

MIX

**How L.A. Studio Pros
Are Changing the Face
of Nashville's Music Scene**

**Buyer's Guide
to Reference Monitors**



Interview: Los Lobos

**Demo Houses
in Music City**

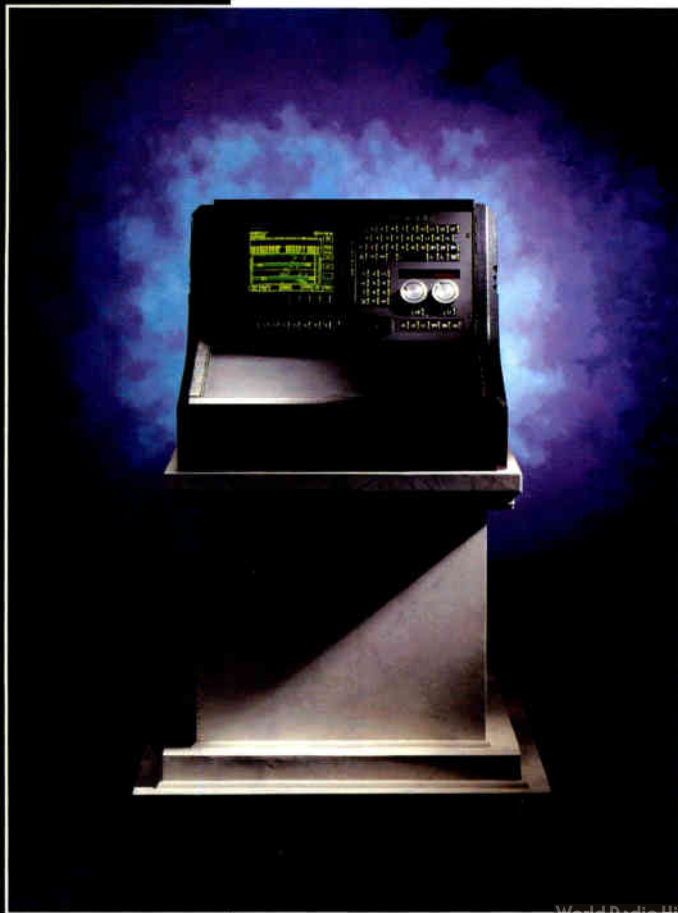
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Southeast
Recording
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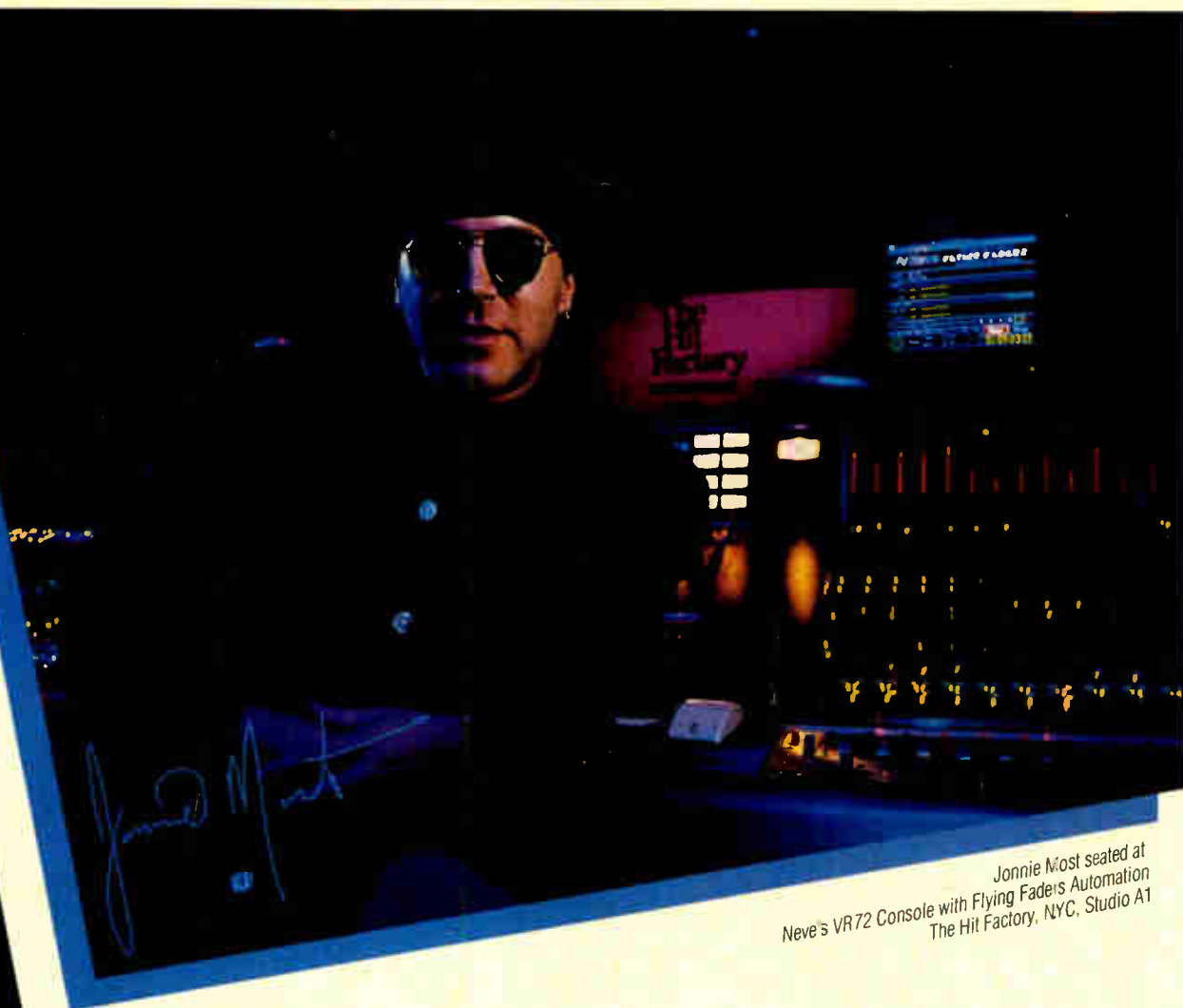
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Jonnie Most seated at
Neve's VR72 Console with Flying Faders Automation
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PROFESSIONAL RECORDING • SOUND AND MUSIC PRODUCTION

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Cover: Gloria Estefan's Crescent Moon Studios officially opened its doors in Miami last summer. The control room is fitted with a 60-input Neve VR console with Flying Faders automation, Quedest 412B monitors, RPG Diffusors and New England Digital PostPro and 9600 systems. Ross Alexander of Synergetic Services, Miami, handled the facility design.
Photo: Michael Partenio.





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DIGITAL MIXING

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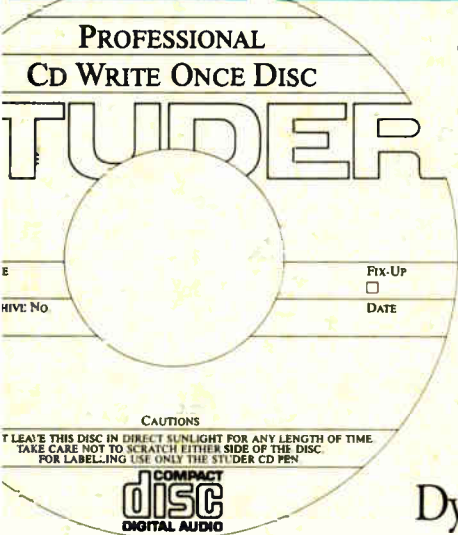


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STUDER

FROM THE EDITOR

You can't really talk about audio today without talking about video, or even film. After all, most of the business in many studios revolves around sound-for-picture in one way or another. And if you're talking about video and film, how can you leave out computer graphics, a neomedia building block that is reaching new heights of usefulness and execution? Graphics lead us to computers and their immense image-generating capabilities. Computer hardware and software have entered nearly every aspect of our lives and careers.

Put it all together and what does it spell?

Multimedia? Is it really an industry yet? Are people actually buying things that feature the "M" word?

There *are* some money-making CD-ROM projects on the market, such as Warner New Media's *The Magic Flute* disc, Discovery Systems' *Nautilus* CD-ROM magazine, and many industry-specific database discs selling from \$100 to well over \$1,000 per disc!

It kind of *is* beginning to seem like an industry, according to my Futuretron Wrist Trend Spotter. It has, after all, a number of large and impressive trade shows. All that's missing, it seems, are the non-vaporious aspects, such as the products, playback devices and marketplace itself. Not too much to ask for a new industry.

My guess is that something to do with packaging will break the thick ice. Just as beautifully designed album jackets helped to drive the record industry to new heights in the '60s, high-quality standardized packaging could very well help move this new technology off the starting blocks. If people concentrate on developing a nice package for the interactive multimedia compact disc (assuming it gets a snazzier name, of course), then there will be downward pressure to produce disc programs that are up to the standards of their packages. This will focus the playback unit's design and lead directly to marketing and advertising. And then, if the bets are good, sales.

So all we need at the moment is to find a place to start—a place that is relatively low risk; that takes advantage of our strengths in media skills and resources; that puts us together with complimentary souls who can assist our exploration of the promising new technology; a place that has a large enough audience to justify the costs of production and the promise of profitability; a place to make a difference in the larger scheme of things.

In the words of Lenny Bernstein, "There's a place for us." We'll be looking for those places in issues to come. Please let us know about your progress in the multimedia arena and we'll pass it along.

New to *Mix* this issue is Dan Daley's "Nashville Skyline" column in the Coast to Coast section of the magazine. Every other month, Dan will keep us abreast of the latest happenings in Music City.

Keep reading,



David Schwartz
Editor-in-Chief

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World Radio History

CURRENT

NAB '91: Progress, But Few Surprises

The 1991 convention of the National Association of Broadcasters, held April 11-18 in Las Vegas, opened on a somewhat uneasy note, as a record number of broadcast and production professionals met to face the future of an uncertain economy. With this in mind, the 700 equipment exhibitors seemed more interested in promoting practical, cost-effective products than pie-in-the-sky wonderboxes. A lot of excitement on the show floor was generated by digital disc recorders, with writeable CD systems shown by Gotham Audio, Sonic Solutions, Studer and Yamaha. The broadcast cartridge machine is one format whose days may be numbered, especially with the introduction of digital cart machines, such as the Fidelipac Dynamax DCR-1000, which records on standard 3.5-inch computer disks.

What really stole the spotlight at NAB were ongoing demonstrations of emerging technologies for digital audio broadcasting (DAB), a hotly contested topic among attendees. While the NAB had initially supported a system developed by the European group Eureka 147-DAB Project Partners, there was a growing interest in a system proposed by Gannett Radio and the Stanford Research Institute, known as Acorn DAB from Los Angeles-based USA Digital Radio. The latter, with possible implementation as soon as 1994, is an in-band system, allowing broadcasters to use their existing frequencies without requiring new licenses.

On the video side of things, production pros were drawn to the "Video Toaster" from NewTek of Topeka, Kan. This broadcast-quality, Amiga-based system offers a 4-input switcher with two digital frame buffers, background color generator and animated or standard wipe patterns;

real-time digital effects (flip, stretch, expand, zoom, roll, push-off, spins and more); internal 50-frame storage; ChromaFX color processing (solarization, tints, negatives, etc.); paint effects; character generator and 3-D animation. Price is \$3,995, including computer and 52MB hard disk.

—George Petersen

Otari Acquires Digital Dynamics

Look for Otari Corporation to boost its profile in the workstation market in the coming year. The U.S. subsidiary of Otari Inc., Japan, announced the acquisition of "all tangible and intangible assets and rights" to products of Digital Dynamics Inc., Greenlawn, N.Y., manufacturer of the ProDisk-464 disk-based digital recording and editing system.

"Otari has been aggressively pursuing a program of product evolution and line extension into the digital audio workstation market," says John Carey, Otari vice president of sales and marketing. "The DDR-10 was our first step in that direction. Now the stage is set to allow us to offer a full line of digital audio recording/editing random access systems."

Mark IV Audio Production/Broadcast Group Announced

Also at NAB, Mark IV Audio announced the formation of a Broadcast/Production Group, responsible for coordinating all Mark IV Audio marketing and product management efforts in TV and radio broadcast markets. It will be directed by Gary Stanfill, president of Vega, a Mark IV Audio company. Other participating Mark IV companies include Electro-Voice, Klark-Teknik and DDA.

Soundworks West Reorganizes

A few months back we reported that Soundworks West, a leading Los Angeles recording facility, had filed

for reorganization under Chapter 11. Now the facility has reorganized under the direction of new president and CEO Bob Siner. Joining Siner on the board of directors are Howard Gann (chairman), Paul Sloman (vice president of sales), Rick Frio and Marshall Blonstein. Roger Nichols, who joined Soundworks in November 1989, has been promoted to vice president of recording, where plans call for the development of a training program for second engineers.

"There were too many personalities at the previous Soundworks," says Siner, who entered the music industry in 1971 as advertising director for MCA Records and eventually became label president. "They spent too much money and didn't bring in the revenue. We are refinancing the entire package, equipment and rents, and we're looking for a joint partner or some new infusion of funds. Preferably, someone with common business interests."

National Commission on Music Education

Education budgets across the country are being slashed, and, unfortunately, music and arts programs are often among the first to go. Over the past year, the National Commission on Music Education, a coalition of leaders from education, government, business and the arts, has held public forums in three major cities and a National Symposium in Washington, D.C. The forums were designed as a fact-finding mission, to exchange local and national views on the importance of maintaining music education in our schools.

More than 75 national organizations are behind the effort, including (in our industry) NAMM, NARAS and the Music Educators National Conference. The organization's credo is simple: "Just as there can be no music without learning, no education is complete without music."

INDUSTRY NOTES

Andreas Koch was promoted to vice president and general manager of Studer Editech, where he is responsible for all company operations. Other doings at Studer Editech: Bruno Hochstrasser was elected chairman of the board, and Bill Mugler is interim president... Otari hired Saul Walker, formerly a consultant to the corporation, as its director of engineering... Nigel Toates is now national engineering manager of Neve; the company also saw the additions of Pat Stoltz, Danny Richey and Bobby Stewart as technical service engineers, and Arnold Toshner as Western regional sales manager... Sunkyong Magnetic/America Inc. advanced Michael Ingalls to the post of sales and marketing vice president of the professional products division... Andy Wild joined Euphonix as vice president of sales and marketing. He was previously VP of sales and marketing at SSL... Rick Sanchez is the marketing specialist at Mark IV Audio's newly formed audio broadcast/production group. Mark IV Audio Canada also reported news: Neil Anderson is now national sales manager; stepping into his former position as Western regional sales manager is Tom Anderson... Trish Heimers, previously vice president of public relations at the Recording Industry Association of America, joined New York's BMG Music as vice president of communications... Igor Sautsky was appointed Western regional sales engineer for Solid State Logic. He will be based in the Los Angeles area... Sam Ash Professional NYC engaged the services of Bob Quinones and Tim Finnegan as pro audio sales reps, and Michael O'Hora as manager of pro audio technical services... Wave-Frame (manufacturers of AudioFrame and CyberFrame DAWs) announced the appointment of Bill Hughes as vice president of sales and marketing... Steve Zaretsky is the new Eastern regional manager of New England Digital. NED also hired Robert Spencer as sales rep for New England, upstate New York and parts of the metro New York area... Loudspeaker manufacturers Bag End appointed a new rep, Bal-

timore-based Techshare Marketing, for sales in Maryland, Delaware, Virginia, southern New Jersey, eastern Pennsylvania and Washington, DC. Their number is (301) 235-3097. Another Bag End rep, William Ray and Associates, is handling Georgia, North Carolina, South Carolina, Tennessee, Alabama and Mississippi. They may be reached at (404) 436-7233... A new marketing agency specializing in pro audio, music, broadcast and computing was formed in England recently: White Horse Group may be reached at (44) 458-73115... Adams-Smith made Bay Roads Marketing Group their New York sales rep. Bay Roads may be reached at (617) 784-1144... Audio Precision (audio test equipment maker) welcomed Wayne Jones... Members of the Atlanta music industry can find free copies of the first annual Atlanta Regional Music Directory in local music and record stores... HHB Communications Ltd. (London) was appointed exclusive UK distributor of Digital Audio Research's DASS 100 multifunction digital audio interface... Passport Designs (developer of music software applications and music data products) appointed Chris Yalonis vice president of marketing... Nexo formed a Southeast Asia subsidiary. Nexo Far East Pte Ltd., with Lawrence Tay and James Yeung as managers... Jesse Walsh Communications opened in Buchanan, MI. The company is designed to provide a variety of advertising and public relations services specifically for the professional audio and music instrument markets. Call (616) 695-5948 for more information... Peavey Electronics was selected as one of 20 U.S. companies to participate in the Department of Commerce's Japan Corporate Program; the program is designed to enhance and promote U.S. trade with Japan... Shelley Harrison joined the staff of Shoreline Professional Video Systems... Daniel Starobin passed away in January. The founder and one-time president of Starr Recording remained active in the music industry while maintaining a counseling practice; he was also a member of AES and SPARS. ■

The Commission just released a 48-page report summarizing its research and input from the regional forums. The report is called "Growing Up Complete: The Imperative for Music Education," and has been sent to every member of congress, senator and governor in the U.S. For your copy, contact MENC Publications, 1902 Association Drive, Reston, VA 22091; (800) 828-0229.

