tristan Shotgun*; One World Records, Joe Voce *California*; Macola Records, Michael Christensen *100 Ways*; MEG Records, Rich Contri *Everything to Me*. Wrote and produced master recordings for new artist Jodi Bongiovi. Co-produced and mixed Mike Catalano's *Good Neighbors* LP for CBS Brazil. Produced and wrote songs for *Police Academy* cartoon series, aired 10/89.

**JACK BARRY**; *Engineer & Producer*; 22 Fountainbleu Drive; New Orleans, LA 70125; (504) 866-0609.

**JOHN J. BARTLEIN**; *Engineer & Producer*; 6016 Zelzah Ave.; Encino, CA 91316; (818) 708-3766.

**CARLTON BATTS**; *Engineer & Producer*; C.S.B. MIX INC. 50 Donna Court; Staten Island, NY 10314; (718) 698-4641. **Credits & Services:** Credits include: Whitney Houston, Samantha Fox, Third World, Heavy D & The Boyz, Gloria Loring, Al B. Sure!, Neneh Cherry, Dionne Warwick, Big Daddy Kane, Eric B. & Rakim, Miles Jaye, Vanessa Bell Armstrong, Al Green, Missing Persons, Sa-Fire, Basia, Pieces of a Dream, The Boyz, Kid-n-Play, Blaze, The Jungle Brothers, Basic Black and many others. C.S.B. Mix Inc. is a full-service music production company...from start to finish. I offer 24-track recording, 12" remixing, drum machine & synthesizer programming, demo production, record & CD mastering, cassette duplication, digital editing and all the free kool-aid you can drink! Peace.

**KEVIN BEAMISH**; *Engineer & Producer*; KEVIN BEAMISH PRODUCTIONS INC. 4615 Stark Ave.; Woodland Hills, CA 91364; (818) 702-0265; FAX: (818) 713-1629. **Credits & Services:** 17 years experience as producer/engineer with international multi-platinum success: REO Speedwagon-4 albums including *Hi Infidelity*, Jefferson Starship, Y&T, Saxon, Leather Wolf, etc.

**GLENN E. BERKOVITZ**; *Engineer*; SPINNING REEL SOUND SERVICES. 11929 Windward Ave.; Los Angeles, CA 90066; (213) 313-2776; (914) 429-1545 (N.Y.). **Credits & Services:** Specializing in audio—production and post-production—for film and television. I bring to my work a thorough knowledge of all systems in use today. I incorporate digital and time code technologies in my production recording equipment and techniques, and my post-production work involves most sampling and editing systems currently available. Studio work certainly improves the quality of recording in the great outdoors; the ability to negotiate between jets, trains and assorted creative minds ultimately dictates the need to spend time in the studio. Add to this cycle an element of enjoyment, or even fun, and I guess I'll take it! (Now available in the handy bi-coastal package!)

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**JAMIE BRIDGES**; *Engineer & Producer*; 256 State St.; San Mateo, CA 94401; (415) 347-1186.

**HARRY BROTMAN**; *Engineer, Producer & Music Computer/Programmer*; BROTMAN MUSICAL SERVICES. 19010 Avers Ave.; Flossmoor, IL 60422; (708) 799-7711. **Credits & Services:** Recent national releases: L.V. Johnson, "I've Got the Touch..." (CHIBAN); Tyrone Davis, "Let Me Love You" (CHIBAN), engineered & mixed both albums. Engineered & mixed productions for Brian Chatton/Out of Nowhere (TUL INTL), Al Hudson (Korty-Chris), Xroti (Korty-Chris), General Crook (Stellar North), Styles (Stellar North), The Steelers (Stellar North), The Mixx (Derbytowne). Produced, engineered and mixed La Mex 828. Recorded live: "The Soul Children of Chicago" (I amv A&M). Services: Engineering, co-productions, production, analog and digital synthesis, sampling, programming/sequencing, Banging the boards for a decade-and-a-half in Chicago and beyond. Requestable at many fine 24-track facilities,

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**JEFF BRUGGER**; *Engineer*; HARD DISK CAFE. 1157 Briarcliff Rd., NE; Atlanta, GA 30306; (404) 875-0215; FAX: (404) 875-1472. **Credits & Services:** Digital hard disk editing & CD mastering, radio production & music recording. Consulting for digital audio editing & studio design.

**CHRIS BUBACZ**; *Engineer & Producer*; ON TEN PRODUCTIONS. 87-86 116th St., Apt. D-5; Richmond Hill, NY 11418; (718) 441-5271; (914) 362-1620. **Credits & Services:** Engineering, mixing and production for artists on labels such as Atlantic, Arista, Passport, Enigma, Megaforce, CBS, MCA, Private Music, RCA and A&M.

**ERICH T. BUCHOLTZ**; *Engineer, Producer & Technician*; 2122 Wood St.; Latrobe, PA 15650; (412) 539-1075.

**RICHARD JAMES BURGESS**; *Engineer, Producer & Music Computer/Programmer*; 7095 Hollywood Blvd. #104-345; Los Angeles, CA 90028; (213) 850-7337; FAX: (213) 850-5302. **Credits & Services:** Producer, programmer, drummer, engineer. Credits: Spandau Ballet, King, Adam Ant, Five Star, Living in a Box, Colonel Abrams, Shriekback, When In Rome.

**SCOTT A. BURNETT**; *Producer*; DARKHORSE MUSIC-MEDIA CO. 1201 1st Ave. S., #307; Seattle, WA 98134; (206) 623-5265.

**SIDNEY BURTON, JR.**; *Engineer*; BURTON SOUND ENGINEERING. 28 Cunningham St.; Boston, MA 02125; (617) 427-4376. **Credits & Services:** Mix engineer, Maurice Starr Productions; New Kids; Omnimax; Perfect Gentlemen; Anna Rodriguez; CBS Critique; Coca Cola; Homework; Atlantic Records; House of Hits SSL, Amek, mix-to-picture.

**C**  
**KEN CAILLAT**; *Engineer & Producer*; CAILLAT PRODUCTIONS. PO Box 1064; Malibu, CA 90265; (213) 456-6047; FAX: (213) 456-5778. **Credits & Services:** Grammy Award-winning producer, Grammy-nominated engineer—Fleetwood Mac *Rumours*. Album credits include: Fleetwood Mac *Rumours*, *Tusk*, *Live*, *Mirage*; Chicago; David Becker; Lionel Richie *Dancing on the Ceiling*; Tom Scott *Streamlines*. Film or television credits include: *52-Pick-up*, *Firewalker*, *RoboCop*, *Miami Vice* and Universal Studio's *Earthquake* commercial (3-D audio). Spherical Sound Inc., 3-dimensional audio; Pink Floyd *A Momentary Lapse of Reason*, Michael Jackson's *Bad*, Roger Waters' live radio broadcast from Radio City Music Hall, Tom Scott's *Streamlines* and Lionel Richie's *Dancing on the Ceiling*. Electronic Design Photon Game Centers. Services: production, arranging, song reconstruction and evaluation, 3-dimensional audio, film scoring, sound effects, mixing and electronic design.

**CRAIG CALISTRO**; *Engineer, Producer, Technician & Music Computer/Programmer*; CREATIVE MUSIC SERVICES. 838 Fountain Street; Woodbridge, CT 06525; (203) 387-0886.

**CARL CANEDY**; *Engineer & Producer*; NEON CITY PRODUCTIONS. 627 Main St.; Simpson, PA 18407; (717) 282-0863; FAX: (212) 282-0362. **Credits & Services:** Roxx Gang *Love 'em & Leave 'em*, St. James *Attitude*, Dreaming Out Loud *Dreaming Out Loud*, Phil Accardi *Chalice*, Rhett Forester *Gone With the Wind*, *Shatter*, Broken Dolls *Believe it or Not*, Apollo Ra *Ra Pariah*, Exciter *Violence and Force*, Megaforce *Possessed Beyond the Gates*, *Combat*. World-class production; sensitive to artists' goals. Publishing. Looking for strong new artists. Full in-house 24-track facility with lodging. Resume and studio brochure on request. Contact Dianne Bassett.

**STEVE CARR**; *Engineer & Producer*; HIT AND RUN STUDIOS. 18704 Muncaster Rd.; Rockville, MD 20855; (301) 948-6715. **Credits & Services:** Platinum album for digitally remastering Time/Life Music's *Rock Series*—1989, Tommy Keene *Places That Are Gone*—*Village Voice* critics poll EP of the Year—1984, Tommy Keene "Listen To Me" single B-side, Geffen Records 1987. Oho Yamaha Soundcheck winners Sept. 1988.

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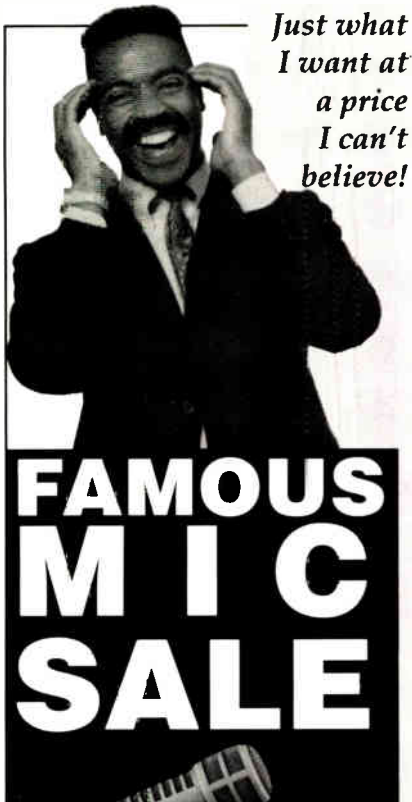
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**L.F. CAULKINS**; *Engineer, Producer & Music Computer/Programmer*; LEON-FORREST PRODUCTIONS. 4416 S.E. Hwy 101; Lincoln City, OR 97367; (503) 996-2575.

**CRAIG E. CHASTAIN**; *Engineer & Producer*; CRAIG CHASTAIN RECORDING/PRODUCING. 407 Highland Drive; Parsons, KS 67357; (316) 421-0541.

**ALEX CIMA**; *Engineer & Producer*; 1501 E. Chapman Ave. #100; Fullerton, CA 92631; (714) 680-4959. **Credits & Services**: Credits include releases on domestic and international labels, all TV networks, independents, plus audio logos, commercials, film trailers, music videos, and special projects for major entertainment companies. Author of *Click Tables: In Beats-per-minute and frames-per-beat* (available through the *Mix Bookshelf*). Recent release as artist, composer, producer is *Heartrise* (ON-LINE Records OL110), now in over 50 NAC and contemporary jazz stations in the USA. Services include audio recording/production, music synthesis, project troubleshooting, consulting and the use of a proprietary computer program for video/film footage-to-MIDI sequencer synchronization.

**SCOTT COCHRAN**; *Engineer, Producer & Music Computer/Programmer*; 5143 Bakman #104; N. Hollywood, CA 91601; (818) 769-2584; (818) 953-0996 (beeper).

**STEVE COCHRAN**; *Engineer, Producer, Technician & Music Computer/Programmer*; 1639 NE 142 St.; N. Miami, FL 33181; (305) 892-2431; FAX: (305) 892-2431.

**MICHAEL O. COLLINS**; *Engineer & Producer*; THE COMMERCIAL REFINERY INC. 2105 Maryland Ave.; Baltimore, MD 21218; (301) 685-8500; FAX: (301) 685-0313.

**VINCENT J. COLLINS JR.**; *Engineer, Producer & Music Computer/Programmer*; EARTHBEAT PRODUCTIONS. 1851 S. Allport, Ste. 2; Chicago, IL 60608; (312) 226-7668. **Credits & Services**: Full MIDI production services for in-studio demo or pre-production. 2 samplers, loads of drums sounds, 16-track MIDI, 24-track board, 3 keyboards: D-50, Prophet VS, JX8P. Worked with several gospel singers and house music singers, including Xaveria Gold. Worked with writers of jingles and songwriters, including Johnny Horia, Greg Bower, Johnny Mustang and Rahaan Benjamin. Sub-publishing throughout Europe, Australia, Japan, Brazil, Venezuela, Mexico and Canada. New age, dance, pop and alternative. All specialties.

**DON COLTON**; *Engineer & Technician*; D.R.C. R&D. 2701 E. Sunrise Blvd.; Ft. Lauderdale, FL 33304; (305) 564-2779; FAX: (305) 771-2764. **Credits & Services**: Technical—service available for on-site repair and maintenance of all types of pro and semi-pro audio equipment. Installation, system design or redesign, and/or service contracts. Neve, Studer, Amek, MCI, Sony, TEAC, Sound Workshop, etc. 15 years experience. Engineering—sound reinforcement or recording, live or studio. Your system or through my client contacts, from 2 to 48 tracks, with or without automation. Locations all over south Florida. Twenty years experience. References available on request.

**GEORGE COUNNAS**; *Engineer & Producer*; AVALANCHE RECORDING. 10650 Irma Drive, Ste. 27; Northglenn, CO 80233; (303) 452-0498; (303) 388-8800. **Credits & Services**: Raised in England with 20 years experience, I am presently chief engineer/producer for Avalanche Recording. I enjoy a wide range of musical styles, as well as sound sweetening for movies. A partial client list includes projects with The Pretenders, Camper Van Beethoven, INXS, Kip Winger, Fiona, Leon Russell, Fred Wesley, James Brown's All Stars, John Clayton, Jeff Hamilton, Pete Christlieb, etc. Plus the pleasure of working with the best talent in this region. I welcome your projects.