TEC Announces the Les Paul Award

Three five-time Technical Excellence & Creativity Awards winners will receive the first-ever Les Paul Award at this year's TEC ceremony in New York City, October 5. They are mastering engineer Bob Ludwig, Power Station and Clair Bros. Audio. The Les Paul Award was created to honor individuals and institutions who have been recognized over a period of years for setting the highest standards of excellence in the audio production industry.

Also, Ray Dolby, Bruce Swedien and the late Bill Putnam will be honored at this year's ceremony as Hall of Fame inductees. Turn to page 92 for a complete list of this year's nominees. Contact Karen Dunn for more information: (415) 562-7519.

AES Convention Notes

The increasing emphasis on regional AES conventions continues in Japan next month with "Audio Technologies for the '90s," to be held in Ikebukuro, Tokyo, July 2-4. Fax S. Sohma at (81) (3) 3748-0947.

Corrections

On page 10 of the April *Mix*, we incorrectly stated that AMS was acquired by Neve. In fact, the Siemens A/V Group, which owns Neve, acquired AMS, as we reported on page 9 of the same issue.

In the February 1991 *Mix*, we stated that the new Lartec console was the brainchild of Bruce Larson. Actually, it was the brainchild of Lartec Systems engineers Steve Potter, Chuck Pell and John Asman. ■

ULTIMATION™

THE 'ULTIMATE AUTOMATION' SYSTEM

ULTIMATION is an entirely new concept in console automation, designed to let engineers choose the type of system most appropriate to the task in hand.

It can work as either a dedicated VCA system, a dedicated moving fader system, or in a way that combines the best features of both systems. The engineer is free to decide.

By using SSL's unique dual signal path circuitry, ULTIMATION really is the ultimate in console automation.

Main features include:

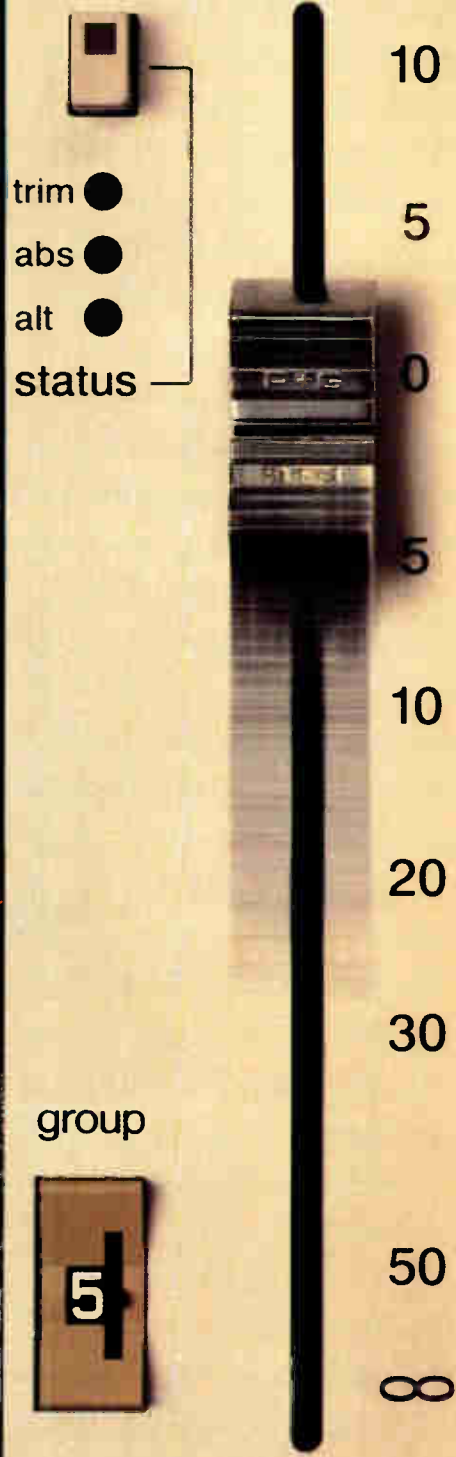
- ▶ Works as standard G Series VCA system, or as a full moving fader system
- ▶ Dual signal path technology allows *combined* operation, providing the benefits of both systems
- ▶ Automatic selection of gain element most suitable to task
- ▶ Reads existing G Series mix data

In keeping with SSL's commitment to system compatibility, ULTIMATION reads all existing G Series mix data, and can be retrofitted to any console using the G Series computer.

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by Stephen St. Croix

THE MUSEUM OF NATURAL MIXTORY

Hi. I write you this month after cleaning up my studio. This means that I actually booked a block of three days all to myself recently, just to go through and polish all of the stupid TT bays, chase new hums and buzzes, and look at the control and synth rooms to see what's there and how stuff is being used. You know, spring cleaning. I actually cleaned my old Master Room, my old

Furman and all of the springs in my old Fenders.

I discovered that out of every 100 cubic feet of equipment, about 20 cubic feet were in use. The rest, well...I guess I must admit that I own and operate an Audio Museum. Not just another museum, a really great museum. In fact, I bet my museum is bigger than yours.

No, wait. Now that I think about it, I suppose that if my museum is bigger than yours, then I must be stupider, because who the hell actually *wants* all this stuff? I guess most of these museums exist because we (museum owners) weren't slick enough to sell our old junk before it crashed head-on into the wall of total obsolescence.

No, wait again. Let me give you a little bit of personal background (don't worry, it's just a little) so that you may better understand how *my* historic collection came to be. Many years ago, I had to walk 23 miles every day to school in the snow and ice, and then another ten miles each evening to my night job, where I made a quarter a week and was happy to do it. Why, you kids today have...Oh, sorry, wrong background speech. I'm saving that one in case I ever have a kid who asks me for a Ferrari to drive to high school.

Okay, here's the right one. Many years ago I got into music as a player because somebody told me it was the best way in the world to meet girls. Music meant very little to me at first, but after a few months I realized that I loved it (also, it was a whole lot safer than what I was doing at the time—drag racing nitro bikes), and I began to study playing seriously.



While there is old stuff that I actually want to keep... most of it is, well, you know: Spider Motels.

If Bob Clearmountain didn't have so many good things to say about our digital multitracks, we might've had room for his picture.

It's not that Bob Clearmountain is camera-shy. It's just that when you consider he's one of the most respected names in the recording industry, his reasons for buying a Sony PCM-3348 DASH 48-track look even better.

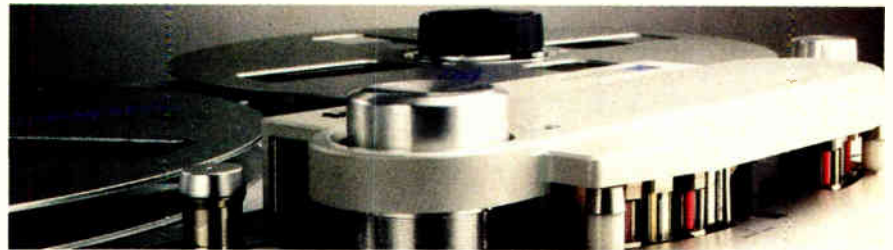
He bought it for the transport. "The first time I ever used a 3348, the transport was so incredibly fast and responsive, I was addicted to it immediately."

He bought it for its reliability. "I've never had any real downtime because of a Sony digital multitrack. Either the 24- or the 48-

Since it's the music that matters, the on-board sampler, internal track "ping-pong" and advance digital output let you be more creative.

track. And believe me, there are other machines that have cost me weeks of my life."

He bought it for digital editing.



The PCM-3348 has a truly unique transport mechanism. Its predictable response, consistent reliability, and incredible speed actually make the 3348 a lot of fun to use.

"Editing on the 3348 is unbelievably quick and easy. I can edit and

re-edit without destroying an original take.

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even better records."

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went in, no matter how long I work with the tape."

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that even truly huge sounds won't reduce you to a 3-piece drum kit.

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While it is true that I got into music for the wrong reasons (well, not *completely* wrong; it worked), it turned out to be the right thing for me after all.

It should not be all that surprising, then, that I also got into studio ownership for totally ridiculous reasons. I liked the lights. It seemed highly unlikely to my adolescent mind that I would ever own or even operate any reasonably appointed interstellar spacecraft, but it *did* seem that I could get essentially the same visual and psychological cockpit effect if I carefully planned and built a recording studio.

It seemed a pretty easy plan. Keep it small and dark, and put as much gear as possible around the pilot's (sorry, the *engineer's*) chair. Not just *any* gear, but gear with *lights*. Recording consoles with lights. Power supplies with lights. Lights with lights. A big, solid door to lock out the real world, with a big red "Go Away, The Flight Simulator is IN USE" light! Or was it, "On The Air"? Yeah, I guess it must have been that.

Well, now I'm all grown up and the studio is real, though I admit that it

*Be on the lookout
for gear that hasn't even
been patched in the last
month. If you have been
going that long without
needing it, you might
want to evaluate if it is
worth its physical
displacement in
your rack.*

might still have one or two more LEDs than the next person's. There is little doubt that this bizarre approach helped determine what ended up in my museum.

While there is stuff that I actually want to keep, like my old modified-beyond-anything-that-makes-sense-even-to-me-ARP-2600, a couple of Time Modulators and Tape Eliminators, of course, the standard *real* museum pieces, LA-2s, Neumanns, and so on—and several classic musical instruments—most of it is, well, you know: Spider Motels.

What am I going to do with a Roland serial-to-MIDI converter that spits out MIDI at the speed of water, my Jupiter 8, my old... All right, I'll spare you, but you get the idea.

I don't really know the answers to these (and some other) cosmic questions, but I *can* offer professional advice (read 20/20 hindsight) on how to prevent this from happening to you, so here goes: Just like keeping weeds out of your garden, keeping a museum from growing in your studio requires constant vigilance and a general awareness of what is going on around you.

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First, be on the lookout for gear that hasn't even been patched in the last month. If you have been going that long without needing it, you might want to evaluate if it is worth its physical displacement in your rack.

Second (now we come to the real secret of successful museum avoidance), learn to sense obsolescence and act accordingly. Be prepared to move when the time is right. Stay in contact with at least four smaller, preferably struggling personal studios so you can find a home for this stuff. Be prepared

to give it away fast if you can't sell it. Do not become emotionally attached in any way to any gear at any time for any reason.

While it is clearly beyond the scope of this column to train you in the magic art of learning to sense obsolescence, I will try to give you a few pointers. I will use a classic case—synthesizers.

A few years ago it was enough to note the month of purchase of a synthesizer or sampler so that you knew when it had aged a year and was in imminent danger of the "Big O." Now, of course, you must note the month, the day and the exact time of day that

you sliced open the box, as a synth's technological clock begins ticking (quite loudly) at that exact moment.

Yes, that is when the race begins. I recommend the following steps before you buy a synth: Have all the doors to your studio wedged open for immediate, non-stop transport of the machine; the musicians in place with their hands in the air over the area where the keyboard will be placed, with their fingers in position for the top chord of the score, and the tape rolling. Then and only then do you call your gofer (who is already in place at the music store with a cellular phone) and start him on his way back with the synth. When he arrives, you rip open the box, throw the unit onto the keyboard stand under the player's waiting hands, and count out the first beats. This gives you a 46.27% chance of actually recording music from the machine before it devaluates by one-half.

Here are three more general pointers that I hope help you:

1) When you can buy a particular model at your local music store—without secret contacts or endorsement contracts—and carry it out *from stock*, you are in trouble. Availability is the first warning sign of obsolescence.

2) When the promised Version 1.0 voice library is available, you are witnessing the second danger sign.

3) When the music store's service department can actually *fix* a broken one—it's over. The machine is officially obsolete. You can usually give it to the next-door neighbor's kid, *if* you do it real fast.

It seems that for today's new digital stuff, the bigger and more elaborate the display, the longer the life of the product. I suspect this to be an evolutionary product of my original "more lights is better" law. If the display is backlit and can actually draw pictures like curves and graphs, you are set for a long, long time, perhaps even five or six months in certain Midwest rural farming areas.

I guess that it can be best summed up by saying that you should keep in mind that these techno-toys have a life not quite as short as sushi, and not quite as long as yogurt. But then again, so does most of the music that we make with them. ■

Stephen St. Croix wants you to know that he is currently offering several beautiful pieces of vintage synth gear for sale.

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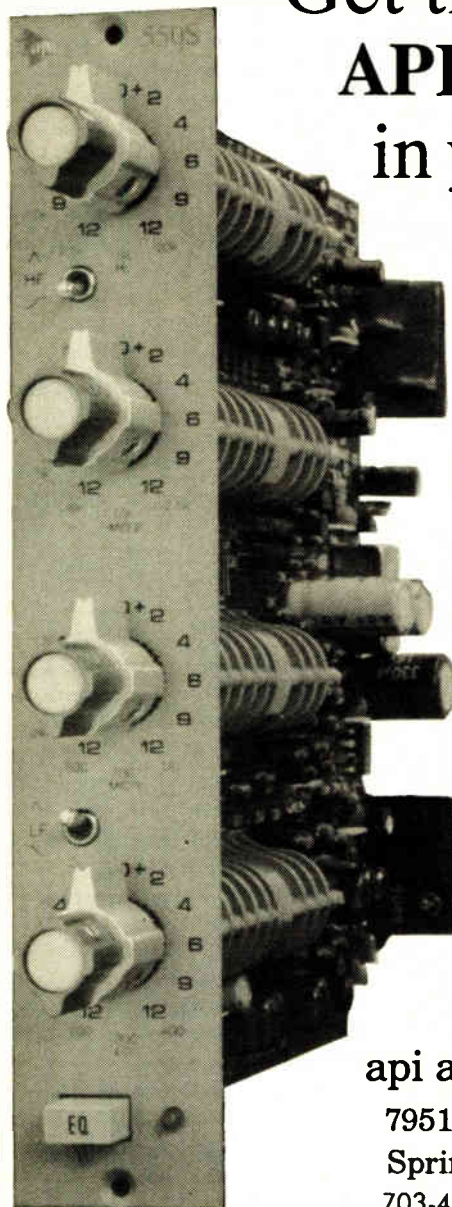
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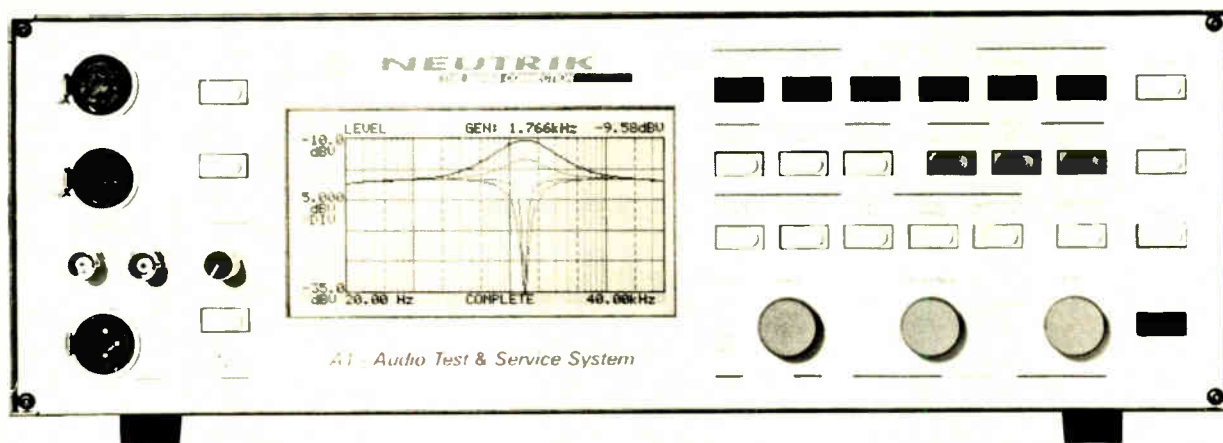
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by Ken C. Pohlmann

ACD RECORDER FOR THE REST OF US

Sure, CD recorders are starting to become commonplace in many studios today. They have quickly found wide applications in cutting reference discs, demo and promo discs, and CD masters, and have even been used in live recording. But these first-generation recorders are often assembled from off-the-shelf hardware and are rather bulky, with at least two chassis. In addition, the need to interface a personal computer to drive the encoder and subcode generator is cumbersome, to



say the least, especially since the software isn't always straightforward. Wouldn't it be great if there was a CD recorder that was contained in a single chassis, and was about as easy to use as a cassette deck? Meet the Studer D740, a truly second-generation write-once CD recorder.