**OMIE CRADEN**; *Engineer & Technician*; 172 Millwood Rd.; Toronto, Ontario, M4S 1J7 CANADA; (416) 488-3450.

**GENE DAEVID CUNNINGHAM**; *Engineer, Producer & Technician*; GALATEA CREATIONS. PO Box 19155; Pittsburgh, PA 15213; (412) 621-8995; FAX: (412) 381-7737. **Credits & Services**: Recently graduated, studied under Tom Kikta and Bill Purse at Duquesne University. Internship: Audiomotion Studios under Gregg Vizza and Dean Becker. Currently engineer/technician at K.D. Sparbanie Studio, consulting engineer/producer at WPTS-FM, engineer for Keith Sparbanie and the Soft Parade's Northeast Tour and production manager at *RockFlash* magazine. My firm offers services ranging from studio referrals for clients, to pre-production consultations, to engineering and production, to graphic design and layout for bios and promotional packages. Past projects: producer for B&R at Alphastar Studio, engineer and co-producer for 210 at Flagrant Underground Studio, assistant for Eviction, assistant for WQED-TV video productions, assistant editor for Buhi

Planetarium shows (English, German, French, Spanish), all at Audiomotion. Currently projects include album production for Solution Discs and Tapes—engineer and co-producer for Keith Sparbanie and The Soft Parade, *Conscious Pilot*, and David L. Mitchell—all at K.D. Sparbanie Studio.

**PAUL A. CYWINSKI**; *Engineer*; FAYZELOCK. 4951 Butler Rd.; Canandaigua, NY 14424; (716) 394-7732. **Credits & Services**: Engineering services are available for analog and digital multitrack recording, live sound reinforcement, audio-for-video post-production, location recording, and digital workstation operations. Mr. Cywinski holds a degree in music production and engineering from Berklee College of Music, and has acquired operational skills with both the Synclavier and AudioFrame digital workstation systems. His studio experience and training includes work on the SSL 4000E and Amek MOZART automated mixing consoles, as well as the Sony DAE-1100 digital editor. He is currently working as a freelance engineer in and around the Rochester, N.Y. area.



**DAVID DACHINGER**; *Engineer & Producer*; DEEPRODUCTIONS. PO Box 809; New York, NY 10024-0539; (212) 496-0049. **Credits & Services**: Was (Not Was), Sheena Easton, Roberta Flack, Keith Sweat, Michael Bolton, Southside Johnny, Sly Stone, Ernie Isley, Isley-Jasper-Isley, Third World, Mtume, The Barkays, New York Voices, Stan Getz, Millie Jackson, The System, The Clark Sisters, Jose Jose, Jane Fonda, Arnold Schwarzenegger, Celene Dion, A Raw Youth. Jingles include Burger King, Miller beer, GTE, Pacific Bell, Hershey's, Pioneer Stereo. Services: studio engineer and producer, live sound mixer.

**BOB DAMIANO**; *Engineer, Producer, Technician & Music Computer/Programmer*; NEO-SYNC LABS. 1128 Hoyt Ave; Binghamton, NY 13901; (607) 722-8885.

**ROBIN DANAR**; *Engineer & Producer*; SQUID PRODUCTIONS. 1689 1st Ave. #1; New York, NY 10128; (212) 289-5868. **Credits & Services**: The Blue Nile, Suzanne Vega, The Church, Laurie Anderson, B-52's, Raffi, Randy Newman, Linda Ronstadt, Ry Cooder, Buster Poindexter, Garland Jeffries, Reckless Sleepers, Grayson Hugh, Buckwheat Zydeco, Manhattan Transfer, Kids in the Kitchen, Uptown Horns, Crossfire Choir, Grace Pool, Shawn Colvin, Peregrines, Walkers, Circus of Power, Longhouse, Urban Blight, Lonesome Val, Joy Askeew, Sylvain Sylvain, Richard Lloyd, Chris Stamey, Peter Holsapple, Velvet Rhythm Ringers, OK Savant, Second Self, Anna Domino. Squid Productions provides both recording engineering and production services and live engineering and production services. Studio specialties have been high-quality demos and independent records, with several subsequent major label releases. Live specialties have been coordination of shows, live mixing and remote recording internationally. Live mixes and multitrack recording and mixing have also been done for MTV, Showtime, Westwood One, WNEW-FM and other international radio networks. Will tour.

**JIM DEAN**; *Engineer & Producer*; MUSIDEO PRODUCTION GROUP. PO Box 460688; San Francisco, CA 94146; (415) 647-2000. **Credits & Services**: Credits: Kotoja, Hobo, Phillip Nunn, Joel Tepper, The Leaders, The Queen Bees, Banana Slug String Bank, Hard Rain, Masters SME, World Zap Art, Chico Freeman, Patrick Winningham, Ronnie Montrose, SF Acoustic Music Project, Jonnie Lipps, Chris Cain Blues Band, Jessica Williams, Annie Nachtrieb, The Uptones, Lava Magnates, Enigma, Profono/CBS, Blue Rockit Records, Blackhawk Records, Rear View Recordings, Music For Little People Recording Company. Services offered: Music production and engineering for albums, demos and soundtracks. I have twelve years experience recording a variety of musical styles from all over the world. I am always listening for new talent and concentrate heavily on artist development while increasing my contacts with record labels. If you are trying to define your "sound" and get it on tape or disc I can be of assistance. Send tapes to the address listed or write for further information. Tapes will not be returned without a stamped self-addressed envelope.

**MARK DEARNLEY**; *Producer*; C/O WORLD'S END. 183 N. Martel #270; Los Angeles, CA 90036; (213) 965-1540; FAX: (213) 965-1547. **Credits & Services**: Production credits include: Steve Jones, The Dog's D'Amour (3 albums), London Quireboys, Noisy Mama, D.A.D., Mother Love Bone, Gene Loves Jezebel. Engineering credits include: AC/DC (3 albums), Circus of Power, Def Leppard, Notorious.

**MICHAEL DENTEN**; *Engineer, Producer, Technician & Music Computer/Programmer*; DENTEN PRODUCTIONS. PO Box 1709; Alameda, CA 94501; (415) 521-0321; FAX: (415) 521-0368.

**EUMIR DEODATO**; *Producer*; KENYA MUSIC INC. 60 East End Ave. 2C; New York, NY 10028; (212) 472-2933; (212) 334-8444. **Credits & Services**: Fifteen platinum records including *Kool & The Gang*, among the older projects. Contact the above numbers for more information. Complete MIDI services including top-of-the-line sequencers and software programs (Macintosh). Owner of one of the best studios in N.Y. (Duplex), access to the best songs, never missed the charts, many keyboards, etc. Special projects only.

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**HANK DONIG; Engineer & Producer; WIZARD MUSIC GROUP. 8033 Sunset Blvd., Ste. 358; West Hollywood, CA 90046; (818) 905-1703. Credits & Services:** Kenny Rogers, Lionel Richie, Devo, Air Supply, Crusaders, Egyptian Lover, George Winston, Russ Parr, Kingston Trio, Kin Vassey, Lynda Carter, P.P.I., Search G.L.O.W. (musical director for the national TV show), *Knockouts* (musical director of national cable TV show), *Platinum Triangle* (musical director for full-length feature film). We also do full production cue sheets for full-length features and TV shows. Total production package includes 48+ tracks of digital and analog in state-of-the-art studio, songwriting or publisher "A" drawer songs, arrangements, double-scale musicians and BG vocals; all engineering and total package as well as shopping for contracts and/or distribution of master done on a consultant basis. We produce master-quality, radio-ready tapes. Audio post-production for film, including all music cues and sound effects with pre-mix-to-digital format.

**J. DAVID DYER; Engineer & Producer; CRESCENDO MUSIC & CONSULTANTS CO. 1064 Cloverdale Ave; Los Angeles, CA 90019; (213) 935-6895.**

**E**



**AL EATON**  
El Cerrito, CA

**AL EATON; Engineer, Producer & Music Computer/Programmer; ONE LITTLE INDIAN MUSIC PRODUCTION & RECORDING SERVICE. PO Box 1491; El Cerrito, CA 94530; (415) 237-7583; FAX: (415) 235-5428. Credits & Services:** With a number of recent RIAA-certified gold and platinum records to his credits, Al Eaton is a songwriter (Another Little Indian/Zomba co-publishing), producer, arranger, musician, engineer and studio owner who is dedicated to helping the client/artist reach the pinnacle of his or her talent and getting that down on tape. One Little Indian Music is a complete digital and analog (in-house only) production facility that includes 2" 24-track, 2" 32-track, 1/2" 16-track and 2- and 4-track digital recording. We also offer a Soundtracs Quartz console w/automation and over 100 inputs w/EQ and EFX, tons of outboard gear, and over 40 synths/samplers and drum machines with thousands of sounds from our massive library, plus digital editing. We are able to handle each project from start to finish and complete the most demanding of remixes and audio-for-video work.

**DAVID EATON; Engineer & Producer; 5055 Goldwater Canyon, #216; Sherman Oaks, CA 91423; (818) 753-5759; FAX: (818) 766-1781. Credits & Services:** Producer and engineer for Human Drama (RCA), Black Bambi (Atlantic), Circle of Soul (Hollywood Records), Broken Glass (Chrysalis) and Melissa Etheridge (Almo/Arving Music). Engineer for Warrant (Cherry Pie LP pre-production), Lions & Ghost (EMI), Elisa Fiorillo (Chrysalis). Ten years experience. Call for more information.

**JOHN EDEN; Engineer & Producer; TOPANGA SKYLINE RECORDING. 1402 Old Topanga Canyon Rd.; Topanga, CA 90290; (213) 455-2044; (213) 455-2774. Credits & Services:** Productions: Status Quo (Phonogram), *Just Supposin'*, *Never Too Late, What You're Proposin'*, *Something About You Baby, Lies, Rock 'n' Roll, Don't Drive My Car*; Climax Blues Band (Virgin), *Sample & Hold*; Andy Fraser (Island), *Fine Fine Line*; Nazareth (Phonogram), *The Catch*; Graham Bonnet (Phonogram) *Line Up, Night Games*; After The Fire (CBS) *Der Komissar*; Silent Running (Atlantic), *Deep, Local Hero*, Grand Prix (Chrysalis) *Samurai*. Special Credits: BASF Award for Technical Excellence for production 1988, 1 Platinum, 12 Gold, 9 Silver Discs.

**DAVID EDWARDS; Engineer & Producer; dB E PRODUCTIONS. 7221 Judson Ave.; Westminster, CA 92683; (714) 892-0877. Credits & Services:** Multitrack recording, live recording, sound design, theater sound, installations. Production, co-production with artist or producer; pre-production planning and arrangement consultation. Experienced in many different musical and voice-over styles. Efficient, easy-going atmosphere dedicated to capturing and enhancing artist's sound. Credits and references available upon request.

**PERRY EMGE; Engineer, Producer & Music Computer/Programmer; ICON STUDIO. 5089 Waterman Blvd.; St. Louis, MO 63108; (314) 367-3121. Credits & Services:** Realize your project in a unique and comfortable atmosphere in my newly built private 24-track studio. Includes 44' x 24' automated mixer, spacious 28' x 25' LEDE-type control room, large 28' w x 24' x 20' live room and a full complement of outboard processing and MIDI/sequencing equipment. I have 10 years recording experience working around the country with various rock, R&B and gospel artists. Some recent projects include David Peaston & Fontella Bass, Ralph Butler, Al Caldwell, Go Dog Go, Ronnie Burreddge, Eveready Battery, Colonial Baking Co., Maritz Corp., Citibank and others. Also available to work in your city.

**SPUTNIC ERAWOC; Engineer, Producer & Music Computer/Programmer; SPUTNIC PRODUCTIONS. 431-B Main St.; Sayreville, NJ 08872; (201) 390-4901.**

**DALE EVERINGHAM; Engineer, Producer & Music Computer/Programmer; AUDIO VISIONS. 6289 Clive Ave.; Oakland, CA 94611; (415) 482-2338. Credits & Services:** Audio production/engineering and music services that can make your audio visions a reality. With 10 years of full-time experience in all areas of recording production, I offer high-quality audio services in all analog and digital formats, digital editing audio-to-video sync, automated mix system operation, music production and composition. I have the experience necessary to complete your project professionally. Call me to discuss your next CD, album, corporate media or film project and find your audio vision. Artists: En Vogue, Tony! Toni! Tone!, Samuelle, Michael Cooper, Thomas Dolby, Eddie Money, Will Ackerman, Pharoah Sanders, Curtis Ohlsen, David Grisman. Labels: Atlantic, CBS, EPIC, EMI, MCA, Polygram, Warner, Wing, Virgin, Windham Hill, Intima, Rough Trade, Qwest, Tonal Gravity, Tabu, Music West, Teresa. Film/video: Levi's 501, Cal. Lottery, Goodyear, Lucas Films, NBC, KPIX, KRON, Lotus, Longs, Colombo, Gallo, Capwells, DEP, Anheiser-Busch.

**F**

**SHANE H. FABER; Engineer, Producer & Music Computer/Programmer; NOW+THEN MUSIC. 412 E. 78th St. #2A; New York, NY 10021; (212) 879-4667. Credits & Services:** Now+Then Music is a full-service music production company with a simple philosophy: Ears and experience make the difference! Musician/producer/engineer Shane Faber is the man behind the message and the "ears" in particular. Equally at home on either side of the console, in live and MIDI-intensive situations. A '60s pop melodic sense, a love of jazz (acquired with a degree from the Univ. of Miami, 1977), three albums of pop rock with his own band, Bad Sneakers, in the early '80s, and more recently his work with rap and R&B artists, are all elements of his dynamic musical sensitivity. Produced: *"Turtle Power"*, rap theme from Teenage Mutant Ninja Turtle movie (gold U.S., gold U.K.), Lisa Stansfield, *Suction*, Tribe Called Quest, Queen Latifah, Shazzy, Biz Markie, Jungle Brothers, Caron Wheeler.

**GLENN FEIT JR.; Engineer, Producer & Music Computer/Programmer; POWERCHORD PRODUCTIONS. 7324 Della Dr.; Orlando, FL 32819; (213) 467-4827/(407) 351-2087; FAX: (213) 467-4827/(407) 351-2087 Credits & Services:** Rock, jazz, R&B. Recording, production, consulting on computer-assisted productions studio and live. Run 8-track and MIDI studio. Powerchord Studio. Live-to-DAT is our specialty. Credits include Motley Crue, New Edition, Larry Carlton, Bobby Wornack, Red Hot Chili Peppers and others.