Studer Professional CD Write Once Disc

This rack-mount beauty combines a complete read/write unit, converters, encoder, decoder and subcode generator in a die-cast aluminum chassis the size of a home stereo receiver. It is self-contained and does not require inter-

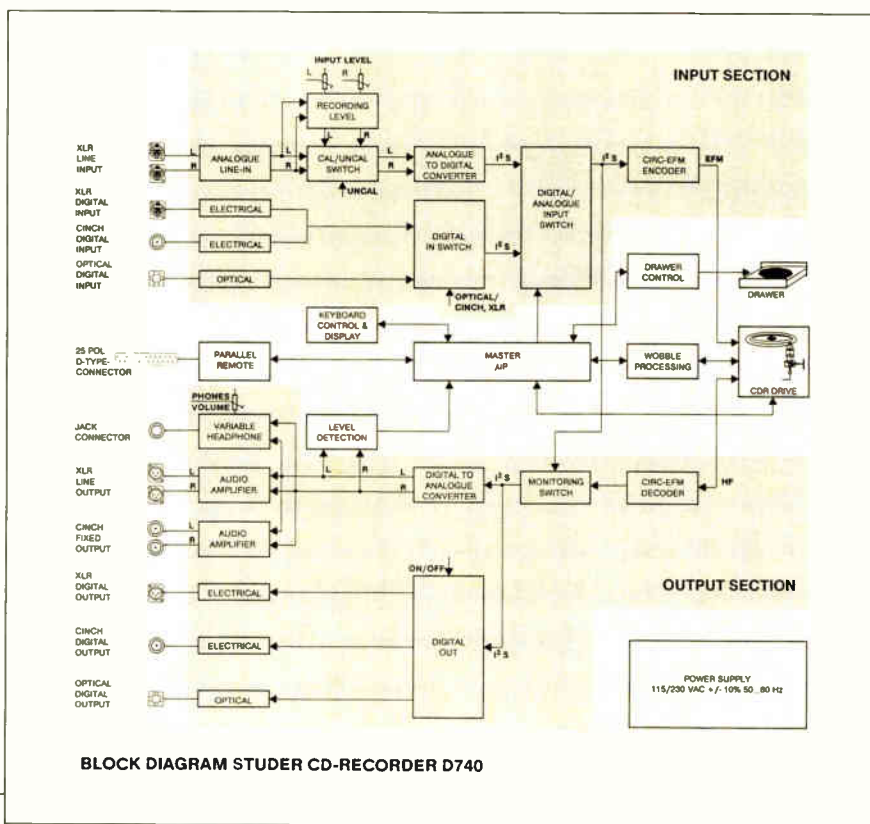


Figure 1

facing to a personal computer. It can be calibrated to studio levels and clocked directly from the digital input signal. A table of contents with track numbers and running times is generated automatically. The recorder adheres to the Red and Orange (part II) Books, so the recorded disc can be played back on any CD audio player.

Although they can be played on Red Book players, write-once Orange Book CDs differ considerably from Red Book CDs. Blank discs contain pre-grooves for tracking purposes, time encoding (called ATIP for Absolute Time In Pregroove) and motor speed control. There are two areas defined at the inner portion of the disc before the lead-in area. The Program Memory Area (PMA) contains data of the recorded tracks—a kind of temporary table of contents. When the disc is finalized, this data is transferred to the Table of Contents (TOC). In addition, the Power Calibration Area (PCA) section of the disc allows the laser to automatically make test recordings to determine optimum laser power for data recording. Generally, recording laser power is between four and eight milliwatts.

Thanks to the Orange Book standard, the D740 can be used in a variety of ways without having to create a master U-matic or DAT tape prior to recording. In particular, the D740 can record passages continuously or incrementally, track by track. As tracks are recorded, the D740 retains non-standard contents data internally. An incomplete disc can thus be stopped and started, but because it lacks the final Red Book TOC, it can be played only on the D740. When all the tracks have been recorded, the D740's "keep" button is pressed, and the D740 writes the completed TOC to the disc lead-in area. The disc is thus completed and can be played in any CD audio player. If a passage is not wanted, it can be marked prior to writing the TOC so that the recorder will not play it back. For example, dead air during a live performance or a bad take can be marked so they are deleted whenever the disc is played back. The data physically continues to exist on the disc, however.

Around the back of the D740 chassis, you'll find all the professional and consumer interfaces you'll need: balanced XLR line inputs and outputs; fixed, unbalanced RCA connector outputs; digital inputs via optical, RCA

and XLR (S/PDIF and AES/EBU formats) connectors; digital outputs via optical, RCA and XLR connectors; and a 25-pin parallel remote socket with fader start.

As one would expect, audio specifications are top-notch: frequency response deviation is no more than ± 0.2 dB, THD+N is under 0.008%, channel

separation is greater than 80 dB, and phase linearity is less than 3%. Philips-made, one-bit bitstream converters are employed in differential mode. Maximum input level at 10k ohms is +24 dBm and maximum output level at 600 ohms is +24 dBm. Of course, sampling frequency is fixed at 44.1 kHz. The unit measures 19 inches wide, 5.25 inches (three rack spaces) high and 13.5 inches deep. A complete block diagram is shown in Fig. 1.



Studer D740 Compact Disc Recorder

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Typical CDR discs are used, with a gold reflection layer with approximately 70% reflection ratio, organic dye recording layer and polycarbonate substrate. Maximum recording time is 74 minutes, or about 650 MB. As with other discs of this type, lifetime is projected to be greater than ten years, and discs should not be exposed to direct sunlight for long periods.

The D740 was developed jointly by Studer and Philips, and is targeted at radio broadcasters; jingles, sound ef-

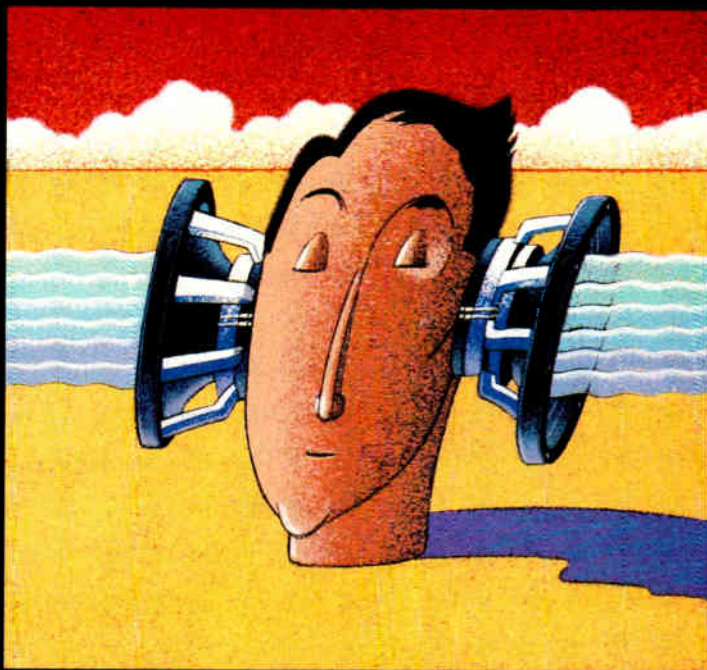
fects, commercials and music libraries can be recorded to disc for archiving and quick access. Of course, a machine capable of performing those tasks is suited to many other environments as well. Recording studios and post-production and mastering houses are sure to embrace this compact, easy-to-use recorder, as well as more than a few high-end consumers.

The D740 was first shown at the 90th AES convention in Paris, and de-

livery will begin in late summer. Studer will supply its own line of professional CD write-once discs. Price has not yet been announced, but considering that competition for this recorder is already shaping up—Pioneer and Kenwood have shown similar designs—pricing will have to be competitive. In addition, Denon is debuting a CD recorder for broadcasters, designed to replace cart machines. And when the Kodak/Philips Photo CD system hits the streets in 1992, volume production of CD recorders will begin in earnest, perhaps triggering a drop in all recorder prices. Until then, I imagine list price will be less than \$20,000. ■

Ken Pohlmann wrote the book on compact disc technology: The Compact Disc Handbook of Theory and Use. It is available from the Mix Bookshelf, along with a signed affidavit that the word "herringbone" does not appear anywhere in the text.

by Mel Lambert



SELECTING MONITOR SYSTEMS

THE HOLISTIC ROOM/SPEAKER INTERFACE

In the perplexing and highly subjective world of professional audio, there are few absolutes. Just as a musical performance affects each of us in different ways, the accuracy of a particular monitoring system is a potential minefield of subjective impressions. No single studio monitoring design stands head and shoulders above any other, and in many cases, we lack sufficient understanding of the basic laws of acoustics to even make a meaningful comparison of monitoring systems.

Our industry has demonstrated that it can develop the innovative technology required to digitize a signal, store it on a variety of media, perform sophisticated processing, and then deliver it to the consumer as a compact disc or digitally encoded soundtrack.

Why is it so difficult to produce a full-bandwidth signal in the engineer's listening environment?

The dilemma can be attributed directly to the very way in which our hearing apparatus work. A great deal of our auditory perception is based upon psychoacoustic cues and ear-brain computations. For example, there are certain primal frequencies to which we respond autonomically; such a response relates to the body's *autonomic* or "automatic" biological response mechanism. We don't really understand much about what triggers the terror response, for example, or the comforting reality initiated by subsonic, neonatal sound signatures.

But, beyond the psychological interplay that certain sounds engender,



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there are more important parameters that influence the way we perceive sound. They affect the quality and linearity of a monitor system, with its sometimes non-complementary, time-dependent and time-independent characteristics. Having produced a pressure waveform from two ideal point-source radiators, we can accurately model the paths of these signals as they interact and reflect from the walls, ceiling and floors, then combine at the listening position. With sufficient computational power, we could easily

predict the impulse response of the modeled environment and come to some useful conclusions about the linearity of the resultant waveforms.

What would be harder to predict, however, is the time-dependent effect that the room and its contents have on these single-frequency test tones—being produced, let's assume for the moment, at fixed levels. Add in continuously changing levels and frequencies, and it becomes clear that the dynamic interplay of program material strongly influences the way the time-averaged signals are perceived at the listening position.

Now consider the time-dependent effects on replay level and frequency content of absorption by the materials making up the room's boundaries, and a room model comprising a multidimensional array of simultaneous equations that would be virtually impossible to compute in real time. It's no wonder that many sound system designers and acousticians rely upon intuition and prior experience when developing control room layouts.

This can be good news and bad news for the owner of a recording or production facility. If the designer is worth the fee, then his or her ideas can be heard in a number of environments where the results are evident. We need to acknowledge, however, that acoustics, like every other scientific endeavor, is constantly being updated as new information comes to light. Unfortunately, our industry is too small to maintain a large pool of researchers who can extend the boundaries of our knowledge on control room acoustics.

Of course, there are many talented individuals employed by loudspeaker manufacturers, acoustic design firms and other organizations actively involved in the development of accurate-sounding playback environments. By and large, however, their activities are relatively uncoordinated—not too surprising, given the competitive nature of the studio-design industry. The result is that our understanding of acoustics and sound propagation within closed environments remains pretty much open for interpretation.

How can I be so adamant that this body of fundamental information is still unrefined and constantly evolving? Simply by looking and listening to a number of the newer rooms that have been completed within the past 12 to 18 months. Almost without exception, each of them looks and performs differently. A project recorded and mixed in one room will sound slightly different (notice that I pass on offering good/bad value judgments) in another. Cosmetics aside, the actual look and feel of each room is also very different, even if the same designer or design firm was involved. This suggests that our theories of the way sound should be projected and contained within the listening environment—let alone what constitutes the "ideal" SPL/response balance we are after—are far from mature.

In particular, I am still surprised that few of these contemporary designs



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take into account the fact that day-to-day changes in the environment can

affect the way sound behaves within the room. We would expect the physical material from which the monitoring system was constructed to deteriorate

CUTTING TO THE CHASE

HOW TO SELECT A STUDIO MONITORING SYSTEM

Given the complexity and high number of variables involved in the monitor/room interface, what is the best and most efficient way to evaluate studio monitoring systems?

My best advice would be to consider the following:

1. **Choice of Venue:** Always evaluate the monitor system you plan to install in the room itself, in the exact position it will be used. Simply setting up a half-dozen pairs of near-fields on stands in the studio, and expecting to be able to evaluate one against the other is foolhardy, to say the least. Locate the cabinets exactly where they will be used every day; in that way you will be saved from eye- and ear-opening surprises! Orient the monitors in the familiar equilateral triangle layout, with 60° subtended angles and (if possible) at ear level; experiment later with variations.

2. **Auditioning Materials:** Choose audio examples with which you are very familiar, preferably a first-generation track that you recorded yourself. Use simple, acoustic-based material to start with, and listen at modest levels. (Save your ears and critical listening functions for as long as you can.) Gradually work your way to more complex material as you determine the degree of accuracy in faithfully reproducing the sounds on your tapes or favorite CDs.

3. **What to Listen For:** Assuming that you are familiar with the material being auditioned, listen for both linearity—smooth response at all frequencies of interest—and accuracy. In an “ideal” monitoring system, the stereo/surround sound image should appear to be floating in space, with neither the speaker locations nor the walls detectable when you close your eyes. In other words, the sound should not appear to be coming from the speaker locations. To ensure that the response is smooth from low to high frequencies, try one of the better-sounding sample CDs that contain

glissandos or piano runs, and at equal playback levels.

4. **What Might Be Wrong?** Space precludes me from listing every factor that might upset the creation of a viable, accurate and realistic stereo/multichannel sound image. But consider the following:

- Are the amplifiers matched to the speaker system? (Try auditioning a set of the new generation of high-definition, self-powered monitors if you are still unconvinced that amplifier-speaker matching is of critical importance.)

- Do the speakers and amplifiers have sufficient power-handling capacity to cope with high-level transients? If they sound good at modest levels but rather odd at high SPLs—stereo that wanders off center, notes that fall away too suddenly, or the presence of clipping artifacts—then you might need more powerful amplifiers, or cabinets with more SPL efficiency and/or capacity.

- Is the roughness or “choked” sound you might be hearing attributable to other, non-acoustic factors, such as console splash or standing waves/resonances within the control room? The former can be eliminated by re-aiming the monitors, while the latter can be minimized by moving the cabinets and/or altering the playback level.

5. **Electromechanical Factors:** Ensure that you are comparing apples with apples and not confusing the issue by evaluating systems that are unequal to the job at hand. For example:

- Keep amp-to-speaker cables as short as possible, and use high-quality materials with adequate power handling.

- Ensure that both ends of the amp-to-speaker cable are terminated properly with hardware that is up to the job of reliably passing the power you are running through the system.

- Look within the cabinets for high-quality components and circuit boards, linked together with reliable, robust connectors, terminators and cable.

—ML



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Starr goes on to say, "We just did a new theme for the Arsenio Hall show, and we did fantastic things on the intro with the new Akai sampler. It wasn't a case of eliminating musicians, but of adding elements that we could only imagine before. Also, I am just finishing my first solo album in which I used the Akai sampler for a wide variety of instrumental, vocal and percussion tracks."

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over time due to moisture, atmospheric pollutants and natural aging. We also need to consider the myriad ways in which the room's internal volume and reflective surfaces influence the sound characteristics. A well-behaved room with a single engineer located at the sweet spot, and monitoring at modest levels, will produce very different results when filled with a dozen people who need to have the boxes turned up by several decibels. And if the ambient temperature and/or humidity is allowed to rise beyond the values for which the room was optimized, the spectral balance of the material being monitored may very well tilt toward some less-acceptable portion of the audio bandwidth.

Why is it so difficult to produce a full-bandwidth signal in the engineer's listening environment?

All of this suggests that no acoustic theory is yet to be trusted as a solution to the vexing problem of making sound behave within a closed environment. Furthermore, a great deal of investigative work needs to be done on the time-dependent nature of sound propagation—particularly at medium to high monitoring levels. A holistic approach to the problem will deliver a more meaningful insight than theories of cabinetry or travel-path analysis.

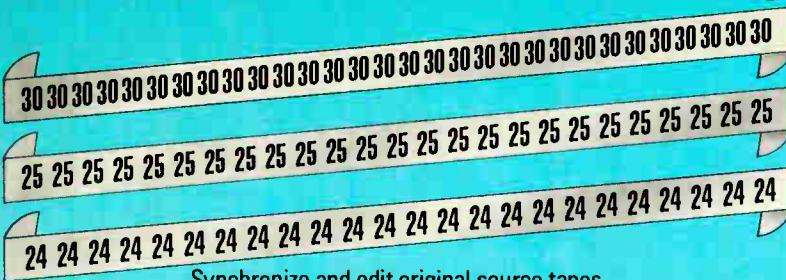
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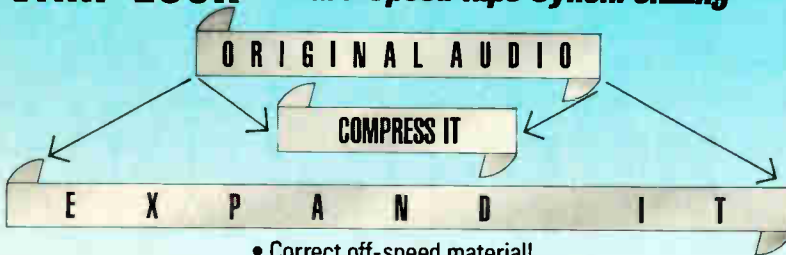
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area supports many quality recording facilities, and the recording industry is growing all the time, but with a twist.

Miami supports a population that is of more than 50% Latin-American origin, and this makes it a prime place for a thriving Latin recording industry. The Latin culture has an influence on every aspect of Miami life, especially the music. The song blaring on the radio of a passing car or being played as background music in a store will usually have lyrics in Spanish rather than in English. As John Haig, a freelance engineer who has worked with such Latin greats as El Puma and Willie Chirino, puts it, "It's kind of hard to avoid, so I don't even try. If I go to get a cup of Cuban coffee,

I put money in the jukebox and listen to the latest Latin hits."

George Blackwell is an engineer at Soundtrack Inc., where Braulio and Chayanne have recorded. Soundtrack is a regular venue for audio for advertising spots in Spanish. "Every Spanish-speaking country has a different dialect," Blackwell says. "There's Castilian Spanish, Cuban Spanish, Venezuelan Spanish and many others. Likewise, each country has its own rhythms and styles of music. Miami has people who speak all of those dialects and musicians who can play all of those styles, and play them well. Miami is the logical place to come to record since it has the resources to support any style of Latin music."

Jim Thomas, an engineer at New River Studios who has worked with Ricardo Montaner and Yolandita Monger, adds support to this statement. "I've worked with a producer from Caracas who does most of his tracking in Caracas," he says, "but he comes here to do the sax solos because he

Latin Recording

GETS HOT IN SOUTHERN FLORIDA

BY MATTHEW LINK · ILLUSTRATIONS BY STEVE MEYERS





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A typical salsa or merengue band has a sound, style and attitude completely different from any other kind of music.



likes the way a certain player here plays."

The term "Latin music" refers to any one of a number of different styles of music, from the traditional salsa or merengue to pop/ballad singers to rap, and they are all recorded in Miami. Let's look first at the more familiar styles like pop or rap and see what characterizes a typical Latin band.

Every engineer seemed to agree that, for the most part, recording Latin music really isn't that much different from recording anything else. The instrumentation differs slightly, with Latins having more percussion, but aside from the language, that's about all. Even the different instruments are variations of familiar ones. For example, the charango is made from an armadillo skin and is much like a mandolin; and the bandoneo is a form of accordion. Latin music has its own character, though, some of it fairly ambiguous and some of it very consistent.

Most of the artists Thomas has worked with have brought in live players for all of the parts. "Many of them use strings, and they will bring in a live string section rather than use a synth," he says. Steve Robalard of International Sound Inc. agrees: "There is a lot of percussion, and all of that is done with live players." International Sound has seen Latin artists Franco De Vita, El Puma and Marcia Mendez.

JC Ulloa and Will Tartak, engineers at Midiland Recording Studios, have a slightly different view. Ulloa says, "It's only in the past six months or so that we've started doing more stuff live. Before that, a lot of it was sequenced." Tartak adds, "This is especially true for the Latin music we've done. It's not that it's been cheaper to do it sequenced. In fact, sometimes it's been more expensive, but they wanted a sequenced sound." Lisette, Emmanuel, Jose Feliciano and rapper Que Pasa have recorded at Midiland, and the studio is kept running 24 hours a day doing mostly Latin projects.

On the machine side, Blackwell

feels that "Latins are generally more flexible in trying new technology than many Americans. They're more likely to use a sequenced track or perhaps mix live strings with synth strings, for

example."

Haig, too, says, "Some of the MIDI percussion is replaced, some is not. The programming is rarely quantized, so it still feels live. It's like capturing real

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playing in a computer."

On the more consistent side, there is a distinct quality to a Latin pop mix. In general, the vocals are way up front and very wet. Thomas compares an "American" mix to a "Latin" pop mix: "In an American mix, the vocals are tighter and dryer and more back in the band. The drums are louder and in your face. In a Latin mix, we tend to bury the drums and spread out the percussion. The vocals are the most important thing. There are more effects on the keys, and on some ballads the snare is really wet." According to Tartak, "In Latin music, they're selling the words

and the music is secondary."

"When we mix, they want the breath and the sibilance of the vocals really brought out," Robalard adds. "I've had some of the songs translated, and the words are really intense." Haig just finished working on Willie Chirino's latest album and remembers a song called "Cuba." "It's not political or anything," he says. "It's just recollections of Cuba for a guy who can't go back."

A song may occasionally be re-mixed, depending on where it is released. This usually occurs if it is to be released in Europe as well as the Americas. A mix for Europe tends to be

a little dryer than one for Mexico or South America. Robalard notes, "Sometimes we will record two vocal tracks, one in Spanish and one in Portuguese, and do two mixes depending on which countries will be hearing the tune." Percussion tracks are changed occasionally to fit the styles of the countries in which an album is to be released.

The younger generation of Latin artists, such as Chayanne or Que Pasa, see less of a distinction between an American mix and a Latin mix. Blackwell says, "The age of the producer and what genre of music it is makes a lot of difference. They're not trying to imitate the American sound. It's just that their idea of what sounds good is coming closer to what Americans think sounds good. For example, Chayanne's people don't say 'Make it sound American.' They say, 'Make it sell 2 million records.' If it sounds more 'American' in the process, then..."

Several engineers feel that the overall sound of Latin music is several years behind the American market. As Ulloa states, "Latin music is about five to ten years behind the American scene. You'll hear Latin mixes now that sound like American mixes did then."

No matter what the trend is with pop Latin recording and mixing, it's a whole different ball game when it comes to recording more traditional Latin music. A typical salsa or merengue band consists of a piano, bass, congas, bongos, timbales, tambora (a drum which is held on the lap while both sides are played), guiro (a metal cylinder with holes that is played by scraping a metal rod on the outside), kick drum, several cowbells, a horn line (usually consisting of trumpets, trombones and saxes), and anywhere from one to five vocalists. It is a sound, style and attitude completely different from any other kind of music.

You won't find any sequencers running during the recording of a salsa band. Frank Miret, an engineer at Soundbooth Recording Studios, has worked with salsa artists Alex Leon, Hansel and Luis Enrique. "It's hard to bring something new into salsa," he says. "There's not much room for high-tech. The buying market just won't put up with it. They feel like it's an outsider trying to spice up their music."

"We are just starting to see some salsa bands using a synth," adds Carlos Granados, owner and engineer at Miami Sound Studios, where Miami Sound Machine recorded their first two

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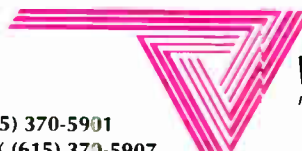
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"In a Latin mix, we tend to bury the drums and spread out the percussion. The vocals are the most important thing."

albums. Granados has also recorded Grupo Niche, Johnny Ventura and Willie Chirino.

The main problem of recording salsa or merengue is that not only do they prefer live instruments, but they prefer a live feel, so usually everyone is playing at once, live to tracks. This presents the obvious problem of leakage. If you have a big enough studio, this can be solved by putting everyone

in different rooms, but for those without that luxury, there are a couple of possible solutions.

First, and the most obvious: Don't record everything at once. "We usually record the rhythm section first, with the vocals, and then add the horns and auxiliary percussion, like the cowbell and maracas," Granados says.

Miret, however, records "the whole band live to tracks, and then goes back

and re-records each track individually. This not only solves the leakage problem, but the arranger/producer usually plays in the band, and this way he can listen to the tracks as they're being recorded."

As far as mixing goes, aside from maybe some reverb on the vocals, there are no effects on the salsa band at all. "It's a pretty straightforward and dry sound," Miret says. "It goes back to what the buying public wants to hear. Most of the stuff we do here goes out to Puerto Rico, Los Angeles, New York and Dallas. If something is a really big hit, it might go to Europe."

Whether salsa or pop, it's all in the same language, and some of the engineers don't speak that language: Spanish. This is not as much of a problem as it would seem, however. Most of the artists speak English or else bring along a translator. But some of them don't. Thomas explains: "The language problem isn't that bad. You just have to pay close attention. Sometimes, after they get comfortable with you, they forget that you don't speak Spanish and rattle off something that is totally incomprehensible. But other than that, it's not really a problem. Just learn the important words and always check to make sure you're not going to erase the wrong thing."

Haig doesn't speak Spanish either. "The only thing I run into difficulty with is vocal punch-ins," he says. "I count, musically and rhythmically, and listen to it several times before I actually do it, since I can't listen very well to lyrics." Music is, after all, the universal language.

And so, with the language barrier turning out to be not so much of a barrier, Miami has taken the Latin recording industry into its arms and both entities are doing very well. So the next time you need a vacation, think of Miami. And the next time you need a place to record, think about this: There are worse ways to relax after a long session than sitting on a beach with a tropical drink and listening to the latest remix of "Hot, Hot, Hot." ■

Matthew Link is majoring in Music Engineering at the University of Miami, and swears he caught Ken Pohlmann dancing to merengue late one night in the studio.

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**How
Studio Pros
from the West Coast
are shaking up
Music City**

The L.A.-Nashville Connection

Who would have thought that two of Los Angeles' top studio musicians would end up in Nashville rehearsing for free in a chicken shack? Bill Cuomo and Craig Krampf both laugh as they recall the night they met up with two Nashville musicians, Kenny Greenberg and Michael Rhodes, to rehearse Ashley Cleveland's album project. "It was like being back in high school," Cuomo says.

by Missy Baker

"It was getting focused again about why we are in the music business to begin with," Krampf adds. "We all started because we like music and it means so much to us."

Through the years, as more competitive studios opened up and the Nashville music scene expanded, a large number of one-time Los Angeles denizens began to gravitate toward Music City. Vince Malamed, keyboardist and songwriter, notes, "Nashville almost goes out of its way to lure you. It's almost like

the sirens are calling you."

Malamed says he was initially reluctant to record with Rosanne Cash in Nashville. "I figured there would be guys walking around with guitars around their necks and that I'd be staying in a some downtown hotel with a bunch of honky-tonks," he says. Four months after that first session, Malamed relocated to Nashville.

"The misconception is that people move here because their careers are over in Los Angeles," says Josh Leo, former L.A. session guitarist and now producer and vice president of A&R for RCA Records in Nashville. "You'll find that people work harder and longer here than they do in L.A. We all moved here to play music. If we skimmed off the top of all the serious, major musicians and put them in a room, you would find that's most of the people who have moved here."

There is also a stigma attached to

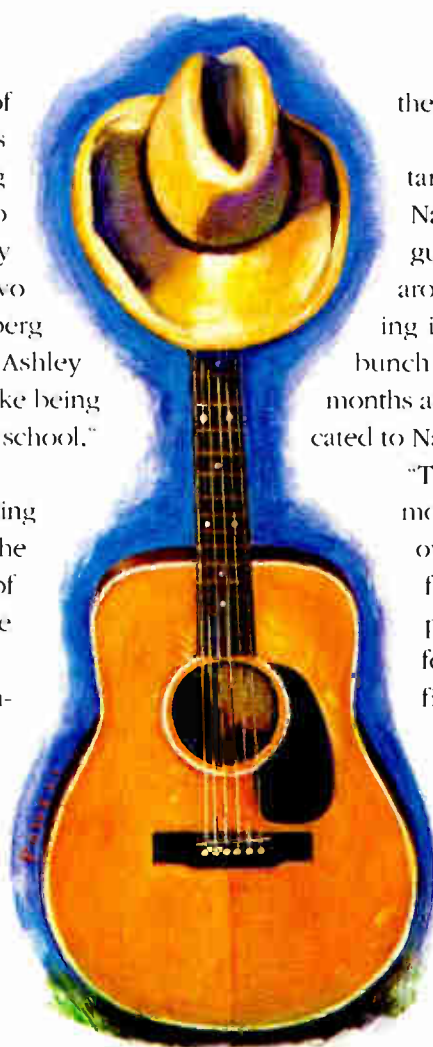


ILLUSTRATION: CHARLIE POWELL

Nashville that all of those re-locating must fight it out with their New York and L.A. counterparts. Jim Photoglo, now a songwriter in Nashville, says, "For the longest time, both coasts and London looked at Nashville as the red-headed stepchild, so we have to work that much harder to prove ourselves."

One reason for the current relocation is L.A. burnout. Drummer Paul Leim says: "I was actually sick of driving. I got to the point where I was spending two to three hours on the Ventura Freeway every day, and I didn't see my family." For Rosanne Cash and Rodney Crowell, wanting to move to Nashville was as simple as not wanting to raise their kids in Los Angeles.

The move was, however, a natural transition for

PHOTO BETH GWINN



Vince Malamed

Leim. After commuting to Nashville for years and securing several built-in accounts, "It was just a matter of living in L.A. and commuting to Nashville or vice versa," he says. "I don't want to give the wrong impression: This is not a city with streets paved with gold. I've seen a lot of people move here who can't get work."

Like several players, drummer Steve Turner always had it in the back of his mind to move to Nashville. Turner moved out to L.A. after graduating from Florida State. There he had a successful career as a studio player, but "I never got used to life in Los Angeles," he says.

The move for Turner was a difficult one. After working continuously for ten years, he had to start from scratch following the move. He toured during the first summer with Emmylou Harris and Don Williams, and he has



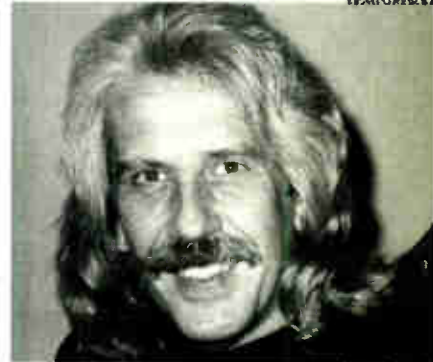
James Stroud

slowly worked his way into the Nashville studio scene.

Krampf was another who packed up and left Los Angeles at the peak of his career. "There was basically no work in '88," recalls Krampf of his first year in Nashville. "Slowly, I started meeting people and doing some demo work. Drummers were shocked—going from the 150 albums that I've done and going back to doing demos, but it needed to

be done." After that humbling introduction to the local scene, Krampf began producing rock acts in Nashville on a demo level and on a national level with Melissa Etheridge and up-and-coming artists Face Of Concern and Ashley Cleveland. "I felt that I've been ready to produce for about ten years now, but production is a Catch-22. Thanks to the Melissa Etheridge album, it provided that smidjeon of credibility so people know I've done something."

PHOTO BETH GWINN



Craig Krampf

Being one of the first of the L.A. invaders, Jimmy Bowen had a difficult time working his way into the Nashville scene when he arrived in the mid-'70s. "They had their own little world that they had control over for 25 years, and they liked it that way," Bowen says. "They didn't want to be invaded, but it was time for a change. Country music had technically fallen behind the rest of the music scene."

As a record company executive for several of the

Nashville divisions of major labels, Bowen helped get the Nashville scene into shape and stimulate country music to become more technically competitive with pop music. "When I came here," he says, "albums were costing \$15,000 to \$18,000, and this was 1977. Now we spend \$100,000 to \$150,000. They fought it



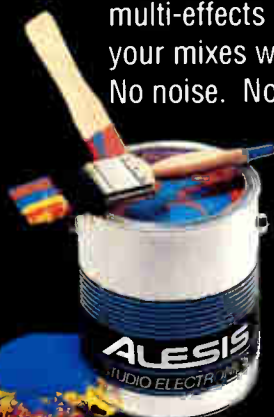
Paul Leim

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tooth and nail, but they lost.

"What's been great for country music with all these musicians from L.A. and other places moving here is that they haven't played it, so it's new to them," he adds. "Although it's simple, they have a new excitement about playing it. So if you listen to country music today, all of the new acts sound like young people doing the country music of 45 years ago. It just sounds better."

Of course, there are still differences between the two recording centers, and each has its own advantages and disadvantages. As a huge metropolis, L.A. has a lot more to offer than Nashville. After all, not only is it a huge music town, it is also home to the film and television industry, which generates work for both studio musicians and technicians. However, it is Nashville's small size that makes it more attractive to some. The studios are, for the most part, concentrated in one small area. Session players, engineers and producers sometimes can walk from one session to the next. The small size also helps to build a community and camaraderie among the musicians. "It's a city of a million people," Rosanne Cash

says, "but the music community is pretty tight."

Nashville also differs from L.A. in the sense that it is a songwriters' town. According to James Stroud, "Everything in this town is based around a great song: the publisher, the writer, the artist, the music."

"There must be 3,000 to 4,000 aspiring songwriters in this town," Bowen adds. "You can go into the 7-11, and before you get your change you have to hear a song. There's a magic to it that you don't get anywhere else."

Songwriter Becky Hobbs decided to move from L.A. to Nashville in December 1981. "L.A. was a great place to learn," she says. "It was like boot camp for Nashville. You could make mistakes out there without anybody finding out about it." Hobbs also adds that Nashville is more immediate than L.A. Songs can be written and recorded in the same day. "It's more stimulating to my creativity," Hobbs says, "because I can see the light at the end of the tunnel."

Although country will always be king, Krampf, like many others, is confident that the music industry on both coasts will catch on to the bur-

geoning Nashville rock scene. "If you think back to what Nashville meant to the birth of rock 'n' roll," Krampf says, "some people have said that's happening again. It does go in cycles. It has been going back and forth between the coasts. Now we have a third side jumping in."

James Stroud moved to Nashville after spending time as a drummer, engineer and producer in L.A. "I think that L.A. is very important for this town and this town is important to L.A.," Stroud says. "We can't forget where we're from. That's what's making this music so fresh right now. They are on the cutting edge [in L.A.], and it's different from what's down here. But at the same time, L.A. has something to learn from us, and that is song structure, lyric content, melody and emotion from the music. It's the soul down here that they're needing, but at the same time we need their freshness."

Krampf adds: "The creative spirit [in Nashville] and the people rooting for one another reminds me of L.A. in the mid-'60s when there were all those local bands—The Byrds, The Doors, Love and The Seeds. It was all so new that there was a spirit among the ses-

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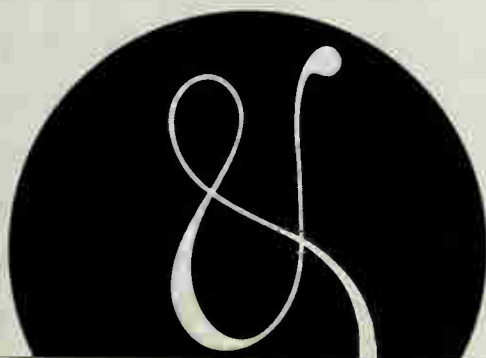


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sion musicians. It was just incredibly alive."