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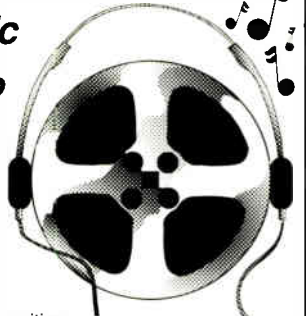
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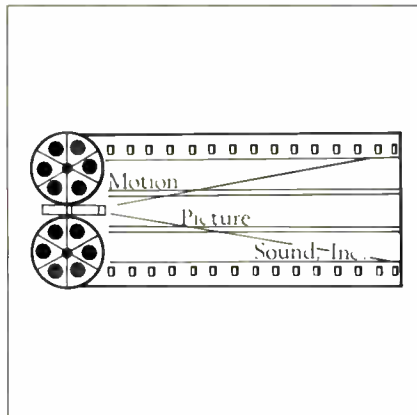
**JIM FEMINO; Engineer & Producer; MUSIC SERVICES OF AMERICA.** 429 S. Lewis Rd.; Royersford, PA 19468; (215) 948-8228; FAX: (215) 948-4175. Credits & Services: Artist/producer just outside of Philly with own 16-track facility. Credits include working with Brad Delp (Boston), Bricklin, Essra Mohawk, Stan Penridge (Kiss). Three solo albums all charted. ASCAP and BMI-affiliated publisher along with full service production facility. In house writers and musicians available.

**SAM FISHKIN; Engineer & Producer; 1007 Sherman; Evanston, IL 60202; (708) 328-4810.**

**TOM FLYE; Engineer & Producer; 706 Bay Rd.; Mill Valley, CA 94941; (415) 388-9469. Credits & Services:** I have recorded and mixed projects for Kitaro, Mickey Hart, Rick James, Sly Stone, Tower of Power, Don McLean (*American Pie*). Chief engineer for Record Plant for ten years. My services include: engineering, mixing, production assistance and studio consultation and implementation.

**JAMES E. FOX; Engineer & Producer; LION & FOX RECORDING INC.** 1905 Fairview Ave. NE; Washington, DC 20002; (202) 832-7883. Credits & Services: Folk, reggae, rock, big band, jazz, country. Full-service 24-track recording studio—Emulator II, DX7, LinnDrum, Hammond B-3, drums. Complete MIDI system with computer sequencer and tone generators. Kurzweil, Alesis, Roland, Yamaha.

**ROB FRANCO, RANDY MEAD & ERIC SYMONS; Engineer, Producer & Music Computer/Programmer; NUVO PRODUCTIONS.** 163 Morningside Dr.; San Anselmo, CA 94960; (415) 454-7671.



**JERRELL L. FREDERICK**  
Detroit, MI

**JERRELL L. FREDERICK; Engineer; MOTION PICTURE SOUND INC.** 3026 E. Grand Blvd.; Detroit, MI 48202; (313) 873-4655. Credits & Services: Credits: 40+ years as a re-recording film mixer and recording engineer. Have won many local, national and international awards (including Grammy in 1987 for the Oscar winner, *Young at Heart*) for the mixing of thousands of motion picture soundtracks for industrial, documentary, training and theatrical films. Founded own company in 1986. Services offered: re-recording/mixing soundtracks for motion pictures. This is one of the largest 35mm facilities in the Midwest. We can handle up to 10 tracks of 16mm, 9 tracks of 3-track 35mm, and 18 tracks of 35mm single track. (2) 16/35mm recorders, (2) 35mm 3-track recorders. 16/35mm transfers, sound effects and music, as well as custom effects and all new digital music. Dialog recording and replacement, foreign language dubbing. Production recording and mixing. 16/35mm screening facilities and Foley sound effects staging.

**GARTH FUNDIS; Engineer & Producer; GARTH FUNDIS PRODUCTIONS.** PO Box 120715; Nashville, TN 37212; (615) 327-1685; FAX: (615) 329-4754.

**G**

**PAUL GERRY; Engineer & Producer; THE CUTTING EDGE.** Box 217—Old Route 17; Ferndale, NY 12734; (914) 292-5965; FAX: (914) 292-2313.

**TONY GIOVANNETTI; Engineer & Producer; DELTA PRODUCTIONS.** 135 MacDougal St.; New York, NY 10012; (212) 473-5385. Credits & Services: Specializing in total production services—sound reinforcement for large-scale events in alternative spaces. Recent credits for site-specific work include Grand Central Terminal, Brooklyn Bridge, "Liberty Dances" in Battery Park, Central Park, Wexner Center in Columbus, Ohio, Union Station dances, Washington, D.C., "Dance on the Beach" in Miami Beach, "Rat-A-Tat-Tap" at the Apollo Theatre, Harlem.



**MICHAEL GIRGIS**  
San Gabriel, CA

**MICHAEL GIRGIS; Engineer, Producer & Music Computer/Programmer; FANFARE PRODUCTIONS.** 8930 E. Greenwood Ave.; San Gabriel, CA 91775; (213) 969-4014; (818) 285-5069. Credits & Services: Extensive music production services including: complete MIDI production—keyboard sequencing and drum machine programming, state-of-the-art 24/48-track recording & mixing. Engineering credits: Janet Jackson, Bobby Brown, Babyface, After 7, Troop, The Jacksons, Dionne Warwick, Kenny G, Bell Biv DeVoe, New Edition, Klymaxx, Pebbles, Chuckii Booker, George Clinton (entire list too numerous...available upon request). Engineered for following producers: LA & Babyface, Chuckii Booker, Timmy Gatling & Wokie Stewart, Robert Brookins, D'Lavance, Angela Winbush. RIAA Certifications: 8 gold albums, 4 platinum albums, 3 multi-platinum albums.

**RENZO GIROMINI/BARBARA SUE ROSEN; Engineer, Producer & Music Programmer; BARZO PRODUCTIONS.** PO Box 4872; Albuquerque, NM 87106; (505) 255-3225.

**NOEL GOLDEN; Engineer & Producer; C/O THE STEVE MOIR CO.** 3601 West Olive Blvd., Ste. 210; Burbank, CA 91505; (818) 955-8805; FAX: (818) 955-8131. Credits & Services: Independent mixing engineer/producer for Gowan, *Lost Brotherhood*, engineered & mixed; Whitesnake *Slip of the Tongue*, co-engineered; Triumph, *Sport of Kings*, *Surveillance*, engineered & mixed; Kim Mitchell, *Rockland, Alert*, mixing engineer; Fifth Angel *Time Will Tell* CBS, Epic, mixing engineer; Rita Coolidge *Fire Me Back*, Attic, engineered & mixed.

**CURTIS GORDEN; Producer & Music Computer/Programmer; LAB MUSIC PUBLISHERS.** PO Box 1400; New York, NY 10026; (212) 865-1590.

**DAVE GREEN; Engineer & Producer; INDEPENDENT MEDIA PRODUCTIONS.** 1704 E. 9th; Spokane, WA 99202; (509) 536-4457.

**ROB GRIFFIN; Engineer, Producer & Music Computer/Programmer; ACOUSTECH.** 2887 Pine Valley Rd.; San Ramon, CA 94583; (415) 551-8300.

**ROGER GUERIN; Engineer & Music Computer/Programmer; INNOVASSON.** 669 de Gaspe; Nun's Island, Quebec, H3E 1J1 Canada; (514) 767-5185; FAX: (514) 845-5110. Credits & Services: Nominated for a Felix in 1986. Participated in more than a dozen albums, including 5 Canadian platinum albums. Worked with most of Quebec's French and English artists including Leonard Cohen, Raoul Duguay, Michel Lermieux, Michel Pagliaro, Aldo Nova, Robert Charlebois, Men Without Hats, Pierre Letourneau, Claude Leveille, Michael Breen, Joe Bocan, Johanne Blouin, Madame, Passe-Partout. The occasional music soundtrack recording, numerous jingles, a long list of singles and an even longer list of high-quality demos have given me the expertise and know-how to tackle a project from pre-production to the sweetening of the video clip. Familiar with most synchronization systems, I am SSL, MIDI, Synclavier and Direct-to-disk literate, all featured in Montreal's finest studio, Le Tube (*Mix Nov. 90*). Will travel to the studio of your choice or multimedia event site. Send a blank R-DAT for a full resume and past projects examples.

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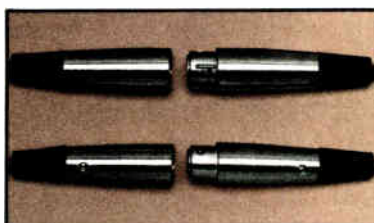
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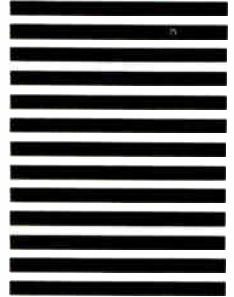
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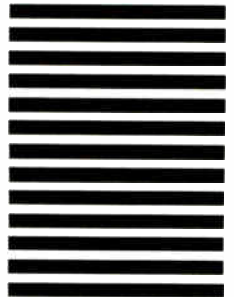
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**THOMAS J. HALL; Engineer & Producer; TRIAD STUDIOS.** 4572 150th Ave. NE; Redmond, WA 98052; (206) 881-9322; FAX: (206) 881-3645. **Credits & Services:** Credits: Queensryche, UB40, Sir Mix-a-Lot, Kenny G., Slam Suzanne, November, The Look, Peter Collins, Mick Guzauski, Heir Apparent, Randy Meisner, Fifth Angel, Terry Brown, Autograph, Michael Powers, Phil Sheeran, Bloodgood, Roby Duke, Jim Stipech, Uncle Bonsai, Dan Dean, Ralph Towner, Phantom, Bud Shank, Eric Tingstad, Paul Speer, Mark Lindsay, The Magical Strings, D.C. Lacroix, The Cedar Walton Trio and many others. **Services offered:** all facets of demo and album production, including pre-production, engineering, producing and watchdog supervision of disc mastering. I am sensitive to the artists' creative needs and strive for the best recorded performance possible in a comfortable, low pressure atmosphere. Best known for my rock records, I'm creative with all musical styles. Am especially adept at bringing life to tracks in the mix. My rates are reasonable. Call me.

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**MALCOLM H. HARPER JR.; Engineer & Producer; REEL-SOUND RECORDING CO.** 2304 Sheri Oak Ln.; Austin, TX 78748; (512) 472-3325. **Credits & Services:** Credits: Live concert, film, album and TV recording engineering. The Who live broadcast, Def Leppard, James McMurtry, Tears for Fears, Journey, Genesis, Robert Plant, AC/DC, Judas Priest, Ted Nugent, The Fixx, Billy Squier, Tom Petty, Frankie Beverly and Maze, The Gap Band, Kool and the Gang, Bruce Hornsby and the Range, Amy Grant, Michael W. Smith, Rick Cua, Steve Taylor, George Strait, Willie Nelson, Ricky Skaggs, Westwood One, DIR, PBS, Budweiser. Four gold, one platinum record awards. **Service offered:** forty-two foot Tom Hidley-designed remote audio tractor-trailer. 48-track automated with SMPTE lock, overdub room and lounge. Concert recording for radio, film and TV audio support. Album and mixing in your favorite hideaway location. Twenty-one years of experience. A second remote bus located in Nashville, TN; call (615) 385-0220 for info. Additional artists: James Cotten, Jimmy Rogers, Riverwalk Radio Series, Brooklyn Tabernacle Choir, Phil Driscoll, Larnelle Harris, Texas Tornados, The Highwaymen, B.B.C. and American Public Radio, Chagal Guvera, Jay Aaron Group, Eric Johnson, Grammy Nominee for James Cotten Live, Antones Records.

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**STEPHEN A. HART; Engineer & Producer; HART PRODUCTIONS.** 1690 Creekevlew Circle; Petaluma, CA 94954; (707) 762-2521; FAX: (707) 762-2521. **Credits & Services:** Focusing on international projects, with work in progress from San Francisco to Budapest. 1989/90 brought two multi-platinum releases in Europe. Hart Productions also maintains an office at Conduimer Studios in Venice, Italy. tel. 39(41) 457 370, fax 39(41) 457 182. Clients: Atlantic, Arista, BMG Ariola, CBS, EMI International, Private Music, Island, Geffen, Narada/MCA, Pablo, Milestone, Capitol, Concord, Fantasy, Warners, Windham Hill/A&M. **Album Credits:** Shelia E., Neville Brothers, Vasco Rossi, Gunther Elle, UZEB, Flora & Airo, Steve Smith/Vital Information, One Nation, Will Ackerman, Suzanne Gianni, Spinners, Kantner/Balin/Cassady, Pete Escovedo, Stein/Walder, Melissa Etheridge, Oscar Peterson/Joe Pass, Dynatones, Jimmy Bames, McCoy Tyner, Andy Narrell, Azymuth, Stephane Grappelli, Kingfish, Buddy Miles, Ray Lynch. **Additional credits:** Andy Summers, Joe Satriani, Branford Marsalis, Billy Idol, Huey Lewis, Steve Perry, Jan Hammer, Eddie Money, Greatful Dead, Carlos Santana, Michael Hedges, John Denver, Journey. **Film post credits:** Amadeus, Unbearable Lightness of Being, Dead Poets Society, Blue Velvet, Wildcats.

**GARY HEDDEN; Engineer & Producer; GHL.** 2807 Azalea Pl.; Nashville, TN 37204; (615) 269-5183; FAX: (615) 385-0204. **Credits & Services:** 28 years in professional audio recording. Broad base of technical and musical knowledge and experience. Greatest interest lies in pop-jazz fusion as a techni-

cal producer. Services include vast inventory of portable equipment.