Like all stories, there are some down sides to Nashville besides the lack of beaches and great restaurants. While there are many good studios, more world-class facilities are needed if the city hopes to attract even more business from the outside. "If you want more people like Steve Winwood or Peter Wolf to come here to record, then we have to get more studios," Josh Leo says. "There are only a few that can compete with New York or Los Angeles."

Studios also need to be maintained. Bill Halverson, a former L.A. engineer now working in Nashville, is waiting for people to pay more attention to the studios. "In L.A., maintenance was done before it fell apart," he says. "Here

there is a mentality that you work around it. Not many of the studios have full-time maintenance."

Nashville's music industry is quickly growing and expanding to accommodate these movers and shakers from the West Coast. They are bringing back to life a once-moribund country music industry with their rock influences, and they are encouraging all styles of music to flourish in the area.

"I'm looking at the future and that's why we moved here," Steve Turner says. "The work is here, and I think more work will be coming. This is the future Music City, for real." ■

Missy Baker currently divides her time between Nashville and Xavier University in Ohio, where she is a student.

.....

*There are many refugees to the country format,
which explains why country albums
are riding high on the pop charts.*

Is Country Music Entering Its Next Golden Age?

by Robyn Flans

"God bless rap music," says Josh Leo, vice president of A&R at RCA/Nashville. "It's the best thing that ever happened to country. I mean that in all sincerity. I hope it lives forever, because the longer rap music is on the charts, and the more it takes over CHR, the more it pushes listeners to look for something else on the radio. So they start doing that dance where they push buttons on the radio, hoping that something is going to come on that they like.

"My theory," he continues, "is that if I'm producing enough contemporary country records—the records that are on the edge, that are not real traditional and a little closer to the rock 'n' roll scene—the more chance I have of those people stopping when they hit that button. They may not know it's country music until two or three songs down the line, and say, 'Gee, I've just been

taken in. I've just been listening to country and didn't know it.'"

Indeed, there are many refugees to the country format, which explains why country albums are riding high on the pop charts. (During the week of March 2, Clint Black was #35 and Garth Brooks was #27 in *Billboard*.) In fact, country is enjoying a genuine heyday, unlike the early '80s Urban Cowboy craze, which Harold Shedd, PolyGram's creative vice president, suggests was more about boots and hats than music. This time it's definitely about music, for the records are not being played on the pop stations; and the chart numbers reflect sales, which has not normally been a strength of the country genre.

"For the first time, we're selling two, three million on certain albums," says Capitol/Nashville president Jimmy Bowen. "It's marvelous for country and country radio because this new consumer has money, whereas the country listeners in the past were an older audience buying more through television than through retail."

The broad spectrum of music coming out of Nashville companies these days is exciting. PolyGram is

—CONTINUED ON PAGE 43

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—FROM PAGE 41, COUNTRY'S GOLDEN AGE? experiencing its two best years yet, which is partly a reflection of Shedd and his team (assembled around two years ago) and partly due to their two best-sellers: Kathy Mattea and the Kentucky Headhunters, representing opposite sides of the scale. Mattea is considered more on the traditional side of country, in a folk vein, while the Headhunters have been Nashville's on-the-edge marvel of late.

"I don't think it's a trend to a more pop sounding-type of music," Shedd says. "I think it's a broadening of the format and the base of what people perceive to be country. A lot of the surveys are coming back saying that our demographics are 18 to 35, which is a great place to be in country music." Shedd has been instrumental in broadening that base from his time producing one of country's most successful acts, Alabama, to his more recent days of bringing K.T. Oslin to the foreground, and now his introduction of the Headhunters. His willingness to take risks has contributed largely to the acceptance of progressive country music.

But it is still arguable as to whether country radio has stretched along with the listener. The Headhunters, the perfect case in point, have had only one Top 10 LP, while they have sold 1.4 million records, a particularly large number for a country act.

"I came from radio years ago, so I understand it," Bowen says. "They're in the business of selling groceries, not music. They use us as entertainment in between commercials. So each radio person today works for an investor who bought the station, who says, 'I've got seven percent of the market. Don't lose it, and if you do, you're fired. If you increase it, you get a bonus.' That's going to cause them to be conservative, and I understand that, so stretching country music is hard. Steve Earle stretched them a little, Lyle Lovett stretched them a little, Nanci Griffith stretched them a little when I was at MCA. And it's going to continue, but it's going to be slow."

Jim Ed Norman, president of Warner's Nashville division, agrees: "There's no sense in trying to beat up radio and suggest that

radio is not pulling its weight. Radio is not in the artist-breaking business; it's in the advertising business. Although there was a new character that came to the business six or seven years ago with new signings, and it all pulled together," he says. "Radio felt for the longest time that people didn't want to hear new artists. Then all of a sudden it came to grips with the fact that people *did* want to hear new artists after all."

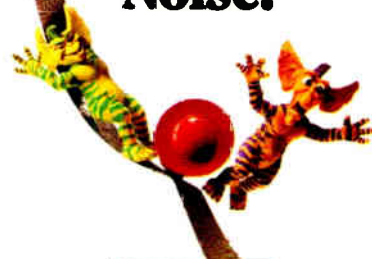
"The big successes on radio right now are really traditional—Garth Brooks, Clint Black, Randy Travis, Mark Chesnutt, Alan Jackson, Ricky Van Shelton," says Josh Leo. "There are other people, like Mireca Berg and Kelly Willis, who are a little more contemporary and are having a harder time at radio. But we're getting great press on these people and great video. Mireca Berg has not gotten into the Top 20 yet with three singles, but she's up to 110,000 albums, so it's through press and word of mouth and video. You'll talk to somebody down the street who will say video is a bunch of shit. We are definitely having a big war down here among us. Some labels say video doesn't mean anything and we don't need it, and some of us disagree. The Kentucky Headhunters are a prime example. How do you sell 1.4 million records with one Top Ten single? Press, video and TV."

Jimmy Bowen agrees that the more radio-worthy acts are definitely the traditional males. "What is working today is traditional music with a contemporary sound," he says. "Country music didn't sell for years because it was a minority music and treated like one. Not much money was spent on the making of the music, the promoting or the marketing."

When did those budgets begin to increase? "They claim it was when I got here," Bowen laughs, adding that he often imports players from L.A. such as Rick Marotta, Russ Kunkel and Lee Sklar to work on projects. "I'm not sure if that's good or bad, but that's what they claim. And it was met with hostility, especially from some of the old guard. They still think I'm absolutely crazy. Today, we have Josh Leo, Barry Beckett and Tony Brown, and a lot

—CONTINUED ON PAGE 45

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—FROM PAGE 43. COUNTRY'S GOLDEN AGE? of us understand that you spend what's necessary or why do it at all? And now we sound like we're part of the rest of the world."

"I can't say I'm sitting around calculating how to make records for those other markets, but I'm definitely sitting around calculating how to make records to bring in people from those other markets to country," Leo adds. "Sonically, we're trying to appeal to the people who would listen to [adult contemporary] radio. We're not going to be able to get away with as much gated echo or as much level on the snare drum that you might find on the CHR or typical AC song, but we're going as far as we can go without pissing off country radio."

"For a while there, most of us producers in town got so into trying to make our tracks sound as punchy as pop records that we overdid it," Tony Brown adds. "Radio sort of rebelled a bit. Country has always been a little rebellious toward pop sounds. When you try to make a country record drive, the area you always turn to is the drums, the snare sound. Right now it's the sound of that real clean crack. It used to be a bombastic sound. We always use those as much as possible—I know I do. I just like modern drum sounds, but I think what country radio is looking for now is the singer and the song. A lot of the records that are happening right now I wouldn't necessarily say are incredible-sounding records. They're just great sounds and good performances. That's what it always boils down to."

Norman, who admits that several years ago Warner Bros. had a terrible reputation for not being able to break new artists, explains that the deficiency resulted in a concerted effort to sign new artists. The signing of Randy Travis set the traditional male singer movement in motion. Today, the label is taking some exciting chances. Because of the success of Take 6, the Nashville office instituted a gospel division. The Texas Tornados, consisting of Freddie Fender, Flaco Jimenez, Doug Sahm and Augie Meyers, recently won a Grammy for Best Mexican-American recording. Carlene Carter has enjoyed some success, and Beth Nielsen Chapman

was recently awarded her share of accolades.

At MCA, home of stalwarts George Strait and Reba McEntire, the traditional voicings of Mark Chesnutt and Mark Collie have made some definite inroads, and Vince Gill, who has been kicking around for a long time, has finally received some deserved acknowledgment.

Aaron Tippin is RCA's new traditional male, though he's nothing like their artist Clint Black. RCA seems to be releasing more progressive newcomers such as Matreca Berg and a band (unnamed as of the writing of this article) consisting of Jimmy Griffin, formerly of Bread, and Richard Maneigra and Rick Yancey, previously of Cimarron.

PolyGram continues to take some chances with a band called the Normaltown Flyers and some new artists such as Jessica Boucher and Davis Daniel.

Bowen at Capitol is excited about their Pirates of the Mississippi, Linda Davis and Billy Dean, not to mention the huge success of Garth Brooks.

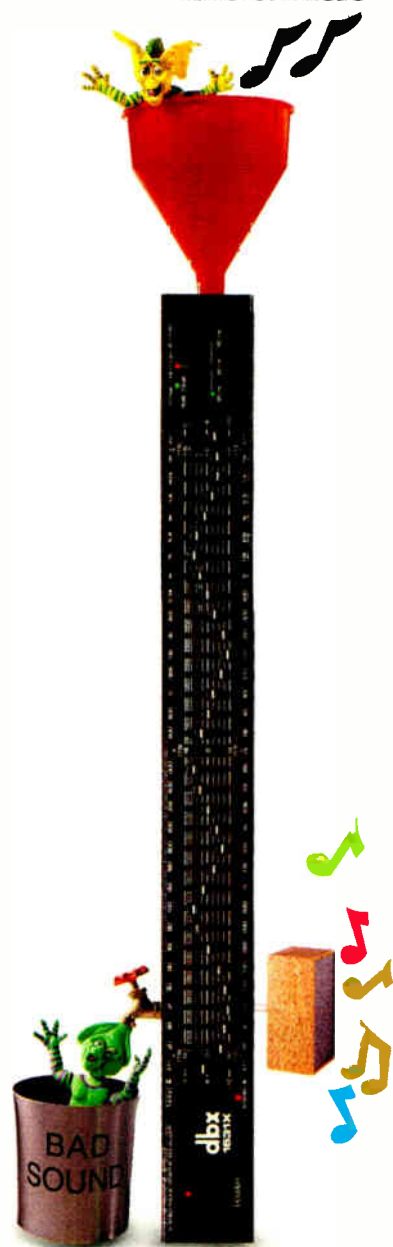
Sony is having success with Mike Reid, Joe Diffie and Doug Stone at Epic, with Mary Chapin Carpenter beginning to gain recognition, as well. Alan Jackson is doing well for Arista, as are new acts Rob Crosby and Pam Tillis.

There was unanimous agreement from those interviewed that this is an exceptional time for country music—there is excitement in the air and growing respect for the genre by those outside the field.

"I predict that country music will flourish, just because of the state of the world right now and because we're an American-born music that deals with real lyrics and real people," Brown says. "For the first time, we have a lot of young artists people can relate to. At one time, we only had one or two that you wanted to be. Then there were a lot of country artists you never wanted to be," he laughs. "We have some very cool people now. It's a cool time in country music, and I think we're going to see even more success in the next few years." ■

Robyn Flans is a Southern California-based writer.

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conducive for cutting records. And the maintenance program makes working there a pleasure."

Jimmy Bowen, a top Nashville producer who oversees recordings by George Strait and Glen Campbell, says, "They have good cookies, and they stock good fruit—though it's not pesticide-free. [Bowen laughs.] No, seriously, the room where we record musicians and the vocals is a great room. And they take good care of you."

The list of Emerald clients underscores its claim as Nashville's busiest first-class studio. It's been used by Steve Winwood, Whitney Houston, Peter Wolf and Amy Grant, as well as such

Creature Comforts

Dale Moore looks to the bathrooms when explaining what makes the expansive Emerald Sound Studios different from other well-equipped recording facilities in Nashville.

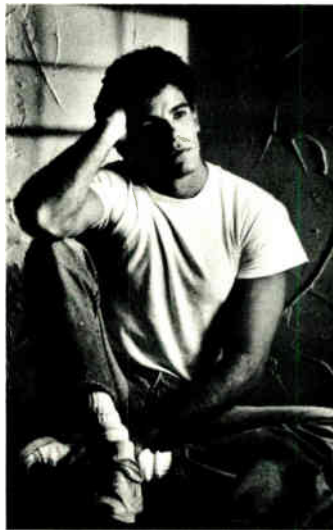
The owner and president of Emerald talks with pride about the deco-designed toilet, the track lighting, the expensive gloss of the green-and-black tile. He emphasizes the modern conveniences of the kitchen and the plushly elegant lounge, with its feather sofa, copper ceiling and full-size stereo television. He'll speak of the small outdoor putting green and the indoor steam room.

Most of all, he'll boast about his staff's willingness to please. With employees on premises 24 hours a day, Emerald can provide full-time secretarial assistance, private office space, babysitting for children, locked gates with uniformed security, and a full-time staff engineer who helped design and build the control room.

"Any studio can buy great equipment," Moore says. "And we're proud of that aspect of our facility and think it's as good or better than any in Nashville. But one of the reasons we have the best client list in town is service and amenities. That's where we get most of our compliments."

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country music stars as Alabama, George Strait, Randy Travis, The Highwaymen, K.T. Oslin, Rodney Crowell and Hank Williams Jr., among others.

The huge recording room, designed by Jack Edwards, has an 18-foot ceiling, parquet floor and four adjoining isolation booths with oversized windows. One of the booths has a sliding glass door and contains Emerald's seven-foot Yamaha grand piano.

The main room is especially well-suited for Nashville recordings, says Steve Marcantonio, a New York-based engineer who was brought to town to work with Alabama, Rodney Crowell, Juice Newton and Kelly Willis.

Nashville-based producers work fast, often using seven or more musicians to track simultaneously. The spacious main room and the easy visibility of the booths make that task easier, Marcantonio says.

The control room is similarly roomy. Tom Hidley designed the room to create a near-perfect stereo image. Equipment includes an SSL 4064 E Master Studio System with Total Recall and 56 inputs; an SSL G Series computer system; SVT 26-inch video monitor; Mitsubishi X-850 32-track digital recorder; Studer A800 Mk1.5 24-track analog tape machine; two Lynx time code synchronization modules; Kinoshita/Hidley Model 2 main monitors with TAD components; and two Studer A80RC MkII 2-track analog recorders, one 1/2-inch and one 1/4-inch.

Emerald owner and president Dale Moore and studio manager Anthony Little also brag about the headphone system. The Formula Sound "active" cue system offers each musician the chance to set his or her own headphone mix. The individual sets have eight channels with pan pots, an overall low and high EQ, and overall volume control.

"It helps the sessions go a lot faster, since the engineer doesn't have to stop and adjust each cue mix," Moore explains. "The musicians have control of it themselves, and they can get very loud volumes. We've had tons of compliments on it."

For Hank Williams Jr., for instance, volume is a priority. Other Nashville studios have had to bring in an extra amplifier just for Williams' headphones. Emerald's cue system provides him with the power he desires.

Kerry Copp, Emerald's chief technical engineer, is the lone employee

—CONTINUED ON PAGE 108

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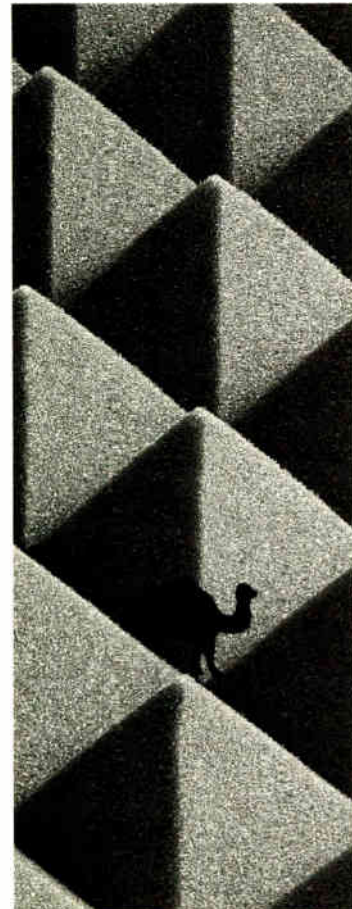
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by Godfrey Cheshire

DON DIXON

SOUTHERN INDIE ROOTS

Legend has it that Don Dixon got his start as a producer at the tender age of four, belting out a rendition of "Tutti Frutti" in a record-o-matic booth in his South Carolina hometown. Even discounting that precocious debut, he started young. While playing in an array of high school jazz and rock bands, he began learning the craft of recording, working with artists ranging from gospel choirs to country crooners. One of his early efforts behind the mixing board, the Toby King song "Operator," became a regional soul hit.