**JAY HENRY; Engineer & Producer; VISUAL MUSIC.** 235 E. 13th St. #3-D; New York, NY 10003; (212) 505-9281. **Credits & Services:** Sixteen years experience in recording and broadcast industries. Has 17 gold, 11 platinum and 3 double platinum albums on MCA, Warner Bros., Columbia, Def Jam, CBS, Epic, Arista, Profile and Atco. Has worked on projects with Prince, Run-DMC, L.L. Cool J, Al B. Sure, Heavy-D, Slick Rick, Guy, Teddy Riley, Living Colour, Jeff Redd, Shannon, Whodini, Bei Biv Devoe, Public Enemy, Skyy, Delunkt, Alphonse Mouzon, Larry Coryell and Daniel Ponce. **Software-based, audio/video pre- and post-production.** Completed soundtracks include national promo videos for Calvin Klein, Oscar de la Renta, Perry Ellis. Full music production services for albums, singles and master demos, including: digital recording and editing; arrangements and lyrics; music video packages; multitrack lockups; studio and location production services for video and film; MIDI/SMPTE interfacing to video, film and live performance with MIDISCORE™; featuring Macintosh Iix computer. Sample library; sample editing; synthesizer and drum programming; custom signal processor software and unusual equipment rentals.

**MITCH HENSDALE; Engineer, Producer & Music Computer/Programmer; NEW HORIZON RECORDING STUDIO.** 1490 Union Cross Rd.; Kernersville, NC 27284; (919) 996-2633. **Credits & Services:** Mitch Hensdale—manager, engineer, producer, artist and composer. 18 years experience in music and sound. Studied at North Carolina School of the Arts and Central Piedmont College in Recording Studio Tech. Soundtrack music available. Produced Imaginary Concert Expressions, Leggz, Peralta, Dana Rogers, Legacy. Also was on 1990 Tec Awards nominating panel.

**TOM HERBERS; Engineer & Producer; TOM HERBERS.** 5801 Stuart Ave.; Minneapolis, MN 55436; (612) 927-5348. **Credits & Services:** 5 years freelance experience including records, demos, commercial post-production, live recording and broadcasts. Recent clients: Gear Daddies (Polygram), Soul Asylum (Twin Tone/A&M), The Church (Arista), Grant Hart (SST), Agitpop, Jayhawks, The Magnolia and the Blue Hippos (Twin Tone).

**DENNIS HETZENDORFER; Engineer & Producer; PROFESSIONAL AUDIO SERVICES.** 8795 SW 57th St.; Cooper City, FL 33328-5930; (305) 434-1377. **Credits & Services:** Have worked with Bee Gees, Barbra Streisand, America, Julio Iglesias, Lynyrd Skynyrd, Eddie Money, Beach Boys and others. Owner and director of Recording Skills Workshop, a 4-week intensive training program for assistant recording engineers. Knowledgeable in the production and engineering of all styles of music. Bachelor of Music degree, University of Miami, 1976.

**BOB HODAS; Engineer & Producer; PO Box 9485; Berkeley, CA 94709; (415) 649-9254. Credits & Services:** Credits: Barbara Higbie, Doobie Brothers, Village People, Marty Balin, Amanda McBroom, Osamu, Mickey Hart, Will Ackerman, Casiopea, Schoenherz and Scott, Sayuri Ishikawa, Good Sound Foundation, The Pope, Modern Mandolin Quartet, Hearts of Space Records, Jim Chappell, Joan Baez, Anjani, the Movie Stars. **Services:** recording and concert engineering; album, film and demo productions; consulting.



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**JEFF A. HOFFBERGER; Engineer & Producer; NATIONAL EVENTS INC.** 12048 Mente Rd.; Lake Jackson, Manassa, VA 22111; (703) 330-0599; FAX: (703) 550-0521. **Credits & Services:** House engineer, monitor engineer, production manager, stage manager, tour bus driver. Clients include: Bluegrass—Laurel Blaydes, The Country Gentleman, Bill Harrell, Hobbs and partners Johnson Mountain Boys. Contemporary—Marvin Hamlisch, Henry Mancini Orchestra, Maureen McGovern. Country—Asleep at the Wheel, Sawyer Brown, Billy

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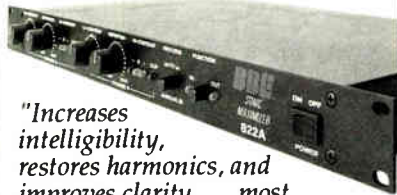
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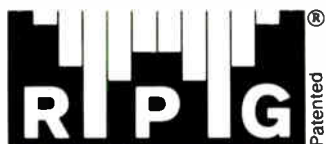
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**GORDON D. HOOKAULO; Engineer, Producer, Technician & Music Computer/Programmer; GDH PRODUCTIONS, 10944 Bluffside Dr., Ste. 209; Studio City, CA 91604; (818) 763-4853. Credits & Services:** Services include engineering, production, CD/album digital editing and mastering, sound design, project management, troubleshooting, MIDI training and general audio consultation services. Over 15 years of music work, including David Bowie, Steve Wonder, Jon Butcher, O-Positive, Allan Zavod, Jonathan Richmond and many others. Video/film mix for picture, sound design, music editing and score recording includes work for ABC, PBS (Nova), Nickelodeon network, many independent TV stations and producers. Lara Classics Feature: "The Imported Bridgroom" and multimedia presentations, including Space Shots 3D. We specialize in creative solutions to unique production problems, whether that means developing a new technique for an older technology or programming a digital workstation. Being fluent with NED's Synclavier/Post-Pro, Sound Tools, Performer and most MIDI gear, my goal is to enhance your project and bring it to life so your message, whether it be music or sound effects, transcends the limitations of the media

**FROSTY HORTON; Producer; ROLLING ROAD PROD. INC., 3960 Laurel Canyon Blvd., Ste. 434; Studio City, CA 91614; (818) 506-4606; FAX: (818) 506-0059.**

### I

**DAVID IVORY; Engineer, Producer & Music Computer/Programmer; IVORY PRODUCTIONS/IRIS SOUND STUDIOS, 237 Main St., Royersford, PA 19468; (215) 948-3448; FAX: (215) 948-3141.**

### J

**STEPHEN JARVIS; Engineer & Producer; AKASHIC RECORDS GROUP, PO Box 395; Danville, CA 94526; (415) 837-7959.**

**HENRY JEROME; HENRY JEROME MUSIC INC., 5 Van Etten Blvd., New Rochelle, NY 10804; (914) 632-1270; FAX: (914) 235-5790.**

**LENNY JONES; Engineer, Producer & Music Composer/Programmer; LENNY JONES PRODUCTIONS, 9120 Gleannloch Drive; Indianapolis, IN 46256; (317) 288-1211.**

### K

**KAREN KANE; Engineer & Producer; 726 Windermere Ave., Toronto, Ontario, M6S 3M1 CANADA; (416) 760-7896. Credits & Services:** Over 90 album credits to date; many independent labels, plus artists on Flying Fish Records, Rounder Records, Folkways and Ladyslipper Records. Some artists include Chad Mitchell (of the famous Chad Mitchell Trio), Fred Small, Kay Gardner, Alix Dobkin, Betsy Rose, Suede, The Chicken Chokers, Charlie King, Marcia Taylor, Southern Rail, Matt Glaser. Well-known for the last 15 years in the New England area. I am currently based in Toronto. My work has taken me to all areas of the United States, Australia and Canada (still available to travel). I specialize in acoustic music as well as acoustic drum sounds. I am easy to work with, fast, efficient and patient.

**MIKE KAPITAN; Engineer, Producer & Music Computer/Programmer; Los Angeles, CA; (213) 668-1402. Credits & Services:** Engineer/producer, synthesist/programmer specializing in alternative music, funk/R&B and dance remixes. Synths on Thomas Dolby's *Aliens Ate My Buick* album and work on his soon-to-be released project. Have worked with Martha

Davis, Cindi Lauper, Lock Up and other L.A. artists, Paramount Pictures and NBC TV.

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**DAVE KEFFER; Producer; DASCO MUSIC & SOUND PRODUCTION, 2021 West County Road C; Roseville, MN 55113; (612) 633-6970.**

**KURT G. KELLISON; Producer; ATAVISTIC VIDEO, PO Box 578266; Chicago, IL 60657; (312) 935-0081; FAX: (312) 944-0925.**

**PETER R. KELSEY; Engineer & Producer, PETER R. KELSEY, 14874 Tyler St.; Sylmar, CA 91342; (818) 367-4445. Credits & Services:** Credits include Bill Ward, Jean-Luc Ponty, Weather Report, Retaliation, Pebbles, Wall of Voodoo, The Fixx, Graham Parker, Michael Stanley Band, Slayer, Linda Ronstadt, Elton John, Brian Eno, "Weird" Al Yankovic, Suzanne Ciani, film and TV sound (Bethune, *Thirty Something*). Services: any variation on the producer/engineer theme.

**ALLAN A. KENNEDY; Engineer, Producer & Technician; TECH-CETERA, 24 Old Mill Rd.; Concord, MA 01742; (508) 371-0165.**

**JAMES L. KENNEDY; Engineer, Producer & Music Computer/Programmer; HEART CONSORT MUSIC-BMI, 410 1st St. West; Mt. Vernon, IA 52314; (319) 895-8557.**

**JIM KLEIN; Producer; MISTER GUY MUSIC, c/o Platinum Island Recording Studios; 676 Broadway; New York, NY 10012; (717) 223-9882. Credits & Services:** Jim is a producer/songwriter whose recent credits include Sweet Sensation, Brenda K. Starr, Pajama Party, Billy Squier, Alisha and Stetsasonic, with three hot 100 singles and four top 100 albums in 1989-90. His publishing company is affiliated with Paramount Pictures' famous music, making possible a full range of services, from songwriting, publishing, and MIDI pre-production all the way to 48-track SSL/Studer recording. All tapes must include S.A.S.E.

**JEFF KLIMENT; Engineer & Producer; 1520 Funston Ave.; San Francisco, CA 94122; (415) 564-8944. Credits & Services:** Records, demos, sound design for film & video, live mixing, 10 years multimedia experience. Clients include Grammy/Academy Award winners, as well as independent local artists. Solid connections with the best studios, players, and equipment in town. Flexible rates, professional results.

**DANNY KOPELSON; Engineer & Producer; 2843 Steiner St.; San Francisco, CA 94123; (415) 922-3624.**

**EDDIE KRAMER; Engineer & Producer; REMARK MUSIC LTD, Box 838; Rhinebeck, NY 12572; (914) 266-4331; FAX: (914) 266-4332.**

### L

**TOMMY K.W. LAM; Engineer & Producer; ROCK FORCE PRODUCTIONS, 761 - 810 West Broadway; Vancouver, B.C., V5Z 4C9 CANADA; (604) 669-6476; FAX: (604) 875-1477.**

**GEORGE LANDRESS; Engineer, Producer & Music Computer/Programmer; MUSIC PRODUCTION, 6138 Glen Holly; Los Angeles, CA 90068; (213) 462-3220; FAX: (213) 462-3220.**

**ALAN LEININGER; Engineer & Producer; 2506 Coolidge St.; Hollywood, FL 33020-2339; (305) 920-2998. Credits & Services:** Audio engineering/production, on-location or in-studio, analog and digital. Broadcast expert—19-year industry vet.

Written and produced thousands of local and national commercials for radio and TV. Recording experience from gospel, country and rock to punk, rap and pop. Advertising and edit specialist. Small budget challenges welcome. Voice-over and duplicating services available.

**JEFFREY LESSER; Engineer & Producer; JET LASER PRODUCTIONS, 232 Madison Ave.; Cresskill, NJ 07626; (201) 816-9144. Credits & Services:** Producer of The Roches, Rupert Holmes, Barbara Streisand, Pat Travers, Head East, Sailor, Strawbs, Straight Lines, Sparks, Starcastle, Hounds, Vivabeat. Co-producer Eric Bogosian of Timbuk3, Kool & the Gang, Judybats, Carboy, Won Ton Ton, Colourfield, Chiefs of Relief, Royal Crescent Mob, Will & the Bushmen, Richard Barone, Louise Goffin, Mental as Anything, All About Eve, Earl Slick, Kids in the Kitchen. Engineer and/or remix: Lou Reed, Deborah Harry, Missing Persons, Robert Palmer, Ric Ocasek, Ultravox, Oingo Boingo, Quarterflash, Renaissance, Blue Oyster Cult, Ruben Blades, House of Schock, Fernando Saunders, Climax Blues Band, Stylistics, Alice Cooper. Television: *Playboy Candid Camera*, *Silver Spoons*, *Robert Klein Show*, *Ripley's Believe It or Not*, *Rock & Roll Tonight*. Tech specs: producer/engineer/mixer, SSL E and G Series Auto, Neve, live recording, electronic and sample MIDI recording, songwriter, vocal and music arranger. Comments: review submitted tapes, international reputation, travel extensively, expert in every aspect of records, film, video, radio, television and advertising.

**MARK LIGGETT, CHRIS BARBOSA; Producer; LIGOSA ENTERTAINMENT CORP. 700 W. Pete Rose Way 5th fl.; Cincinnati, OH 45203; (513) 621-5111; FAX: (513) 621-5144. Credits & Services:** Georg LaMond, New Kids on the Block, Shannon, Billy Idol, Public Enemy, Hostyle, Safire, Spinners, Robin Gibb (Bee Gees), Brenda K. Starr, Monet.

**CHRIS LILLEY; Engineer; PO Box 39584; Los Angeles, CA 90039; (213) 667-2977.**

**JOHN W. LINTON; Engineer & Producer; SANS-SERIF PRODUCTIONS, PO Box 492; Haverford, PA 19041; (215) 449-1227; FAX: (215) 828-8879. Credits & Services:** Voice-over narration (technical and medical copy a specialty); radio production; recording/P.A. engineer/audio post.

**JESSE LOMBARDI; Engineer, Producer, Technician & Music Computer/Programmer; FANTASY PRODUCTIONS, 26 Westminster, Ste. #5; Venice Beach, CA 90291; (213) 392-2344.**

**JAN LUCAS; Engineer, Producer & Music Computer/Programmer; BEAT STREET INC. 5739 Tujunga St.; N. Hollywood, CA 91601; (818) 769-9966; FAX: (818) 769-9498. Credits & Services:** Main engineer/producer at Beat Street Studios. Recent credits include Andy Summers, Thomas Dolby, Air Supply, Devo. Films include *Nightmare on Elm Street IV*, *Jacknife*, *Lambada*, *Backstreet Dreams*, *The Fisher King*. Commercials include Miller beer, Sears, Western Union and more. In-house console is Neve 8248 with Necam 96, but equally familiar with SSL, Trident etc. I prefer analog, but comfortable with Mitsubishi and Sony digital. Fluent in SMPTE, synchronization, video, MIDI, Performer and editing. Live drums or Forat F-16. Hate Sushu, love tubes (mics and EQs) and always opt for high fiber.

**GARY LUX; Engineer; GARY LUX RECORDING ENGINEER SERVICES INC. 399 Southridge Dr.; Agoura, CA 91301; (818) 707-3988.**

## M

**BIL MACK; Engineer; METRO STUDIOS, 216 B N. 3rd Ave.; Minneapolis, MN 55401; (612) 338-3833.**

**JOSEPH MAGEE; Engineer & Producer; MAGEE AUDIO ENGINEERING, 10866 Wilshire Blvd., 10th floor; Los Angeles, CA 90024; (213) 840-6925; FAX: (213) 558-4208.**

**GARY REMAL MALKIN; REMAL MUSIC, 1850 Union St., Ste. 1512; San Francisco, CA 94123; (415) 567-2908; (213) 826-7916; FAX: (415) 346-2962. Credits & Services:** Principal composer/producer for Remal Music. Award-winning original music for national ad campaigns (Infinite, Pernier, Avia, Gallo), network TV shows (NBC's *Unsolved Mysteries*, among others), feature films and socially responsible documentaries. Twelve years of studio experience encompasses a broad range of styles, including evocative acoustic/synth album-quality vocal, distinctive rhythmic/synth, jazz and full orchestral treatments. Call for a recent reel. (415) 567-2908 or (213) 826-7916.

**JOHN J. MANFREDI; Engineer & Producer; MEGA SOUND PRODUCTIONS, PO Box 3101; Elmira, NY 14905; (617) 732-0913. Credits & Services:** Barry Manilow, congressman Amory Houghton, United Fund, Headstart, Attila, EXE/SKF bearing services project (original music for cassette training tapes), San Diego conference music director/producer providing original music for video involving representatives from over 70 countries. Original music and soundtracks from promotional videos for Elmira College and St. Joseph's Hospital. Over 80 commercial jingles being aired (on radio and TV) in upstate N.Y. and Phil. metro area; for political campaigns, re-

tail businesses, car dealerships, restaurants and national charitable organizations. Produced and engineered rock group projects, jazz, R&B, gospel, bluegrass, contemporary C&W groups, 15th-century opera and instrumental music. I am comfortable working with musical projects large or small and musicians who play loudly or softly. Music instructor at local private college. Services offered: owner, engineer, producer, musician, composer, Mega Sound Productions 1-inch 16-track facility. Studio/engineering/production packages available/cassette duplication. Professional musician for over 20 years on lead guitar/keyboards/synthesizers and bass. Fully equipped facility with guitars, amps and over 20 of the latest keyboards and drum computers.

**COOKIE MARENCO; Engineer, Producer & Music Computer/Programmer; PO Box 874; Belmont, CA 94002; (415) 595-8475; FAX: (415) 598-0915. Credits & Services:** Album credits include: Ladysmith Black Mambazo, Windham Hill—*Winter Solstice II*, Paul McCandless, Alex deGrassi, Peter Maunu, Turtle Island String Quartet, Art Lande, Modern Mandolin Quartet, Blue Rubies, Danny Glover, Gary Chang, "A Shock to the System," Mike Whitley. Additional work for Rabbit Ears Records (children's stories), Mark Isham, AT&T, Nissan. Producer, engineer, composer, artist development.

**SCOTT MATHEWS; Producer; PROUD PORK PRODUCTIONS, 230 Montcalm St.; San Francisco, CA 94110; (415) 648-9099. Credits & Services:** Internationally acclaimed producer, platinum songwriter, multi-instrumentalist and vocalist Scott Mathews has worked with the likes of (in alphabetical order) The Beach Boys, Rosanne Cash, Ry Cooder, Elvis Costello, Robert Cray, Sammy Hager, John Hiatt, John Lee Hooker, Mick Jagger, Dr. John, Patti LaBelle, Huey Lewis and the News, Eddie Money, Roy Orbison, Bonnie Raitt, Little Richard, Todd Rundgren, Boz Scaggs, Barbra Streisand, The Waterboys, Bobby Womack and the list goes on and on refusing to end. However, for the sake of printing costs, we'll leave it at that. Scott is currently accepting tapes with strong emphasis on vocals from singers, singer/songwriters and bands for production consideration.

**KENNETH P. MCGEE; Engineer, Producer, Technician & Music Computer/Programmer; MASTERMIX AUDIO, PO Box 924; Eatontown, NJ 07724; (908) 389-5958.**

**PAUL MCKENNA; c/o Worlds End; 183 N. Martel #270; Los Angeles, CA 90036; (213) 965-1540; FAX: (213) 965-1547.**

**FRANK C. MERWIN; Engineer & Producer; A&F MUSIC SERVICES, 2834 Otsego; Waterford, MI 48328-3244; (313) 682-9025; (313) 669-3100.**

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BRAD S. MILLER  
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**BRAD S. MILLER; Engineer & Producer; MOBILE FIDELITY PRODUCTIONS OF NEVADA, PO Box 8359; Incline Village, NV 89450-8359; (702) 831-4459; FAX: (702) 831-4485. Credits & Services:** Founder, Mobile Fidelity Sound Lab, Mobile Fidelity Records and Productions; creator of The Mystic Moods Orchestra and producer/engineer of numerous special effects recordings. Principal in development of Colossus digital audio system with Louis Dorren. Location/studio recording where accurate archival of live performance or final mix is required. Production services include the Colossus (4-channel) PCM digital audio system with 1630 compact disc format compatibility; and/or 4-channel "soundfield" microphone (MS-4). Recommend that interested parties inquire as to latest compact disc samples in release by clients utilizing Colossus, MS-4 or both. Conversion of existing sound effects and music libraries into Colossus format and then to optical hard disk also available. Written information package available upon request.

**BRUCE MILLER; Engineer; c/o 23 West Entertainment; 71 W. 23rd St. #1611; New York, NY 10010; (212) 627-9570; FAX: (212) 627-0778. Credits & Services:** Yes, Miles Davis, Duran Duran, Luther Vandross, Billy Idol, Roberta Flack, Robbie Nevill, J.Boys, Seduction, David Sanborn, EU, PIL, Roy Orbison.

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Dr. John, Joe Sample, Natalie Cole, Bros, Toshinobu Kabota, Toshiki Kadomatsu, Teramasu Hino, Kenny Garrett, Tommy LiPuma, Marcus Miller, Chaka Khan, Debbie Gibson, Boy George, Secession, Silencers, Midnight Star, SKYY, Klaus Nomi, Nia Peeples, Noel, Stephanie Mills, Motown remixes (Jackson 5, Marvin Gaye, 4 Tops) Halo Sanshiro, Hurricane Party.

**PAUL C. MILNER; Engineer & Producer; "A" MAJORSOUND CORP.** 7808 Yonge St.; Thornhill, Ontario, L4J 1W3 Canada; (416) 889-7264. **Credits & Services:** Paul has an engineering background, and has gained credits and experience with Glass Tiger, Queensryche, Men Without Hats, Keith Richards, Eight Seconds, Paul Piche, Luba, Liberty Silver, Andre Gagnon, Vain, Robert Palmer, Brian Greenway, Sass Jordan and the list goes on. Recent work includes Medicine Men, The Scramblers, Kevin Jordan, Andy Morris.

**JOEF MIRAGLILO; Engineer, Producer & Music Computer/Programmer; FISHBOWL PRODUCTIONS.** 89 Clinton St., 3rd Floor; Everett, MA 02149; (617) 389-5816.

**FRANCISCO MIRANDA; Engineer & Producer; ESTUDIO 19.** Algeciras #38-701; Mexico City, DF 03920 Mexico; (905) 598-3935.

**BEN MONROE; Engineer, Producer, Technician & Music Computer/Programmer; DIGITAL HOUSE RECORDING STUDIOS.** 7370 Winchester Pas Hills; St. Louis, MO 63121; (314) 382-3555; FAX: (314) 524-7650. **Credits & Services:** 24+, also remote recording. Owner: Ben Monroe, manager: Rob Titus, engineers: Ben Monroe and Rob Titus. Mixing consoles: DDA DMR12, up to 136 inputs, MIDI mute automation. Studio Recorders: 24 digital Akai, Adam or 1200 multitrack E-16 Fostex, (2) Panasonic 3500 DATs, E22 1/2 30ips, MRI, Nakamichi cassette, TEAC 1/4 2-track, Synchronizator; PPS 100-4050. Reverb systems: Lexicon PCM 42, Lexicon LXP-1, LXP-5, (3) Yamaha SPX90 II, (2) SPX90, (3) Roland SRV-2000, SDE 3000, (2) SDE-1000, DEP-5, (3) BBE 402, (8) dbx 166 dual comp/gate, (3) Aphex expander gate, dbx 463X gate, (3) dbx 263X de-esser. Other outboard: Drawmer tube dual comp 1960, UREI 1178 dual comp/lm, (4) UREI 537 1/3 EQs, (4) Yamaha Q2031 EQs, (2) Rane FME15 EQs, (2) Rane FPE13 EQs, Forman PQ8 parametric dual EQ, (4) Ibanez dual EQ, Microphone: Neumann U-87, (2) AKG 414, (4) Sennheiser 421, (2) 409, (2) AKG 460, (4) AT-11, (6) D112, DRE, SM81, (2) SM7, (8) AKG 125, (8) 58, (10) 57, (2) Beyer M88, (5) AKG 321. Monitors and amps: Crest and Audio Pro 1200, JBL 4412, JBL 4401, Yamaha NS-10, Musical instruments: MI, EPS, Alesis HR-16 and 16B, Akai X7000, (2) Sonor drum kits 8-pc., 6-pc. Signature Series, access to Linn 9000, Hammond B3 and more available.

**MIKE MOORE; Engineer, Producer & Music Computer/Programmer; MOORE/NEWZ PRODUCTION.** 30210 Grandview; Inkster, MI 48141; (313) 722-2053. **Credits & Services:** Complete multitrack recording services. Base Studios United Sound System and the Sound Suite Detroit Michigan. Credits include: Body, Aretha Franklin, George Clinton, Prince, Amp Fiddler, 4 Tops, Dramatics, Kurtis Blow, Bert Robinson, Howard Huntsberry, Crosswind, R.J.'s latest arrival Will Red, Grant, Roxanne Jordan, Lenny Price, C.P. Johnson, Herman Harris, Rachel Choate and Chuck Howard. Familiar with all major consoles, SSL, Neve, Sony MCI, Westar, Neotek, Amek, Harrison, Trident etc.

**PETER J. MOORE; Producer; M.D.I. PRODUCTIONS.** 116 Beaconsfield Ave.; Toronto, Ontario, M6J 3J6 Canada; (416) 533-1749; FAX: (416) 533-1749. **Credits & Services:** Produced Cowboy Junkies' first, second and third albums; SILOS, for RCA debut release; all the music for 14-hour HDTV miniseries *Chasing Rainbows*; Gemstone Productions of *Glory Enough for All*, Lucinda Williams for RCA, soundtrack for *Pump Up the Volume*, Swamp Baby for First Stone, The Wamsee for First Stone, Corn Dogs for Latent/BMG, The Harbour Kings Fire Rough Trade, Pat Temple for Latent/BMG, Holly Cole Trio Alert Capitol.

**PAUL MOSER III; Engineer, Producer & Music Computer/Programmer; P.M. III PRODUCTIONS.** Studio City, CA 91604; (818) 763-3053.

**TAAVI MOTE; RUF-MIX PRODUCTIONS.** 12966 La Maida St.; Sherman Oaks, CA 91423; (818) 760-0269; FAX: (818) 905-7242. **Credits & Services:** Production: *U2 Desire* (Hollywood remix); Stacy Lattisaw, 12"; Jeff Lorber *Private Passion*, Ralph Dudley, Gypsi Rose, various projects in the works. Mixing/engineering: Smokey Robinson, Reggae and Vincent Cal-



RUF MIX PRODUCTIONS

TAAVI MOTE  
Sherman Oaks, CA

loway, Gap Band, Midnight Star, U-Krew, The Whispers, Andre Cymone, The Jets, Klymaxx, Sweet Obsession, Bobby Brown, Superfly 1990 featuring Curtis Mayfield & Ice T, Bros, Ruff, Jimmy Somerville, Big Noise, Freaky Executives, Kenny G, Randy Jackson, Joyce Irby, Native, Jeffrey Osborne, Judson Spence, Ready for the World, El DeBarge, Five Star, Nu Shooz, Pebbles, Cool 'R, Jody Watley, Madonna, Natalie Cole, *Beverly Hills Cop* and *II* soundtracks, Gladys Knight, James Ingram, Patti LaBelle. The best in pre-and post-production, recording, overdubs, mixing, remixing (12", LP and singles). Song publishing also available. Using the best recording studios available, you get the most dynamic sound in analog or digital. Extensive variety of outboard equipment available. Call for further information.

**TOBY MOUNTAIN; Engineer & Producer; NORTHEASTERN DIGITAL RECORDING INC.** 2 Hidden Meadow Lane; Southboro, MA 01772; (508) 481-9322; FAX: (508) 624-6437.