Still, almost 15 years separated Dixon's high school apprenticeship and his launch as a nationally recognized producer. On relocating to Chapel Hill, N.C., for college in 1969, he founded the band Arrogance, which remained a regional favorite throughout the '70s and pioneered do-it-yourself record releasing before punk made the practice commonplace. They eventually released albums for Vanguard and Warner/Curb.

As North Carolina's indigenous music scene grew, Dixon's recording experience made him the producer of choice for a bevy of young bands trying to get their first tunes onto tape. It also made him the obvious collaborator when his friend Mitch Easter decided he needed help mixing the first EP by a young Georgia band, R.E.M. Dixon lent an uncredited hand on that disc, then joined Easter to co-produce R.E.M.'s debut album, *Murmur*.

Although made with the same low-budget speed that Dixon and Easter had become accustomed to through years of working with garage bands, *Murmur* proved the understated sophistication of its producers' approach. The record became one of the most critically lauded albums of the early '80s and remains a beacon for America's post-punk rockers. Released in 1983, the same year Arrogance broke up, it established Dixon as a producer

increasingly sought by labels as a steady, capable hand to guide new bands through their freshman and sophomore (he and Easter re-teamed on R.E.M.'s second album) studio outings. As the indie-rock movement



reached major label status, Dixon's production credits mounted, eventually including albums by Guadalcanal Diary, Fetchin' Bones, Marshall Crenshaw, The Smithereens and others.

A multi-instrumentalist, singer, versatile arranger and prolific songwriter, Dixon didn't give up his own musical endeavors when his producing career

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took off. An album of Arrogance leftovers and solo studio jottings, *Most of the Girls Like to Dance But Only Some of the Boys Like To*, was released in 1985 by Elvis Costello's Demon label and became a cult favorite in Britain, which led to a U.S. deal with Enigma Records. Shortly thereafter, A&M Records teamed him with singer Marti Jones. He put aside his skills as "band psychologist" for a delicate, folk-influenced effort that drew upon his abilities as songwriter and arranger. That record, *Unsophisticated Time*, led to three more collaborations with Jones and to their 1988 marriage.

Between stops in a busy producing and performing schedule, Dixon and Jones reside in Canton, Ohio, her hometown. Even so, he maintains strong ties to the Southeast. He took time for this interview before a recent concert in North Carolina.

Mix: How did you and Mitch Easter approach recording R.E.M.'s *Murmur*?

Dixon: We felt like it was in the band's best interest not to try to make a Thompson Twins record, or capitalize on some current trend, but to take the cool sound that they had and just present it in a cool package. The band had so many of their elements—the mystery and the arty side—that were well-defined from the time they came out of the box. We didn't want to mess with that. We didn't want to turn them into commonplace-commercial. We felt like they had tremendous commercial possibilities, but it was going to be by their own standard, not by whatever the current new wave standard was.

Mix: Those first two R.E.M. albums ended up being tremendously influential. Do you think people may have misapplied the lessons of those records?

Dixon: It's very astute of you to note that. There were a lot of clone bands that came along afterward that were only good at playing without a lot of finesse. The thing they missed was that R.E.M.'s songs and tracks had a tremendous amount of finesse, as well as these really hooky things. But what we ended up with was a bunch of people just strumming away and not paying much attention to each other. Granted, there's a certain amount of strumming away and not paying attention to each other evident on those R.E.M. records,

but there's also this extremely hook-filled musical thing that 98% of the bands that were inspired by them never had. It's not something you can really put your finger on, or teach someone how to do.

Mix: Those records, perhaps, represent an aspect of what you once called "lo-fi" production. Young bands can sometimes be scared by the opposite pole. Is there a way you introduce artists to a more "hi-fi" approach when it's appropriate?

Dixon: In terms of my personal taste in recording, there are some records that *should* sound like they were recorded in a basement, because that's the appropriate sound. Other records, especially where there's more of an acoustic instrument sound, whether it's a jazz group or someone like Marti [Jones], I go for an extremely hi-fi, audiophile approach to recording.

I think that young bands often are more effective and sound better with that sort of lo-fi or mid-fi approach, because it's more of what they really are. But I think that sometimes people mistake *high-tech* records for hi-fi records. There's a big difference. A sequenced-to-within-an-inch-of-its-life, Synclavier, glossy, slick high-tech record is *not* a hi-fi record. A hi-fi record is one that's got real people playing and real space involved.

Plus, a perfect recording is not always the correct recording. Something that's got everything from 20 cycles to 20,000 cycles is not always what you want to hear, or the right thing for a song. What I'm really trying to do is make the song happen. If somebody comes up to me and says, "Gee, what a great drum sound," then I've failed. They should come up to me and say, "What a great song, what a great singer."

Mix: Do you have any special approach for working with young bands?

Dixon: I just try to make it casual. If there are four guys in the band, I try to be the fifth guy and have an equal say in the ultimate outcome, even though I do have the final say if we come to an impasse. I just try to direct people and keep the conversations going, keep people thinking. Very often, my idea will get rid of a problem even if they ultimately don't use the idea; whatever we come up with collectively will be better than what was originally there.

Mix: Do you often find yourself having to mediate between the band and the record company in situations where

the label people want a "big, commercial" sound?

Dixon: Yes. Bands, maybe because of a fear of success, will not want to feel like they're having to compete for some commercial slot, or will feel like it's somehow degrading to have a hit record. Which is ridiculous. That's what this is all about. It's pop music, you're supposed to have fun, reach as many people as you can, and be honest about what you're doing.

On the record company side, you've got this sort of paranoid umbrella that covers companies' investments and people's jobs within the record company. So you'll find record company people second-guessing what they've signed. They sign a band, they're excited about it, and then as soon as the band is theirs and can no longer be signed by somebody else, they immediately start second-guessing themselves about whether this band can cut it in the world-class marketplace. At which point, their safety net is the producer.

I don't want to paint A&R guys as the evil stepmothers here. Very often, the band is being just as stubborn for all the wrong reasons. What you have

to do is make everybody face up to what they originally liked about the band and help them find that thing again. It's kind of like being a marriage counselor in some ways. It doesn't happen with every record, of course, but it happens sometimes.

Mix: Since you started out, how has the evolution of recording technology helped you do your job better?

Dixon: The thing that's most interesting to me is that multitracking in general is so much better understood, even by bands coming in for the first time, than it was when I first began producing. When I started out, people didn't know how it worked. The 8-track tape recorder had just been invented when I started making records. I saw the first 16-track recorders when I was doing sessions in high school. Now there's probably a 16-track in every tenth home in the country. And people understand the technology much better.

I still like the way analog tape recorders sound for some things. I do most of my mixing to digital now because I think CDs sound good, and I think they sound better from digital masters. I like a lot of the subtle things about digital technology. I don't miss

the tape noise or the surface noise of records at all. That, for me, is probably the best thing about digital audio: lowered tape noise.

Mix: What do you still like about analog?

Dixon: There's a certain kind of compression that you get from analog recording. It takes away a lot of the transient peaks. For some kinds of pop recordings, softening up those transients just gives you a better sound—it's a sound we're used to, anyway. We got used to it because that's the way recording came to us. It's a sound I like, so I still like multitrack analog.

Mix: Reflection Sound Studios in Charlotte has been your home base for years. What do you like about the studio?

Dixon: I sort of grew up in that studio, and I've recorded there more than any other single place. I've brought a lot of good ideas back from other studios to there, and they've been real responsive to keeping up with certain things that I've found or that I want, like new miking techniques or pieces of equipment. Plus, I have a great friend and engineer there named Mark Williams, who is terrific and really smart. He can



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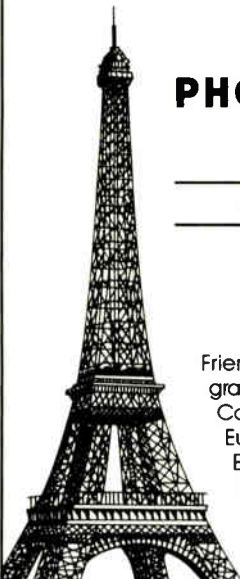
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be as high-tech and audiophile as I need to be, but he will allow me to get grungy too, which some engineers have problems with. If they know they can do these incredibly clear things, they have trouble when somebody comes in and wants to do it "wrong." But Mark knows me and trusts me enough to allow me to do that. Wayne Jernigan, who owns the studio, has been extremely supportive and has allowed me to learn a lot. I've recorded all over the world, I guess, except for Japan or Australia, but Reflection is still my favorite place. It has two 24-track rooms, both great for different things. **Mix:** You've done four albums with Marti Jones, more than you've done with anyone else. What have those projects taught you in terms of taking different approaches in the studio? **Dixon:** For me, the Marti records are different because I've been heavily involved in the songwriting. When I record a band, I purposely stay out of the songwriting. I usually work with bands whose songs I already like. The Marti projects have been more like my own records, where I've played a lot of instruments and sung a lot and written or co-written a lot of the songs. So I've had to maintain a certain level of objectivity about the production while still being a performer. In that regard, it's been very good for me. It's taught me how to maintain objectivity when I make my own records, where I'm also the one out there singing.

Also, I've learned a lot about putting groups together for the studio, as opposed to making do with what a band is capable of. When you're making a record with a band, a lot of what you're doing is making sure you're focusing on the strengths and disguising the weaknesses, and trying to make the strengths shine. On Marti's records, it's been more a case of having an open palette. If you can hire anybody, put anybody you want in the studio, then you can create anything you like, as long as she thinks it's right. You've got wide-open possibilities. It's a little more time-consuming, and in some ways more nerve-wracking. But it involves less psychology, and it's a lot more fun musically. ■

Godfrey Cheshire writes about film and music for the Raleigh, North Carolina-based magazine, The Spectator.



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by Dan Daley

MUSIC CITY IS DEMO CITY

N

o music center in the world eats songs as voraciously as Nashville. While more and more country music acts are following the long-standing trend in pop music of writing their own material, the need for outside writers remains high as country music sales rise. As a result, virtually all major publishing houses and most other sizable publishers have some sort of recording facility on premises—the project rooms of Nashville.

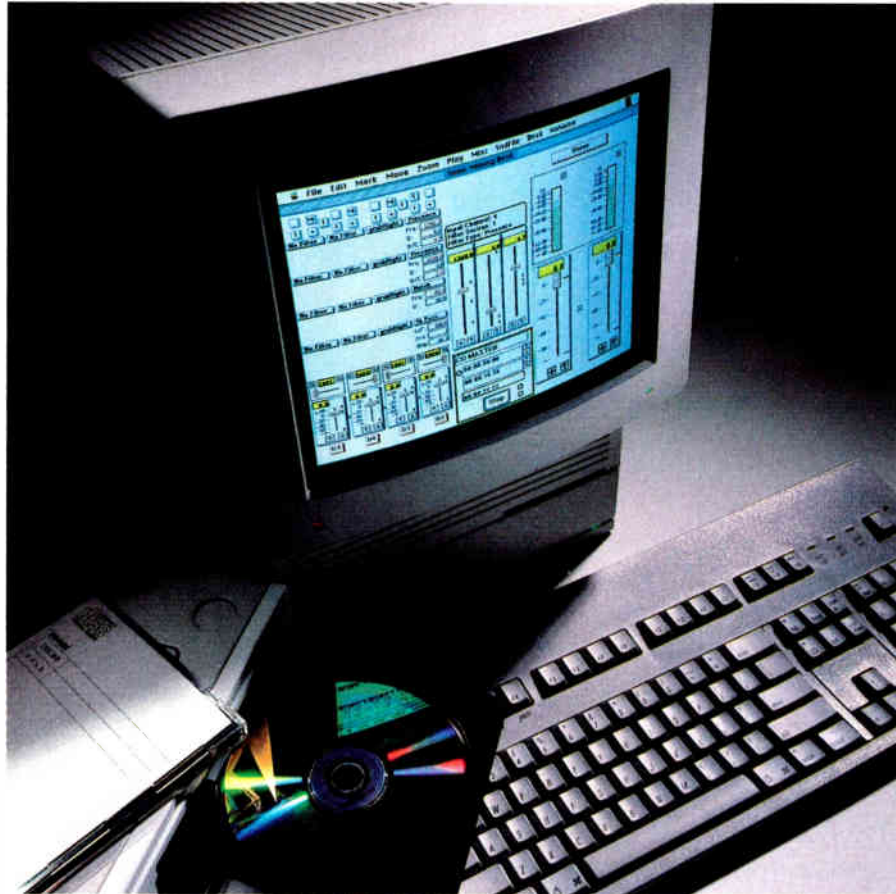
Project studios in other major music centers, such as New York and Los Angeles, have been driven by advertising and industrial work, which, while a factor, are not necessarily a staple of Nashville. Thus, project studios as we're familiar with them appear less frequently here. While personal recording equipment captures the song demo clientele from mid-sized, for-hire studios around much of the country, in Nashville many commercial studios still find plenty of work in song demos. The continued demand has led to a proliferation of in-house studios for publishing companies.

Typical of the publishing house project studio is the one at Starstruck Writers Group, Grammy-winner Reba McEntire's publishing company. Built last year as part of the company's office building, the room has a 20-input Ramsa WR-T820B console, Tascam MSR-16 multitrack deck, and outboard gear from companies such as Lexicon, whose LXP Series of effects is in the Starstruck rack.

The way the system works, according to Clay Meyers at Starstruck, is the company bills staff writers a flat fee of \$300 per song, including musicians and vocalists, based on a \$20 per hour studio rate. Any amount over the \$300 is charged back to the writer as a recoupable advance based on the type of deal the writer has with the publisher. For instance, if the writer has assigned

50% of his or her publishing to Starstruck and the cost of the demo comes to \$350, the coverage amount is





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split between the writer and the publisher, \$25 each.

"We don't rent to clients outside the company's staff writers," Meyers says. "It's set up to be totally focused on the writers." Writers can use the studio as a workshop as well, but Meyers stresses that churning out quality demos is the studio's *raison d'être*. Recording techniques are usually simple and uncomplicated. As a result of preset-type technology and the need to constantly keep demos coming, Meyers' and similar studios tend to repeat a characteristic of personal recording: find certain sounds and techniques that everyone likes and use them across the board for all the demos. "We experiment a little, but not very much," Meyers says. "For instance, we've found that the AKG 414 works fine for acoustic guitars and vocals, so we just stay with that usually, regardless of who's playing or singing."

Across town on Music Row, Steve Thomas has a slightly different arrangement with publisher New Clarion Music. Thomas' Lakeside Recording studio lives rent-free in the house New Clarion's offices occupy in exchange for no-charge demos for the publisher. Thomas was fortunate to have a space primed for him—CBS Songs once leased the building and built its own studio there before moving to larger quarters.

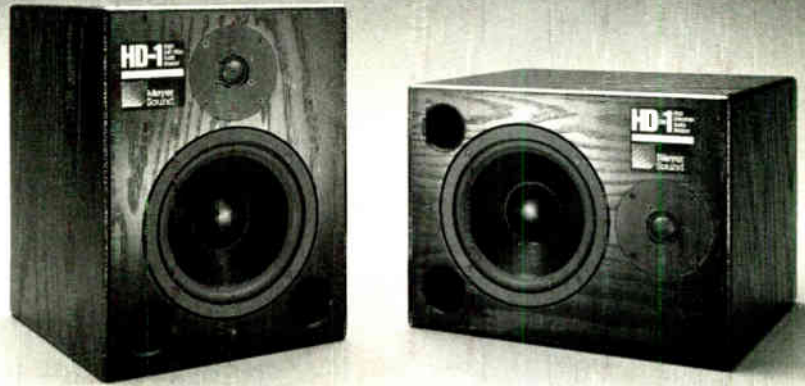
Thomas has long catered to the demo industry, starting in Atlanta in 1984 doing demos by mail for songwriters responding to his magazine ads. He came to Nashville, he says, because demos here are a major part of the overall recording industry, bucking the trend in other major markets.

Lakeside Recording follows a classic project studio equipment pattern: a Tascam MSR-16 1/2-inch multitrack deck, 20-input Hill J-2 console and an outboard rack heavy with Alesis, dbx and assorted mid-priced and time-tested delays and effects.

"The thing about Nashville is that there's a tremendous amount of demo work being done here daily," Thomas says, "literally hundreds of demos a day. I'm doing a lot of different writers' demos. New Clarion only represents a small percentage of clients."