**WILLIAM P. MUELLER; SHEFFIELD AUDIO/VIDEO PRODUCTION.** 13816 Sunny Brook Rd.; Phoenix, MD 21131; (301) 628-7260; (301) 666-0196; FAX: (301) 628-1979. **Credits & Services:** 1985 Grammy nomination—best engineered album, Michael Hedges, *Aerial Boundaries*. 1986 Grammy-nominated album, Douglas Miller, *Unspeakable Joy*. 1988 Grammy-nominated album *Seldom Scene Out among the Stars*. 1988 Grammy-nominated album *Sweet Honey in the Rock*. Billy Joel, Disney Productions, Vigil, Chrysalis Records. Barry Manilow, Krokus, Aretha Franklin, Jerry Lewis Telethon. The Hooters, Marilyn McCoo, SRO Concerts. Ella Fitzgerald, Oscar Peterson, National Symphony, Shadowfax, Will Ackerman, Jim Makay, ABC sports, The Whitbread Sailboat Race, ESPN, CNN. Consoles: SSL 4000 Neve 8068, 5104. Tape machines: Sony 3324, Otari MTR, AMS 1580, RMX 16, LEX 224SL, Sontec Modules, Drawmer CMX Cass editor, on-line video editing.

N



JOHN NEFF  
Kula, Maui, HI

**JOHN NEFF; Engineer & Producer; MAUI RECORDERS.** PO Box 647; Kula, Maui, HI 96790; (808) 878-6733; FAX: (808) 878-2497. **Credits & Services:** Over 25 years studio experience, producing audio for music, video and film, AES member. Experienced session/touring musician. Maui Recorders has a 32-track digital facility available on the beautiful island of Maui, with lodging close by. Write for complete package details. Excellent location for track laying or film scoring. Away from the pressures of the city

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**JOSEPH NICOLETTI**; *Producer*; NICOLETTI PRODUCTIONS/CREATIVE NETWORK. PO Box 2818; Newport Beach, CA 92663; (714) 494-0181; FAX: (714) 494-0982.

**DAVE NODIFF**; *Engineer & Producer*; NF/X. 158 Bishop Dr.; Framingham, MA 01701; (508) 872-6843; (617) 292-8208. **Credits & Services:** Providing experienced multitrack engineering and production in all formats and musical styles. Recent clients have included: Chance Gardner, the Black Strats, The Conditions, O.K. Chorale, Linda Serafin, Hellbent, New-song Team, Ministry and The Beatniks. Services include studio and remote recording; digital (Sony P/MC/DAT) tracking, mixdown and editing; video-audio post-production; MIDI programming and pro A/V rentals. Please call for complete track record and rates.

**ROD O'BRIEN**; *Engineer & Producer*; STREET WISE PRODUCTIONS INC. 41 W. 72nd St. #16C; New York, NY 10023; (212) 787-4127. **Credits & Services:** Suzanne Vega *Solitude Standing* on A&M, Buster Poindexter *Scrooged* soundtrack, the *Hooters One Way Home* on CBS, Michael Monroe solo album on Polygram, Faster Pusscat *Wake Me When It's Over* on Elektra, Gutterboy debut album on Geffen, *Kills for Thrills Dynamite* from *Nightmareland* on MCA, The Dog's D'Amour *Straight* on Polydor. Numerous live recordings including: Live Aid, Farm Aid 1, Atlantic's 40th Anniversary Show on HBO, MTV New Year's Eve Balls, The Rolling Stones. Also work with Cyndi Lauper, Aerosmith, David Bowie, Talking Heads, Alice Cooper, Peter Gabriel, Peter Frampton, Chaka Khan, Kiss, Hall & Oates, Patti Smith, Lou Reed, Stevie Nicks, Hanoi Rocks, Cheap Trick, Neil Young and Thin Lizzy.

**RICHARD OLIVER**; *Engineer & Producer*; 41-33 42nd St.; Sunnyside Queens, NY 11104; (718) 786-9151; (212) 459-9643. **Credits & Services:** Engineered Rolling Stones, Orleans, Yes, B-52's, Ellen Foley and many others in rock, pop, R&B, dance, metal, rap and orchestral genres. Film recording projects and mixing for music videos (Hall and Oates, Blondie), feature shows (*Christmas Race, Real Estate Inside*) and companies (Blair Entertainment). Extensive television commercial recording and mixing. Producing and co-producing in all of the above categories. Writing for records, jingles and scores. Power user of SSL, Neve, Trident, Soundcraft, MCI and Sony. Over 48 projects on 48 track. Extensive experience with digital projects, lock-to-picture, Synclavier, MIDI, sequence, outboard, editing, mastering, sync rates (pilot 60hz, 59.9) and layback. New artist productions and much more.

**GENE PARCIASEPE**; *Engineer, Producer & Music Computer/Programmer*; 47 Lake Riconda Dr.; Ringwood, NJ 07456; (201) 728-3379. **Credits & Services:** Cher, Jennifer Rush, Maria Vidal, Desmond Child, Alejandro Lerner, Chany Suarez, Jim Lord, No Discipline, Genovese Drugs, Toys 'R' Us, Kids 'R' Us, Kodak, Kool-Aid, Michigan State Lottery, Nestle Ice Tea, New Jersey five card Lottery, Slice, Subaru, Volvo, Weight Watchers dinners, Dashai Kosho Karaoke. Recording and mixing engineering, Macintosh music programmer, on-location DAT recording, live mixing for video and television.

**BYRON PARKS**; *Engineer & Producer*; AUDIO BY BYRON. 1710 Gateway; Garland, TX 75040; (214) 271-7046.

**MARK PARTIS**; *Engineer & Producer*; 30 Harding St.; Maplewood, NJ 07040; (201) 763-4616. **Credits & Services:** Credits include mixing for R&B acts such as Heavy D & the Boyz, Jeff Redd, Kool & the Gang, Today, Boyz II Men, Marva Hicks and Carroulodge, as well as extensive engineering for Shawn Colvin, Sinead O'Conner, Tommy Page, Arrow and Cher. TV and commercial credits include the music for the *Cosby Show* and *A Different World* and spots for UPS, Kentucky Fried Chicken and Budweiser, to name a few. I am also heavily involved in the production and engineering of several jazz projects. Services include album production from demo to pre-production to the final product. I am also a partner in a 24-track MIDI studio. Other services include digital recording and audio-for-video synchronization. Management: Ms. Lisa Barclay. (212) 662-5665.

**CRAIG PATTERSON**; *Engineer, Producer, Technician & Music Computer/Programmer*; PM ENGINEERING. 6448 S. Skyline Dr.; PO Box 3040; Evergreen, CO 80439; (303) 674-5933.

**BOB PEACOCK**; *Engineer, Producer & Music Computer/Programmer*; NIGHTWIND PRODUCTIONS. 60 Monument Plaza; Pleasant Hill, CA 94523; (415) 827-0200; FAX: (415) 827-1390.

**DALE PENNER**; *Engineer & Producer*; PARADISE ALLEY PRODUCTIONS. c/o Michael Godin Mgmt. Inc; 201-1505 W. 2nd Ave; Vancouver, B.C., V6H 3Y4 Canada; (604) 731-3535; FAX: (604) 731-2466.

**MITCHELL PIETZ**; *Engineer, Producer & Technician*; MITCHELL PIETZ. 3960 Laurel Canyon Ste. 279; Studio City, CA 91604; (818) 500-7477; FAX: (818) 500-0074.

**MARK PLATI**; *Engineer, Producer & Music Computer/Programmer*; M.P. MUSIC INC. 201 W. 72nd St.; New York, NY 10023; (212) 580-1609. **Credits & Services:** Mixed and/or engineered Prince, Quincy Jones, David Bowie, Steve Winwood, Dream Academy. Soundtrack for *Graffiti Bridge, Coming to America, and True Love*. Produced Roger Waters, Jean Park (CBS), Jeremy Days (Polydor).

**TIMOTHY POE**; *Engineer*; RAVEN AUDIO ENGINEERING. PO Box 47; Chardon, OH 44024; (216) 298-3448.

**PHILIP F. POLLARINE**; *Engineer & Producer*; WILDFIRE PRODUCTIONS. 1610 Thomas Rd.; Wayne, PA 19087-1025; (215) 783-7424.

**ANDY PRYDE**; *Engineer & Producer*; 548 River Road South; Peterborough, Ontario, K9J 1E7 Canada; (705) 745-3951; (705) 743-7860.

**DANIEL QUAM**; *Engineer*; Q-BALL PRODUCTIONS. E. 403 Wabash; Spokane, WA 99207; (509) 487-1349.

**JIMI RANDOLPH**; *Engineer, Producer & Music Computer/Programmer*; URBAN SOUNDS OF AMERICA. 34 Farnsworth; Boston, MA 02210; (818) 955-5300; (617) 451-3327; FAX: (617) 695-1964. **Credits & Services:** Grammy award-winning producer/engineer with 24-track recording/MIDI studio. Credits include: Al Green, New Kids on the Block, SOS Band, DeJa, Boston Museum of Science, Stylistics, West Coast Rap Allstars and Sun Ra. Urban Sounds of America is a full-service production company, complete with marketing, management and promotion services. Our business is primarily record production; however, we also do film and video production.

**MICKEY RAT**; *Engineer & Producer*; POWER PLANT STUDIOS AMERICA. 10518 Connecticut Ave.; Kensington, MD 20895; (301) 942-9007; FAX: (301) 622-4209.

**JEFF RAY**; *Producer & Music Computer/Programmer*; JEFF RAY. 838 Meadowweet Dr.; Corte Madera, CA 94925; (415) 924-6559. **Credits & Services:** Over 15 years experience in producing and composing musical compositions/arrangements for video, television, radio and individual artists. Multikeyboardist and vocalist for many artists, including Ronnie Montrose, Jo Baker and Bruce Day (Pablo Cruise). Musical director for Sound Cat Sound and Music Design. Clients include KRON-TV channel 4 San Francisco, Coors beer, Southwest Airlines, Taco Bell, The Nature Company, California State Automobile Association, Ocean Images, NCAA and major advertising agencies.

**ROGER RHODES**; *Engineer & Producer*; PO Box 1550 Radio City Station; New York, NY 10101; (212) 245-5045.

**DOUGLAS RICE**; *Engineer & Producer*; DOUG RICE DIGITAL. PO Box 110361; Brooklyn, NY 11211; (718) 384-9354. **Credits & Services:** Independent engineer, working as a live house engineer, on-location recording engineer and multitrack studio engineer. This year's list of clients includes Lew Soloff, Joe Morello, Larry Coryell, John Zorn, Ronald Shannon Jackson, Gretchen Langheld, Lou Reed, Lounge Lizards, Brandford Marsalis, Tabou Combo, Ned Sublet, MOMA, La Mama, BAM and the Prospect Park Bandshell. Tutoring also available.

**JOHN M. ROBB**; *Engineer & Producer*; HCR 1, Box 11-B; Walnut Shade, MO 65771-9701; (417) 561-4182.



**RICK ROONEY**  
Dallas, TX

**RICK ROONEY**; *Engineer & Producer*; PLANET DALLAS STUDIOS. PO Box 191447; Dallas, TX 75219; (214) 521-2216. **Credits & Services:** M.C. 900 Ft. Jesus (Network Rec-  
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## Independent ENGINEERS & PRODUCERS

—LISTING CONTINUED FROM PREVIOUS PAGE

ords), Evan Johns & the H-Bombs (Rykodisc Records), Russ Parr (Priority/Capitol Records), Nemesis (Profile Records), George Gimmick's and Roll Alternative with the Smithereens, The Rainmakers, The BoDeans, Winter Hours, Mojo Nixon, XTC, Shock Tu, Rodeo Love Gods, Princess Tex (Horsehead Records), The Daylights (109 Records), The Uptown Girls (Oak Lawn Records), The Trees, Shallow Reign, Bone Circus, Lesson Seven (Oak Lawn Records), Gregory D. and Mannie Fresh (Yo! Records), 24-track MCI automated console with analog or digital mixdown, studio design by Lakeside Associates of Los Angeles. DAT-to-DAT editing.

**BOB ROSA; Engineer & Producer; BOB ROSA PRODUCTIONS, 143 Fingerboard Rd.; Staten Island, NY 10305; (718) 876-9266; FAX: (718) 876-9266. Credits & Services:** All engineering services, including production, mixing and remixing. Own full range of mobile state-of-the-art outboard gear, in-house MIDI studio, "Profound Sound." Credits include Bee Gees, Michael Bolton, Boxcar, The Brat Pack, Cheap Trick, Cover Girls, D-Project (Japan), Duran Duran, Sheena Easton, The Family Stand, Fat Boys, Fleetwood Mac, Aretha Franklin, Whitney Houston, Samatha Fox, David Grant (J.K.), Debbie Gibson, Daryl Hall, Annie Haslam, Thelma Houston, Information Society, James Ingram, Freddie Jackson, Janet Jackson, LaToya Jackson, Mick Jagger, The Jets, Grace Jones, Kane Gang, Kaoma, Lacey, Latin Rascals, Shirley Lewis, Madonna, Marlika, Anne Murray, New Order, Ocean Blue, Tommy Page, Pajama Party, Paul Pesco, Pet Shop Boys, Lou Reed, Evan Rogers, Run-DMC, Seduction, Seikima-II (Japan), Shannon, Sly Fox, SoHo, Starpoint, Donna Summer, The System, Tony Terry, Pia Zadora, Zebra. Management: Ms. Leslie Best, (212) 627-9570.

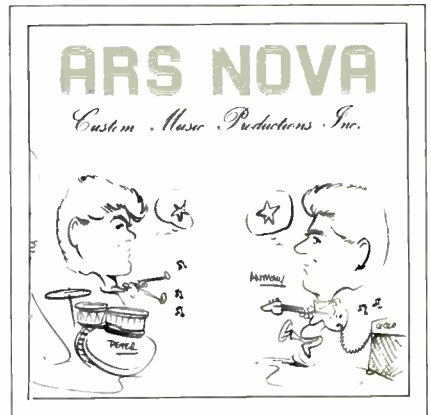
**JAY ROSE; Engineer & Producer; JAY ROSE/SOUND DESIGN, 20 Marion St.; Brookline, MA 02146; (617) 277-0041; FAX: (617) 232-8869. Credits & Services:** Produces and engineers commercials and video films exclusively; more than 150 top awards as sound designer, director or editor; including 13 Clio's plus Andy, One Show, Emmy, Hollywood Radio/TV Festival and other awards. Develops tracks in own studio: 4-machine SMPTE editing, multitrack digital workstation, Kurzweil, etc. Also mixes and engineers at major New England 24-track facilities; directs in N.Y. and L.A. Owns Nagras and DAT for location recording. Expert CMX CASS and AKG DSE-7000 editor. Credits include designing or directing thousands of spots (McDonald's, NYNEX, Blue Cross), network promos and openings (NBC, Showtime, Discovery), documentaries and home videos (MGM, Parker Brothers, Digital Equipment). Award-winning advertising writer.