In their arrangement, New Clarion is allotted a specific number of hours per month for its staff writers. The rest of the time Thomas sells to outside

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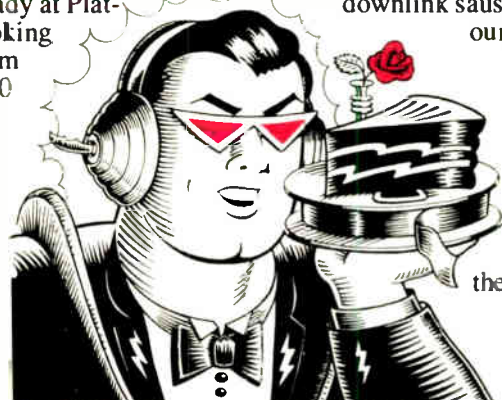
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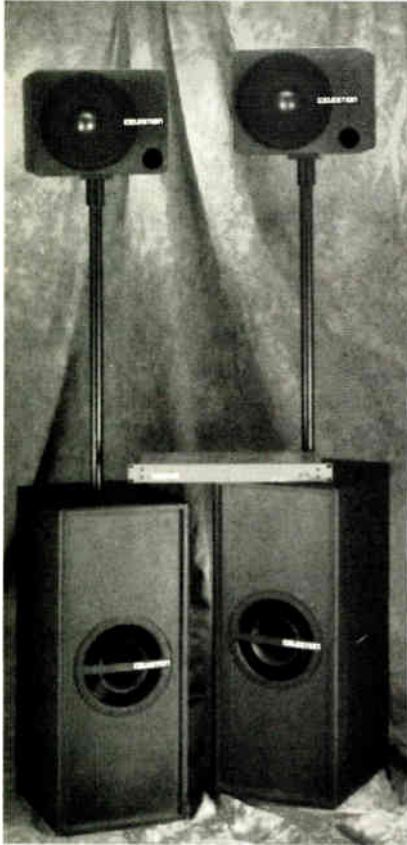
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writers and independent publishers at a basic rate of \$25 per hour, plus musician charges. He also produces the demos more often than not, usually by default. "That's the reason I think that home recording hasn't hurt the studio demo business here," he explains. "Songwriters are writing so many songs that they simply haven't got time to record and produce them themselves. The really serious writers would rather just write and then set aside one day to come in and get the demos recorded. The writers basically tell me what sort of attitude they want on the demo, and I take it from there."

Like most studios of its type, Lakeside doesn't use live drums, mainly since the miking process cuts into the time-effectiveness of demo sessions. Live drummers also raise the price. Thomas programs an Alesis HR-16 himself.

The project studio characteristic of one person wearing many hats (Stetsons around here, usually) is amply visible in Nashville. At Sony/Tree Music, co-managers Pat McMakin and Greg Dorschel also share basic maintenance duties, such as alignments and cable-making, as well as engineering dates for the company's staff writers. Their Otari MTR-90/MCI JH500-equipped studio is somewhat more elaborate than most publishing studios, and they regularly produce a couple of albums a year out of the facility, including Vern Gosdin's release earlier this year for which a 48-track digital machine was rented.

The majority of the time, however, is spent servicing Sony/Tree's 80, or so, staff writers. Dorschel says he tries to strike a balance between the writers and the relatively few outside clients whose invoices help with the studio's upkeep. "With 80 writers, you could never do as many demos as there are songs," Dorschel says. "A lot of writers are getting simple home recording equipment and doing what we call work tapes—just simple guitar-and-voice demos. Those wind up either replacing the full-blown demo or serve as a pre-demo to expedite recording the more elaborate one here." The down side of the home recording equation for Tree is that they get pro-

portionally fewer paying clients, Dorschel says. "Of course, the thing to remember is that we're really not in the studio business," he adds. "The studio is primarily here for the writers."

Personal recording technology has certainly helped fuel the growth of publishing studios in Nashville over the last few years. But surprisingly, while the equipment gets more sophisticated, the production values of the demos remain relatively static. Sam Ramage, creative director at EMI Music Publishing, also oversees a 24-track studio where he occasionally engineers sessions to keep costs down. He says that in pop music the production values start to compete with the song



Lakeside Recording, Nashville

on the demos, but "in country music, the most important ingredient is still the lyrics. As a result, the production values don't have to always be as high and the voice-and-guitar demo is just as useful as the produced one, even more valuable in some instances. It depends on what the producer and the artist prefer to hear."

The bottom line is that demo business, all but an anachronism these days for commercial recording studios elsewhere, remains a bulwark of the industry in Nashville, spawning a cottage industry for the project studio phenomenon. And the base looks as solid as the hills of Tennessee for the foreseeable future. "There's so much demo work down here that the bottom can't fall out," Clay Meyers says. "And some of the songwriters—even some of the great ones—can't play well enough to record their own songs anyway, so it works out well for the in-house studios, the commercial studios and the musicians." ■

Dan Daley is the Mix East Coast editor and resident good ol' boy. He also plays pedal steel, wears Acme boots and likes to eat at Mack's for lunch.

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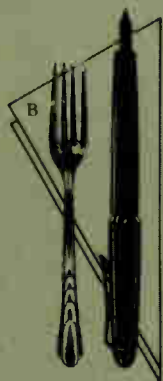
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Los Lobos, who brought new life to the classic "La Bamba," have a virtuosity that expertly leaps from a wide range of ethnic traditions through Tex-Mex, country, R&B, and dances on the true bones of rock 'n' roll. As teenagers, they started with rock, but then backstepped to life with the spirits of their past. What we have today is one of the most soulful, hard-hitting and lyrical groups around. You can party down with Los Lobos, and you can refresh your spirit in a celebration of the human race in its miraculous diversity.

The signature tune "Will the Wolf Survive?" comes from their triumphant 1984 album of the same name, co-produced with T. Bone Burnett and Steve Berlin. Next came *By the Light of the Moon* with two of my bona fide favorites, "Shakin' Shakin' Shakes" ("She gives the blind man sight, and Lord, it makes me tremble.") and "Is This All There Is?"

Cesar Rosas, with shades and goatee, is the native Mexican of the group. East

L.A. wolves Louie Perez and David Hidalgo write most of the material, and Conrad Lozano pulls the bass duties. Ex-Blaster Steve Berlin brings his Philly sax and lots more.

Their latest album, *The Neighborhood*, features such colorful instruments as accordion, bajo-sexto, Hawaiian steel, guitarron, clavinet, requinto jarocho and their own invention—the "koto guitar." Jim Keltner and Alex Acuna add some percussive persuasions, and John Hiatt and Levon Helm bring exceptional vocal touches. It's a blessed masterwork, culminating in the title tune, an anthem of hope in a restless world: "Help my brother along his way, and please bring peace to the neighborhood."

Let's meet three of the world's neighbors: Perez, Hidalgo and Berlin.

Bonzai: Why the name "Los Lobos"?

Perez: When we started in 1974, we were more or less moonlighting from the other rock bands we were in at the

What do guitarists, keyboardists and engineers have in common?

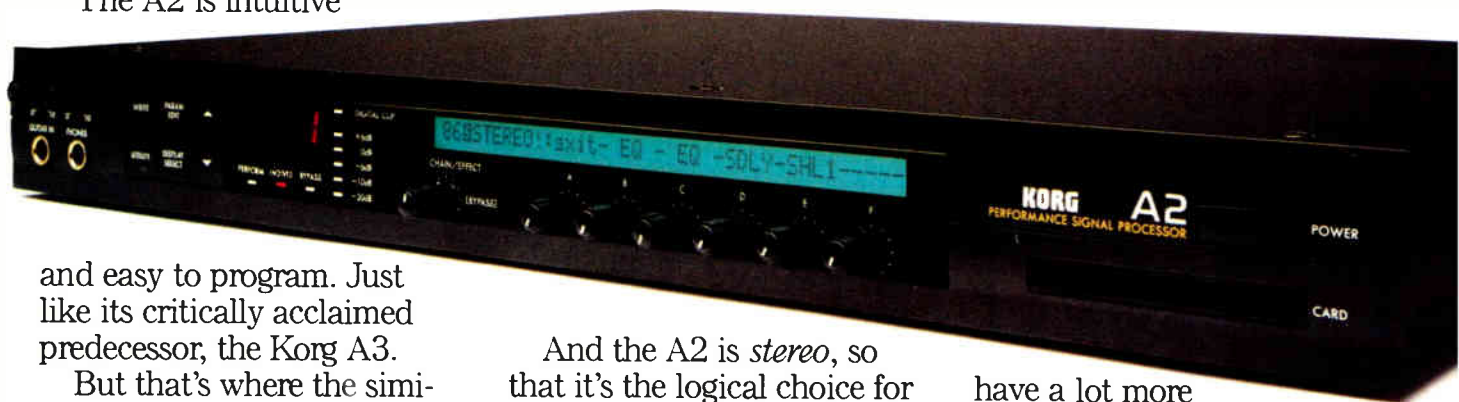


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time. We got together to play Mexican music and have some fun. There are many bands called "Los" this and that. One band was called "Los Lobos Del Norte," which means The Wolves of the North. Joking, we called ourselves "Los Lobos del Este," The Wolves of the East, because we lived in East L.A. Over the years, we dropped the "del Este" and stayed with Los Lobos. After a while, it became a symbol for us. The wolf—a mysterious animal.

Bonzai: On an early album, you ask, "Will the wolf survive?" Do you identify with the plight of the wolf?

Perez: When we did that record, it meant metaphorically that we were at a certain point in our career where we had to choose between making important music and the novelty approach of selling the band. We took the route that has ultimately been more difficult, to make music that we feel really says something, and is different, and doesn't sacrifice our integrity, our culture and our ethnic background. We identified with the wolf as an animal that has been misunderstood. Those things still exist because we continue with the balanc-

ing act, of who we are and how the public perceives us.

Bonzai: Hispanic, Chicano, Mexican-American—which do you prefer?

Perez: Hispanic is anyone of Spanish origin, a generic term. Chicano comes from the student movements of the late '60s, and to this day has certain political connotations. Mexican-American says a lot, because we are Americans and we've absorbed many things. We didn't grow up in isolation; we were very much plugged into America, the homogenization process, and then went off trying to find ourselves again.

Bonzai: Do you choose to play different material for a Mexican-American audience than the more general public?

Perez: No difference, whether it be in Helsinki, Finland or Mexico City, where we performed just last week before 15,000 Mexican people—our first tour of Mexico.

Bonzai: And you opened for Bob Dylan. Did you get to hang out with him?

Berlin: One night we did. I knew some guys in his band, but none of us had talked to him before. The first night, there was a little party for us backstage and he was hanging out, just one of the

guys. Everybody had told us, "Don't worry if Bob doesn't talk to you, doesn't look at you. Don't worry about it." But he hung out with us for a few hours, and it was very comfortable.

Bonzai: How did you get involved with the film *La Bamba*?

Hidalgo: Well, we've been playing Ritchie Valens' music live for years, and the screenwriter, Luis Valdez, is an old friend of ours. It came together very naturally.

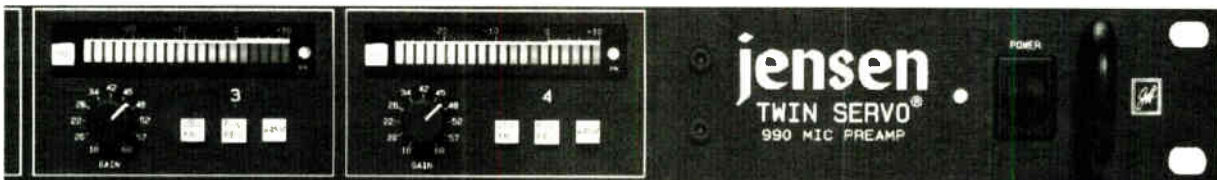
Berlin: And we were playing in Santa Cruz, where Ritchie's family still lives, a few years before the film was made. They told us that someone had bought the rights to the story and requested that we do the music.

Bonzai: How has that affected your career? Did it open doors, or did it typecast you?

Hidalgo: It has both opened doors and typecast us at the same time. It worked for a while, helped enlarge the audience and attracted younger people. But it just came and went. It's back to reality now, picking up where we left off before it happened.

Berlin: It was a pleasant dream, but it wasn't the same as having a hit record with one of our own songs. "La Bamba"

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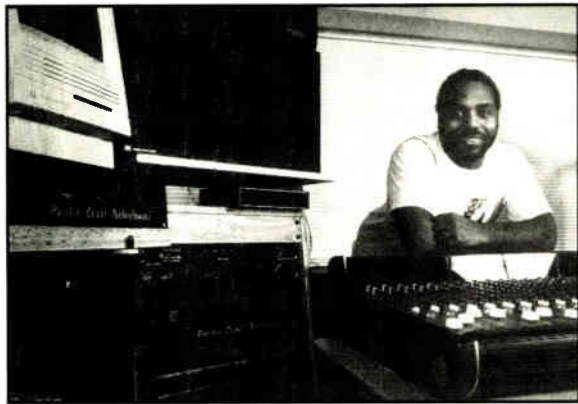
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LUNCHING WITH BONZAI

is a souvenir of the movie, a huge success that saturated the culture for a few months.

Bonzai: What is a "Bamba"?

Hidalgo: To tell you the truth, I don't really know what *la bamba* is.

Berlin: It's like The Frug—what's a Frug?

Hidalgo: I believe the song is hundreds of years old. It's a three-chord traditional song for parties where everyone improvises verses, passes it around and makes fun of each other. There are different stories about where it came from.

Bonzai: What is the koto guitar on the last album?

Hidalgo: It's a prepared guitar. We were trying to finish a song called "Take My Hand" and felt it needed something different. So we took some pencils and put them under the strings on the fret board and made up a scale and played it like a lap steel guitar. It had an Asian sound, so we called it the koto guitar.

Bonzai: Do you experiment in the studio, trying out different sounds and instruments?

Hidalgo: Yes, we do, and we've been doing it for years. Every time we try something new, we learn a little more. We're getting more comfortable in the studio, and using it rather than being afraid of it. It's so hard to translate what we do live and put it on a record.

Bonzai: What is the most important consideration when choosing a producer?

Hidalgo: The fee. [laughs] No, you have to have a good relationship. You have to get along on a personal level first.

Bonzai: Larry Hirsch started as your engineer and then moved on to co-produce this latest album. What did he bring?

Berlin: Well, he's a great engineer with a distinctive style. He's a good referee, and he was part of the team process. He was involved with the rehearsals and went on tour with us when we tested new songs out. Larry understands the way we make records.

Bonzai: I understand that you began as straight-ahead rock and rollers, then went back to discover the Mexican music you heard as kids.

Hidalgo: We were pretty much like any other 11- or 12-year-old kids. We were listening to the Rolling Stones and the same music as other kids. The Mexican music was our parents' music. It was old-fashioned, around the house all the

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time, so we took it for granted. It wasn't until later that we became interested, when we were in high school and the cultural awareness thing happened in the Mexican-American communities throughout the Southwest. Farm workers were trying to organize, and equal opportunity movements began. We started taking interest in our own culture, through literature, history and the arts. Being musicians, we took on the musical aspect of our culture—something that no one our age had done anything with.

We tried to play this music almost as a joke to begin with, just for the hell of it and to do something interesting. Then we got hooked and found out that there was much more there than we had realized.

Bonzai: Did you have formal musical training as a child?

Hidalgo: No, we all pretty much learned by ear, by listening to records, with the odd lesson here and there.

Bonzai: So you didn't have an accordion as a kid?

Hidalgo: No, I started out with guitar. Through this interest in Mexican music, we started investigating the music from all the different regions. We'd study one style for a couple of months and then move on. We were interested in lots of music, from the Tex-Mex music of southern Texas and northern Mexico to the Cajun music of Clifton Chenier, and that led to my interest in playing the accordion.

Bonzai: Steve, were you part of this research into Mexican music?

Berlin: No, I had been with The Blasters. I joined Los Lobos in '83.

Hidalgo: By that time we were coming back to rock 'n' roll and bringing what we had learned of traditional music with us.

Bonzai: David, who did you look up to when you were growing up?

Hidalgo: I was always interested in guitar, going all the way back to Duane Eddy. And then in the '60s, it was Hendrix, who still to this day is one of my heroes. I've had a lot of heroes, and there are people I continue to go back to for inspiration—Hank Williams, Willie Dixon.

Bonzai: Louie, how did you get interested in drums?

Perez: I didn't have much choice—I couldn't play accordion as well as David. I've played guitar all my life, and after being together for ten years we



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were making this change and coming back to rock 'n' roll after playing exclusively Mexican music with guitar-based instruments. When we got into Tex-Mex music, which has the same basic format as rock 'n' roll, somebody had to play drums. After being together for ten years, you can't just go off and hire somebody. I had played around with drums all along, and had been interested in drummers like Tony Williams and Elvin Jones.

In the '60s, my older sister was a Beatlemaniac and I liked the Beatles, but then a friend of mine bought a Rolling Stones record and I saw the other side of the tracks. Then came The Byrds, Buffalo Springfield, and my mother bought me a pawn shop guitar and I was off and running. It was a way to meet girls—and it sort of raised me above the crowd. Ultimately, it saved us from getting involved in gangs and all that.

Bonzai: Four of you went to the same high school. Do you find it hard to believe that you're together after all these years?

Perez: Actually, Conrad and I lived a few blocks from each other. Across town, separated by the freeway, were Cesar and David. I got to know them in an art class in the tenth grade. Even though Cesar and David lived close to each other, they were in different worlds.

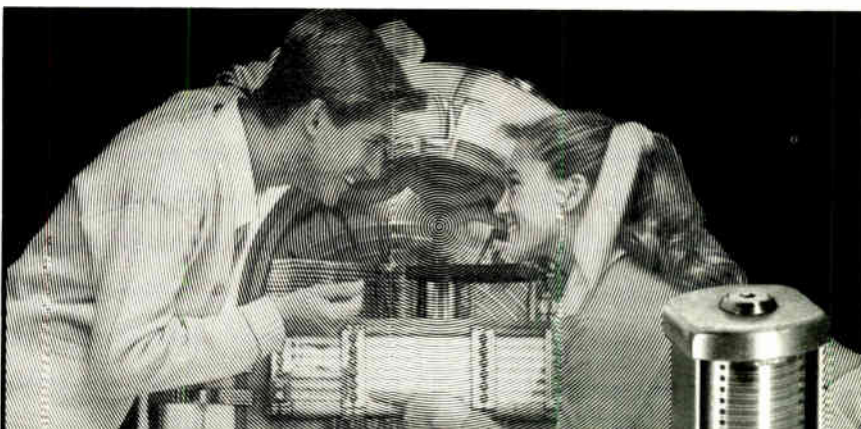
Hidalgo: I had known Cesar in junior high, but didn't even realize he was going to the same high school until our senior year.