**MIKE ROSENMAN; Producer; SAUNASTUDIO, 4514 215th Pl.; Bayside, NY 11361; (718) 229-4864; FAX: (718) 229-4864. Credits & Services:** Music production and composition for commercials, records and video. Pre-production including MIDI programming, arranging, sampling and custom sound design. Wide range of vocal talent available. Credits include rock and dance records, three TV documentaries, numerous radio and TV commercials and radio specials. We deliver musicianship combined with technology, custom-tailored to your project and your budget.

**RICHARD ROSING; Engineer & Producer; OPENING LIFE PRODUCTIONS, 6017 Bellingham Ave.; N. Hollywood, CA 91606; (818) 763-3742. Credits & Services:** Artist credits include: Joe Sample, Carl Anderson, Gloria Loring, Gardner Cole, Jack Jones, Billy Davis Jr., Ellis Hall, Wilton Felder, Julie Brown, Freda Payne, Phil Perry & Mark Winkler. Sensitive Heart's new age *Heartlife* album was featured CD on the WAVE. Film & TV credits include: *Psycho 4*, *Critters 2*, *Stargate*, *Dreamgirl USA*, *Pepsi* and *National Geographic* spots. Corporate clients include: Great Western Bank, The Broadway, Los Angeles Times, Kaiser Permanente, So. Calif. Gas Co, Mark Taper Forum and Queen Mary of Long Beach. My specialties are vocals, live instruments, mixing and MIDI programming. I am a first-rate engineer/producer with a strong musical background. I also have my own production company with in-house studio and am looking to work with both new and established artists.

**BARRY RUDOLPH; 5627 Irvine Ave.; North Hollywood, CA 91601; (818) 985-1855. Credits & Services:** Engineered for Hall & Oates, Lynyrd Skynyrd, Rod Stewart, Waylon Jennings, Al Wilson, Johnny Mathis, Shalamar, Lakeside, O'Bryan, Don Cornelius, James Last, John Prine, Roy Buchanan, Stanley Clarke, Natalie Cole, Levon Helm, Steve Cropper, Duck Dunn, Robin Smith, The Rockmelons, Dazz Band, Parthenon Huxley, David Kahn, Maurice White, Juice Newton, Cher, Robbie Nevil, Jermaine Stewart, Richard Scher, Ashley Maher, Steve Diamond, Jeff Pescetto, Steve Dubin, Chris Bond, Josquin Des

Pres, Fisc, Yves Chovard, Gary Stockdale, Andy Priebow, Jermaine Jackson, Ms. Adventures, Tommy Faragher, Lotti Golden and Arthur Baker.



**ANTHONY AND PETER RUFO  
Chicago, IL**

**ANTHONY AND PETER RUFO; Producer & Music Computer/Programmer; ARS NOVA CUSTOM MUSIC PRODUCTIONS INC, 6511 S. Kilpatrick; Chicago, IL 60629; (312) 582-9355. Credits & Services:** Credits to custom music for NBC, CBS *My Two Dads*, Jingles for Channel 26, Chicago Cable TV and Marshall Fields. Services: custom music and lyrics produced for TV and radio commercials, corporate and feature film scores.

**S**

**JAMES SABELLA; Engineer & Producer; SABELLA RECORDING, 49 Oakdale Rd.; Roslyn Heights, NY 11577; (516) 484-0862. Credits & Services:** Producer with track record, 24-track studio with Neve 8068 MkII automated console, Studer 24, EMT 250 digital reverb, Pultec, Eventide, Lexicons, Neumann and complete computer/MIDI workstation. Will help you record, arrange and produce your material to shop to major labels. Complete package at a price you can afford. Ask for Jim, (516) 484-0862.



**Dennis Scott Productions**

**DENNIS SCOTT  
Nashville, TN**

**DENNIS SCOTT; Producer & Engineer; DENNIS SCOTT PRODUCTIONS, 203 Abbott Glen Court; Nashville, TN 37215; (615) 292-9459 (Nashville); (615) 829-8747 (NY). Credits & Services:** Credits: Recipient of the 1981 Grammy Award for Best Recording for Children. Dennis has produced artists such as Crystal Gayle, Loretta Lynn, Tanya Tucker, Glen Campbell and the Muppets. Directed and engineered *Lee Arnold on a Country Road*, a weekly syndicated radio show for the Mutual Broadcasting Network. Written and produced numerous children's LPs for Sesame Street, Random House, MacMillan, Benson Records, Brentwood Records, Troll Publications, Caedmon, Peter Pan and Wonderland Records. Created music for videos including *Scholastic Magazine*, *New Zoo Review*, *Video Research* and *Select Video*. Work featured on *Who's the Boss* (performed by Ray Charles), *Fame*, *Hee Haw*, *The Marsha Warfield Show*, *Richard Simmons Show*, *Muzak* and others. Has written material performed by Tina Yothers, Jimmy Osmond, Sandy Duncan and The New Christy Minstrels. Music director for the National Child Safety Council. Services: Specialize in creating and producing music of many styles for records, TV, film, radio and jingles. Original songs and lyrics as well as underscoring and post-production. Children's product is particular area of expertise. Own and operate 16-track studio with SMPTE hookup. Inventive material written and produced according to creative and budgetary needs.

**STEPHEN J. SELTZER**; *Engineer*; 321 W. 90th St., #2C; New York, NY 10024; (212) 362-3209. **Credits & Services:** Credits include Ashford and Simpson, Smokey Robinson, Philip Bailey, The System, India, Sybil, Kwame and Ratt. Services include tracking, mixing and additional production.

**PAUL SETSER**; *Producer*; PAUL SETSER CREATIVE. 2930 N. Newhall St.; Milwaukee, WI 53211; (414) 962-9174.

**MARK S. SHEARER**; *Producer*; HARDWAY RECORD CO. INC. PO Box 540; Dearborn Heights, MI 48127; (313) 278-6068.

**BRADLEY SHELDON**; *Engineer & Music Computer/Programmer*; ENDLESS SUMMER PRODUCTIONS. PO Box 120695; Arlington, TX 76012; (817) 477-4506.

**BERESFORD SINCLAIR**; *Producer*; DOBER STUDIO. 13441 Toblissan Rd.; Poway, CA 92064; (619) 748-6771.

**BOB SKYE**; *Engineer, Producer & Technician*; THE PLANT RECORDING STUDIOS. 2200 Bridgeway; Sausalito, CA 94965; (415) 332-6100. **Credits & Services:** Extensive background in remote recording, live tracking and live broadcast. Specializing in live-to-2-track recording. Holly Near, Joe Satriani, Peter, Paul & Mary, Yellowjackets, Air Force Symphony, AJ Jareau, Chick Corea, Billy Preston, Jimmy Smith, Judy Collins, Melanie, Grady Tate, Harry Belafonte, Jacques Cousteau, Turner Broadcast, Paul Williams, John Denver, Stanley Turrentine, Kenny Burrell, Gail Moran, Bobby McFerrin, Robert Cray, Steve Miller, Crosby, Stills & Nash, America, Eddie Money, Neil Young, NFL films, National Public Radio, Reeves Teletape, NBC, KRON, KFOG, K101, KSAN, KJAZ, WBGO, WMAL, KOME, KQED, DIR Broadcastsat (King Biscuit), Chameleon Records, Crescendo Records and the list goes on.

**WALTER N. SOBCHAK**; *Engineer & Producer*; WELLESLEY SOUND STUDIOS. 106 Ontario St.; Toronto, Ontario, M5A 2V4 Canada; (416) 364-9533. **Credits & Services:** Album/single credits include: Scott B Symphaty, Dream Warriors, Savage Steel, Michie Mee and LA Luv. Maestro Fresh Wes (Canada's only platinum rap album), Sturm Group, Coupe de Ville soundtrack, Rumble and Strong, Fifth Column, Assistant engineer on *Dirty Dancing* soundtrack. Jingle and television credits include Citibank, MuchMusic and CBC Journal. 24-track studio centrally located in downtown Toronto with vintage Neve 8014 console, standard AMS and Lexicon gear. Sony DRE2000, Studer Dyaxis digital audio workstation and much more.

**JERRY STECKLING**; *Engineer, Producer & Technician*; RESULTS MGMT. OF SOUND. 11818 Magnolia Blvd.; N. Hollywood, CA 91607; (818) 509-5733; FAX: (818) 753-9008.

**TOM STILES**; *Engineer & Producer*; MANOR RECORDING SERVICES. 8315 Lake City Way NE #199; Seattle, WA 98115; (206) 524-1389. **Credits & Services:** Credits: Santa Fe Chamber Music Festival in Seattle, the Governor's Chamber Music Festival, Seattle Spring Festival of New Music, SPEB-SQSA, the Goodwill Arts Festival, Seattle Pro Musica, Seattle Women's Ensemble and other live-to-2-track digital recording, broadcast and reinforcement adventures. Live sound design/recording/broadcast and CD project for Seattle Men's Chorus. Goodwill Games live broadcast and reinforcement. Services: live engineering of classical, folk, theatrical and experimental musical performances for recording, broadcast and reinforcement, pre-production design and postproduction follow-through. Digital transfer and archiving on F1 or DAT, digital editing, CD and tape production. Acoustic and facility design consultation. Let's see, what else—live! I like it live. Did I say I work on location? Good. And studio projects are okay, too? Okay.

**MIKE STRYLER**; *Producer & Music Computer/Programmer*; FUGEM. 2718 Athens Ave.; Carlsbad, CA 92008; (619) 729-9100.

**MICHAEL S. SULLIVAN**; *Engineer, Producer & Technician*; FORMULA ONE SOUND. 4716 Dewey Ave; Riverside, CA 92506; (714) 686-5809.

## T

**THOMAS TOMASELLO**; *Engineer, Producer & Music Computer/Programmer*; TOM TOM PRODUCTIONS. 478 El Cajon Dr.; San Jose, CA 95111; (408) 578-6901. **Credits & Services:** As musicians with eleven year's production experience, we have produced, arranged and engineered a wide variety of album and jingle projects. Musical styles range from gospel (including contemporary Christian), pop, rock and country to Broadway, easy listening, Latin and big band swing, as well as children's music. We have also produced many soundtracks for various shows, touring productions, musical groups and solo artists. MIDI production and pre-production services employing Macintosh computer with Vision sequencing software, Roland sampler modules, Emax digital sampler, Yamaha DX7 (models I and IID), Korg SG-1D (sampled grand piano and master controller) and Roland Octapads, pedals and drum pads are also offered. With extensive experience in conventional production, arranging and scoring services, we cover the full production range from electronic to

acoustic music. Finally, professional yet budget-conscious demo production services are available for both active and aspiring artists and composers.

**BURKE TRIESCHMANN**; *Engineer, Producer & Music Computer/Programmer*; OPEN DOOR PRODUCTIONS. PO Box 8556; Berkeley, CA 94707; (415) 527-9311.

**JEFFREY TURNER**; *Engineer & Producer*; TURNER PRODUCTIONS. PO Box 747; Fairfax, CA 94930; (415) 457-8301.

## V

**BRIAN A. VESSA**; *Engineer, Producer & Music Computer/Programmer*; BV PRODUCTIONS. PO Box 3272; Santa Monica, CA 90408-3272; (213) 826-5902. **Credits & Services:** Credits: four gold albums, including Jose Jose and Juan Gabriel; Michel Rubini's *Secret Dreams* and Brett Perkins' *Accelerated World*. Films: Michael Mann's *Band of the Hand*, *Manhunter*; Condor feature *Tennessee Night*; Don Johnson video feature *Heartbeat*; Disney's *Quite Human II*; NBC's *Crossing the Mob*, *Moving Target*, *Hands of a Stranger*; CBS's *Too Good To Be True*, *Unholy Matrimony*; USA Cable's *Silhouette*, *The Haunting of Sarah Hardy*; HBO's *In Living Color*, *The Edge*. Electronic sound effects supervisor on *Friday the 13th Part VIII*. Trailers for Cannon Films, Disney. Commercials for Porsche, Del Monte, Tomy Toys, etc. Services: music production and engineering, Synclavier, music editing, video sweetening and studio electronics. I have well over 20 years experience as a musician, 15 years in the professional audio field, and a degree in electronics. I enjoy being involved with the creative process of music in all styles and capacities, being equally comfortable with acoustic and electronic production techniques.

## W

**DUSTY WAKEMAN**; *Engineer, Producer & Music Computer/Programmer*; DUSTY WAKEMAN PRODUCTIONS/MAD DOG STUDIO INC. 1717 Lincoln Blvd.; Venice, CA 90291; (213) 306-0950; FAX: (213) 578-1190. **Credits & Services:** Producer/engineer with 24 track Neve/Studer studio in Venice, Ca. Credits include: Dwight Yoakam, Lucinda Williams, L.A. Ya Ya, Tommy Corwell, Michelle Shocked, Buck Owens.

**STEPHEN J. WALKER**; *Engineer & Producer*; 24 Lewis Ave; Floral Park, NY 11001; (516) 326-6735.

**DENNIS WALL**; *Engineer, Producer & Music Computer/Programmer*; OFF THE WALL PRODUCTIONS. PO Box 6182; West Caldwell, NJ 07007; (201) 228-4099. **Credits & Services:** Anthony and the Camp, Ashford and Simpson, Eric Bloom, Alex Bugnon, Toni C., Chad, E.G. Daily, Sarah Dash, Doobie Brothers, Dennis DiBlasio, Alta Dustin, Angel Ferreira, Elisa Fiorillo, Billy George, Freddie Jackson, Jeff Jarvis, Jellybean, Jets, Chuck Loeb, Bob Mintzer, Melba Moore, Mr. Spats, Najee, Tommy Page, Nelson Rangell, Brenda K. Starr, Ronnie Spector, John Waite, Scott White, ABC, Abbott/Smith, Absolute Music, CBS, CNBC, CNN, Disney Channel, DMB&B, Roy Eaton Music, ESPN, Kevin Gavin, Grey Advertising, Grey Entertainment, Group W, HBO, Insignia Films, JMP, Just Ad Music, Kaltnick, Leach Entertainment, Marilyn Levine, Lifetime, Look & Company, Michael Karp Music, MSG, NBC, Olgivy and Mather, Gary Posner Music, Donald Rubinstein Music, Russek Advertising, Rock Video International, Jean-Marie Salaun, Score Productions, SS&H, Showtime, TBS, USA, Westwood One, WVOR, WPIX, Young Rubicam, ZBS. Services: Audio engineering and mixing, MIDI systems design and set up, Computer based sequencer programming and pre-production.

**STANLEY E. WALKER**; *Producer*; MAGICLAND PRODUCTIONS INC. 5728 Major Blvd. Ste. 200; Orlando, FL 32819; (407) 352-0698; FAX: (407) 363-7491.

**DAVE WAY**; *Engineer & Producer*; c/o SOUNDWORKS; 254 W. 54th St.; New York, NY 10019; (212) 247-3690. **Credits & Services:** Services include all aspects of engineering, plus production, remixes, programming and songwriting, specializing in new jack swing/rap and R&B. Credits: Teddy Riley & Guy, Keith Sweat, Jane Child, Quincy Jones, The Winans, Tina Turner, Stephanie Mills, Aretha Franklin/Whitney Houston, Soul II Soul, Starpoint, Today, George Benson, James Ingram, Wrecks-n-Effect, David Peaston, Samuelle, Troop, Kool Moe Dee, Big Daddy Kane, Redhead Kingpin, Boy George, Blondie, Club Nouveau, High Five, Zan.

**JOE WEED**; *Engineer & Producer*; JOE WEED PRODUCTIONS. PO Box 554; Los Gatos, CA 95031; (408) 353-3952. **Credits & Services:** Three albums received "Indie" nominations from the National Association of Independent Record Distributors (NAIRD) for best album of the year, 1988 and 1989, in the new age and folk categories. Joe Weed produces, engineers, writes and arranges material in most styles but concentrates on acoustic instruments. Working principally in his own Highland Studio in the Santa Cruz mountains, Joe Weed achieves clear, accurate, beautiful recordings of acoustic instruments by employing world-class microphones and using mic placement and ambience to portray each instrument to its

—LISTING AND PHOTO/LOGO CONTINUED ON PAGE 177

## Q-

What do The Boston Pops, Maurice Starr, The New Orleans Jazz & Heritage Festival, and American Playhouse have in common?

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137	036	dbx Professional Products	(415) 957-1070	107	080	Opcode Systems		19	122	TDK	
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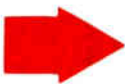
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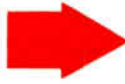
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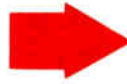
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P.O. Box 5069  
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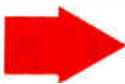
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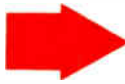
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- 023 053 083 113 143 173 203 233 263 293
- 024 054 084 114 144 174 204 234 264 294
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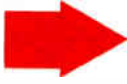
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ISSUE: FEBRUARY 1991  
CARD EXPIRES: JUNE 1, 1991

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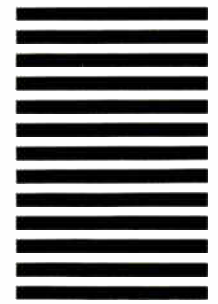
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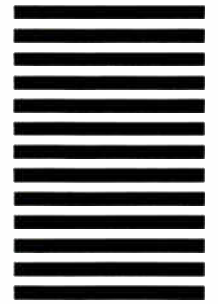
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**ENGINEERS  
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—LISTING CONTINUED FROM PAGE 175



**JOE WEED**  
 Los Gatos, CA

best advantage. Joe Weed also travels to other studios for project work. Recent releases on CD include *The Waltz of the Whippoorwill*, *October Country* and *The Dream of the Manatee* and *Ecos de Aide*.

**TED WESTMORELAND**; *Engineer, Producer & Music Computer Programmer*; **AKA SOUNDS**, 16299 Apricot Ln., Watsonville, CA 95076; (408) 728-4067.

**DARLEEN WILSON**; *Producer*; 20 Clare Ave.; Boston, MA 02131; (617) 325-8904; FAX: (617) 323-1570.

**SUSAN G. WINTHROP**; *Engineer & Producer*; **AUDIO ANTICS/WINTHROP PRODUCTIONS**, 156 W. 94th St.; New York, NY 10025; (212) 662-8685; FAX: (212) 749-8387.

**WAYNE WITHERS**; *Engineer, Producer & Music Computer Programmer*; **TECKNOWTUNES**, 2001 Rainbow Drive; Santa Ana, CA 92705; (714) 838-6315.

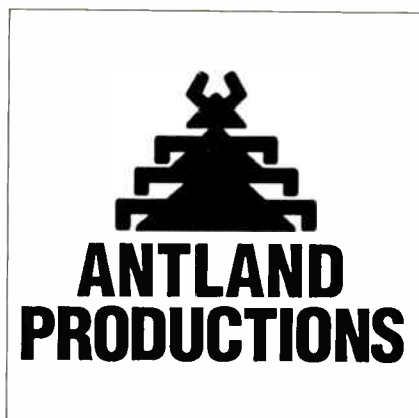


**GEOFFREY WORKMAN**  
 Denver, CO

**GEOFFREY WORKMAN**; *Engineer & Producer*; **ORIGINAL PROJECTS UNLIMITED INC.**, 36 W. 3rd Ave.; Denver, CO 80223; (303) 722-9653; (303) 722-9673. **Credits & Services**: Platinum album certifications. Credits include Journey, Queen, The Cars, Morley Crue, Twisted Sister, Toto, Foreigner, Dokken, Sammy Hagar, Ron Wood, Tommy Tutone, Gary Myrick, Roxanne, Salt 'n' Pepp, Warrior Soul, MN & Ceyin, I Love You and more.

**Y**

**DANIEL G. YEANEY**; *Engineer & Producer*; **FIRST TAKE PRODUCTIONS**, 11140 Westheimer Ste. 181; Houston, TX 77042; (713) 558-0560.



**ROY B. YOKELSON**  
 New York, NY

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—FROM PAGE 159, L.A. GRAPEVINE

office receipts this year will probably set records.

The upshot is that the number of rooms being remodeled and the amount of new equipment going in is pretty impressive. Encore, which currently has two SSL tracking and mixing rooms, will be adding a digital sound editing suite based around the SSL ScreenSound system. The 8-track, hard disk-based digital workstation will be housed in an existing, converted space. Studio manager Dave Devore expects the ScreenSound suite to come online in January. Currently, Jon Bon Jovi is in for an extended stay (pretty painless with a weight room, jacuzzi and other amenities in-house), and producer/engineer Tom Lord-Alge will soon be in with two projects under wraps for now.

Westlake Studios, too, has new markets in its sights. Studio E, which was designed as a demo room for the Westlake speaker line, has, over the years, slowly evolved into a control room based around a Harrison Series Ten. With video projection capability and a Synclavier (operated by Uli Reese), it's ideal for video post. Composer Ron Jones' production company (*Star Trek: The Next Generation*) has

begun doing all its work there. Westlake will be taking bookings for the room by the time this is out.

Studio D, the near-legendary room in which Michael Jackson's *Thriller* was cut by Bruce Swedien on a customized Harrison MR-2 (with some help from a few prototypical Studio Technologies preamps), has been partially revamped and is now home to a Neve VR72 with Flying Faders. Studio D's uniqueness lies in its privacy; it's really a suite of rooms with lounge, kitchen, bathroom and its own rear entrance. One of the first projects in was a Kenny Loggins album date, with Terry Nelson engineering and Paul Fox assisting. "The trend," said Steve Burdick, "is toward technical excellence, support staff and cleanliness. If you're going to be professional, you go all the way and cater to your clients." Sounds great, Steve, but hey, how come no one offered me a cocktail? Nobody appreciates the press.

One of the first consoles from Lartec (brainchild of Bruce Larson) is now residing at Ryder in a brand new room, the facility's fifth. The custom board, according to chief engineer Kurt Bellmer, is one of the few consoles available today designed specifically

for ADR and Foley work. The automation, machine control, edit list creation and monitoring system are Lartec's proprietary design. The new room (and console) concluded two years of expansion and upgrading that also included a complete remake of stage number two. Current projects are the films *Graveyard Shift* and *Conagher*, and TV series *Shades of L.A.*

Just down the street (from me, not Ryder) at Amigo, two rooms will be rebuilt for 1991. Amigo is possibly the single largest music recording studio in L.A., with six rooms, mastering, management, and a record label all operating out of same facility. Michelle Stone, chief mastering engineer and mastering studio manager, said "We're putting together a real-time tape duplication room with a 20-unit KABA system and a custom console being built in-house. We'll also have DAT-to-DAT duping on a small scale." The room, "dubbed" Studio D, should be online at the end of January. Adjacent to the new dubbing facility is the mastering room, Studio C, which will enjoy significant upgrades. Next year, customers can expect to find an SP79 Neumann disc mastering console with Sontec

—CONTINUED ON PAGE 178

## Coming in Mix: March 1991

### Concert Sound & Location Recording

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# MIX

—FROM PAGE 177, L.A. GRAPEVINE

EQ, VMS80 lathe, Neumann SAL74B cutting amp, Studer analog decks, Panasonic and Sony DAT decks, plenty of auxiliary gear, and a Sony 1630 system as the "cornerstone of the operation."

Send your studio news to Amy Ziffer, c/o *Mix* magazine, 19725 Sherman Way, Suite 380, Canoga Park, CA 91306, or call (818) 567-1429 or fax (818) 709-6773. ■

—FROM PAGE 159, SESSIONS & STUDIO NEWS

**Ghosts** and Rainforest Records artists **Whammo** and the **Lost Band**. **Aaron White** engineered all the projects and produced all the bands, except the **Lost Band**, who produced themselves... **Aaztec Recording** of Phoenix completed an industrial jingle for Castrol Motor Oil, which was a remake of the Johnny Rivers hit "Rockin' Pneumonia and the Boogie Woogie Flu" and features L.A. singer **Michael Lanning**. In Dallas, alternative band **Wake Up Screaming** blasted through **Planet Dallas** to work on their release. Members of the **Buck Pets** produced the project and **Rick Rooney** engineered...

#### NORTHWEST

**Flipper** were in **Hyde Street Studios** (San Francisco) recording a new single for Subterranean Records, with **Garry Creiman** co-producing and engineering with **Marc Samuels**, and **Nancy Scharlau** assisting... Also in San Francisco, ex-Camper Van Beethoven fid-

—FROM PAGE 158, N.Y. METRO

tions and equipment. "We can't keep competing with 48th Street," he explained, a reference to the MI stores like Manny's and Sam Ash that line that street. "The market segmentation is an effort to retain profits."

Power Station celebrates its 14th anniversary this month, according to Bob Walters, who with partners Tony Bongiovi and Ed Evans opened with one room in 1977. He added that Power Station's first quarter 1991 bookings are way ahead of the same period in 1990. Walters is also happy with what he perceives as a return to New York of acts that went to L.A. to record, along with increased European and Japanese bookings. "They're coming for the New York energy, which they've missed," he said of those who went west. Walters said that jingle work was also up, spurred by the opening last year of the studio's new

eller **Jonathan Segel** recorded his band **Hieronymous Firebrain** at **Pyramid Sound Studios**. The new band includes **David Shamrock** on drums and **Tom Yoder** on trombone. **Edwin DeShazo** was the engineer for the project, due for release in May 1991... Denver rockers **Valor** were at **Avalanche Recording Studios** of Northglenn, CO, working with producer/engineer **Paul Church** and assistant **James Thomas**... At **Banquet Sound Studios** of Santa Rosa, CA, Island recording artists **Vain** were making tracks with **Denis Hulett** behind the board... **Cove Recording Studio** of Brisbane, CA, has been busy making an album with **Dr. Jake** and **Mike Quinn**. Owner **Erik Neilsen** provided drumming and mixing on the tracks... **Mr. Big** was at **Fantasy Studios** (Berkeley, CA), with **Kevin Elson** producing/engineering and **Tom Size** assisting...

#### STUDIO NEWS

**NBC Studios** (NYC) installed an SSL 4000 G Series console to mix live-to-air the music of **Paul Shaffer and Co.**, as well as the musical guests that are broadcast on *Late Night with David Letterman*... **Gnome Productions** of Hollywood, CA, recently purchased a 44-input Trident Series 24 console... **New York Digital Recording Inc.** has moved to 636 Sixth Avenue (at 19th Street), Suite 4C. The new phone number is (212) 675-0600... **Chicago Recording Company** added a Harrison Series Ten B console. ■

#### A/V room.

Dr. MIDI...I noticed it while flipping through the *Village Voice* classifieds: an ad for Dr. MIDI, aka Matthew Fritz, former product specialist at Martin Audio who's taking a shot at freelance MIDI troubleshooting for home and project studios. A novel idea, I thought, until I checked with my West Coast counterpart, Amy Ziffer, who says she knows of at least three people doing it on the left coast. However, it doesn't appear that there's enough work to support someone full time as a MIDI consultant on either coast, which is surprising given the number of manuals that go unread. If anyone else is trying to work this beat in New York or elsewhere on the East Coast, let me know. If you want to reach Dr. MIDI, he's at (212) 929-0458.

Finally, why does *The New York Times*, "the paper of record," insist on the acronym "MIDI" as "Midi"? ■

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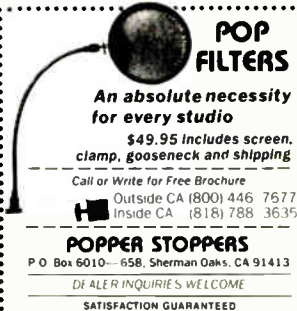
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