Perez: We had different backgrounds, and it is amazing that we ended up together. My father died when I was 9, and I lived with my sister and my mother. I was a recluse and had to fend for myself. It was up to me whether I succeeded or failed. And Cesar was born in Mexico, coming from a very different reality. Conrad didn't even speak Spanish at the time. He was into cars and borrowing his dad's Chevy and floorboarding it around the neighborhood.

Bonzai: Are Los Lobos role models, something Mexican-Americans aspire to? Is it true that you are heroes?

Perez: Yes, I would hope so, but over the years we have become somewhat detached from the neighborhood. When you become successful, sometimes people feel that you don't belong

—CONTINUED ON PAGE 110



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verts SMPTE to MIDI Time Code or direct time lock, and syncs FSK to MIDI clock with song position pointer. Features include jam sync, freewheeling and auto merge. Remote software (a \$14.95 option) for the Atari ST or Mac allows the user to enter SMPTE start times and select from 24/25/30/30df frame rates.

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CAD MEGAMIX

Conneaut Audio Devices, of Conneaut, Ohio, has acquired MegaMix automation, available in both outboard and inboard systems for Mac, PC and Atari ST computers. In-

serted into any console's patch points, the Outboard

Series provides real time control of levels, muting, solo, panning and grouping, while its offline software offers mix copy, bounce, trim, merging, SMPTE event lists and MIDI control. The Inboard Series features all the Outboard Series functions, plus MegaGate automated noise gating. The Inboard Series can be installed in most mainframe consoles.

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From Euphonix (Palo Alto, Calif.) comes MixView™ Version 1.0, a new dynamic automation system for the digitally controlled Crescendo console. MixView controls levels, EQ, and all variable console settings to SMPTE time code, with the ability to store over 100,000 dynamic movements per channel. "Instant Snapshot Recall" provides storage and recall levels, settings, pans, EQ, routings and monitor setups; the entire board can be reset in 1/30 of a second. In addition, A/B comparisons of different versions of a project can be made in real time, while listening to playbacks.

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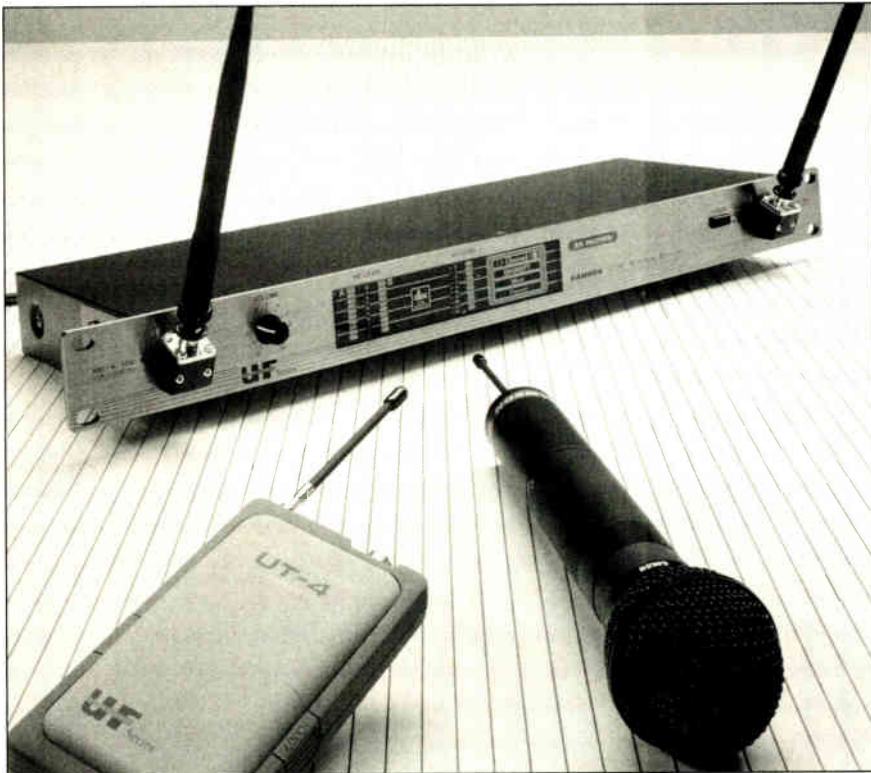
by George Petersen

PRODUCT

CRITIQUES AND COMMENTS

Samson UHF Wireless System
Everybody loves wireless mics—when they work. Unfortunately, the growing proliferation of communications devices in most urban environments has brought an increasing amount of radio

several times higher than the more common wireless mics that transmit in the 150-216 MHz VHF range. One disadvantage of UHF systems is that they tend to have more frequent dropouts than VHF systems, so a diversity system



frequency interference (RFI) to already-crowded airwaves. This comes not only from CB and ham radios, but also buses, taxis, aircraft, pagers, radio-controlled toys, wireless and cellular phones—even garage door openers! All of these can make for a pretty tough RF environment for any wireless microphone system.

Over the past few years, a growing number of wireless mic manufacturers have found a solution to the problem by producing systems operating in the UHF frequencies. Low-band UHF is approximately 450 MHz; high-band UHF is in the area of 800-900 MHz,

is a must when using UHF. The UHF models have the luxury of operating in relatively uncluttered airspace; however, the complexity of such systems has kept their price (typically two to three times that of VHF systems) out of reach of many users.

With the introduction of the Samson UHF system (with complete belt-pack prices starting at \$1,999), the days of unaffordable UHF may be over. The Samson UHF system operates in the high-band 944-952 MHz range, with a choice of seven frequencies. Systems consist of the UR-4 rack-mount receiver and a choice of UH-4 handheld

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or UT-4 belt-pack transmitters. Condenser and dynamic mic capsules are available for the UH-4: Shure SM58, SM85, SM87; Electro-Voice N/DYM 757 and 857A; and the Sennheiser MKE-4032. Some of the lavalier mics that can be supplied with the UT-4 belt-pack are the Sony ECM-44/55/77; Audio-Technica 831; Sennheiser MKE-2; and Beyer MCE-10.9. Also available with belt-pack systems are the Countryman Isomax and AKG C-410 headset mics, as well as AKG's C-409 miniature gooseneck condenser for wireless stringed, reed and horn instruments.

Rather than a less-expensive antenna-switching approach, the UR-4 receiver uses a true diversity design, with two complete antenna/receiver sections. The system automatically switches between the two sections, constantly seeking the antenna/receiver combo with the strongest signal. The active system is indicated by a front panel display, and the switching action is noiseless—absolutely undetectable. Also on the front panel are two 10-LED ladder displays indicating RF level, a similar display for audio level, an audio output level pot, and lighted indicators for AC power, diversity and audio muting.

Two compact, removable antennas are mounted on the front panel at 45° angles, allowing multiple receivers to be mounted in a single rack. Alternatively, the antennas can be fitted onto the rear panel via a simple modification, although the confines of most rack enclosures would make this a less desirable option. The antennas are 15 inches apart, which is close to the spacing requirement (1.5-times the wavelength) for optimal diversity reception. Also on the rear panel are balanced XLR (pin 2 hot) and unbalanced 1/4-inch audio outputs.

The system I tested included a handheld UH-4 transmitter fitted with a Shure SM58 element. The transmitter's brass casing has a solid, quality feel and is finished in a black neoprene covering providing a sure grip and a non-glare appearance. At the base of the mic are recessed RF power and audio muting switches, audio level trim pot, LED battery indicator and antenna socket. The latter provides an attachment for the removable 3-inch "rubber ducky" antenna. One of the minor drawbacks of UHF systems is that they

Bob Ludwig

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an intelligent tape synchronization function, a Super-MRP Performance system for chaining songs together for live performance, an operating system in internal ROM so there's no boot-up time, and 40,000 notes in Internal memory.

But, there was one area in which Mozart shined. As a gifted composer, he could just sit down at the piano, take out his quill pen and immediately hammer out timeless pieces of music. And, he could do it all himself.

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require a small external antenna, unlike most VHF systems, where the antenna is usually built into the mic body.

In operation on a variety of gigs over a period of weeks, the system performed flawlessly, despite being used in an RF-congested area surrounded by two international airports, a major rail and shipping center and plenty of heavy industrial activity. Audible dropouts were zero, even during one period when the unit was constantly (every two to three seconds) switching between the A and B diversity receivers. The unit's built-in dbx noise reduction performed admirably, and it was difficult to discern any difference between the wireless mic and a hard-wired SM58.

Overall, the Samson UHF is a winner—it's solidly built, sounds great and interference-free. Priced from \$1,999, this is worthy of consideration by anyone looking for an affordable alternative in UHF.

Samson Technologies, Box 9068, Hicksville, NY 11802-9068; (516) 932-3810.

BSS Audio DPR-901 Dynamic Equalizer

Packed in a single-rackspace enclosure, the DPR-901 from BSS Audio is a unique unit that integrates 4-band parametric equalization with dynamic expansion and compression. The process can be thought of as frequency-selective compression or expansion, where dynamics changes within any frequency band only occur above or below a user-specified thresh-



hold. However, the DPR-901 differs from conventional de-essers, gates and noise reduction systems in that it uses subtractive techniques to control the degree of compression or expansion. Therefore, the VCA (gain control element) is kept out of the *direct* audio path, reducing overall distortion.

The DPR-901 is intuitively laid out, with bandwidth, frequency, compression/expansion, release threshold and bypass controls for each band separated by LED bar-graph displays of dynamics activity and threshold. Bands 1 and 4 have switches that can change

the equalization characteristic to shelving; these same buttons on the two center bands act to defeat the EQ in each band. Also on the front panel are output level and signal-presence LEDs and a hard-wired bypass, which is especially useful for making A/B comparisons between processed and unprocessed signals. The rear panel provides balanced XLR input/output connectors and a link jack for using two units in stereo. While the latter is wired as pin 2 hot, the unit works equally well with pin 3 hot systems, as long as the polarity used on the input and output is the same.

The DPR-901 offers an extremely wide range of control. The four EQ bands (40-440, 150-1.6k, 800-9k and 1.6-18k) have plenty of overlap. The compression/expansion knob has a center detent position for no dynamic change; a full clockwise turn yields -30 dB of compression; full counterclockwise is +16dB of expansion. Bandwidth can be adjusted from a wide 0.5 to a narrow 3.0 notch.

The unit is simple to use thanks to its logical design. However, during initial setup, closely watch the input gain level, especially when using expansion, where clipping can occur quite suddenly. The 3-LED output display is a nice touch—it's fast-acting and does a far better job of monitoring level than a simple clip LED indicator.

The DPR-901 combines excellent audio quality with an extremely flexible package. It's capable of a wide range of effects, ranging from dramatic to extremely subtle, especially in the below-threshold mode for low-level expansion or low-level compression

with downward expansion. In addition to the DPR-901's uses as a (dynamically controlled) corrective program equalizer in the studio, mastering room or broadcast booth, it also excels at minor fixes such as cutting or boosting the level or a single note in an instrumental solo, or removing sibilance and occasional breath "pops" from vocal tracks. Live sound applications for the unit include loudness contouring (increasing system bass response in low-level passages), increasing vocal intelligibility in poor acoustical environments, and increasing gain-before-

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AUDITIONS

feedback levels in house and monitor systems. At \$1,350, the BSS DPR-901 is quite a box.

BSS Audio, distributed in the U.S. by AKG Acoustics, 1525 Alvarado Street, San Leandro, CA 94577; (415) 351-3500.

Uptown Technologies Flash Audio Switcher/Passive Mixer

This isn't your ordinary piece of out-board gear. In fact, there's never been anything quite like it. Before we begin, I should explain a few things. First of all, Flash is manufactured by Uptown Technologies Inc., which is NOT to be confused with Audiomation, the folks who brought us the Uptown Moving Fader Automation system. That one even had me confused for a while. Now the good part: Flash is a device that brings noise-free switching, passive mixing and muting under both manual and MIDI control.

Flash is a signal processing chameleon, in that it can be many things depending on what you want it to do. It's bidirectional: it can be a 4-in/1-out stereo switcher or a 1-in/4-out stereo

output switcher, or 8-in/2-out (or 2-in/8-out) mono switcher. It can route audio (at line or instrument level) on one gig, or act as a SMPTE router on the next. Flash operates with any signal up to 50 volts (at no more than 1/10 watt), so amplifier outputs would be a definite no-no, while synth control voltages would be no problem. The unit

contains the input/output jacks (1/4-inch unbalanced), MIDI in/out/thru, another remote jack, DIP switches for setting default choices (MIDI channel, merge, ground lift, mute modes, etc.) and a tuner output. The latter is a sum of all of the left-channel sources and is unaffected by muting operations. While the tuner output is obviously



also includes four stereo level controls on the front panel that can function as trim pots or mixing faders, depending on the situation.

The unit's front panel is simple, providing switches to route to/from four different stereo devices, a global mute switch, a jack for the optional remote footswitch controller, AC power switch, and LED status indicators for switching status, muting and incoming MIDI data. The rear panel

designed to be connected to a musical instrument tuner (onstage or in the studio), I also found this useful as a send for monitor/cueing applications.

Manual operation of the muting functions is straightforward. Connect the devices, set the trims (if necessary), and push any combination of the four switches on the front panel or foot controller to select the combo you need. Up to 16 switching combinations are possible from the footswitch or

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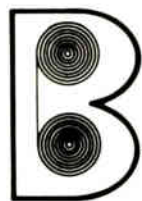
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front panel; via MIDI, this number increases to 256 combinations. One of my first tests for the unit involved splitting the output of a CD player and routing it to Flash so I could switch from one set of the identical outputs to another. There was no switching noise whatsoever—in fact, I taped the result on digital tape, and on playback I could not discern the switching points.

Flash is extremely clean, with a stated signal-to-noise figure of -108 dB (-112 dB with the mute engaged). Opto-isolated resistors are used for the switching operations, and since the mixing is handled using passive components, no additional noise is added to the audio pathway.

The documentation provided with Flash is more than 130 pages long and extremely well-written. It provides a thorough explanation of all operational procedures, as well as complete schematics (including a “build it yourself” compact remote control for studio applications) and dozens of possible applications. Some of these include 1x7 signal splitting, multiple effects loops, programmable autopanning, stereo image flopping, parallel effects combining, 4-in/2-out stereo switching/layering and much more.

I found the unit indispensable for switching back and forth between multiple components when making A/B comparisons, and using the individual level controls to compensate for gain differences. On one occasion, I was doing a mix where I ran out of fingers to mute everything I needed, so I inserted Flash into the in/out insert point on a subgroup and used the foot controller to “punch” in the mute right on the beat. Actually, the more I used Flash, the more useful applications came to mind. Under MIDI control, Flash can mute as often as 100 times a second, which can make for some unusual effects: Cutting up a string pad or other sustained event in sync with a song's tempo can open some cool new horizons in percussion.

Whether used in the studio, live or onstage, Flash is one amazing unit—both flexible and affordable—with lofty audio specs and glitch-free switching. Priced at \$500, this is well worth checking out.

Uptown Technologies Inc., Box 3011, Madison, WI 53704; (414) 563-9932. ■

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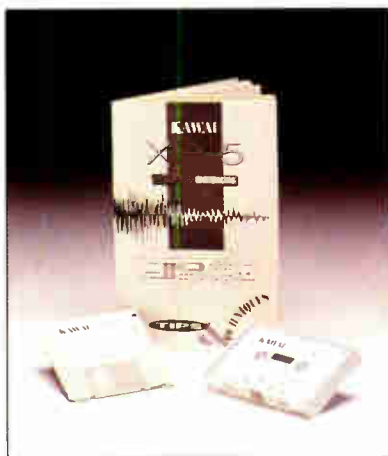
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KAWAI

Digital Magic.

A proper listening system is perhaps the most fundamental (yet most often ignored) of all the tools available to the audio engineer. If your speakers are not giving you an accurate reproduction of what's on tape (or coming out of the console), then it can be difficult or impossible to make informed decisions concerning microphone placement/selection, equalization or balancing elements in the mix.

STUDIO REFERENCE MONITORS



Another problem stems from the extraordinarily wide range of playback systems that any product will eventually be played on, ranging from 3-inch television speakers to elaborate audiophile systems costing \$50,000. One obvious solution for the sound engineer is that of small reference monitors, to be used in conjunction with (or in lieu of) a studio's main monitors. Thus, reference monitors serve two purposes, providing both a "real-world" picture of how a project sounds when played on compact speakers, as well as a consistent "reference" point for an independent engineer working in an unfamiliar room.

MONITOR TYPES

Most speaker systems for music reproduction fall into two basic categories: those having sealed enclosures and those with vented enclosures. Sealed designs—also referred to as acoustic suspension types—mount the speaker components on the outside of an air-tight cabinet, which prevents the escape of the air displaced by the woofer's rearward motion. The increased air pressure within the cabinet acts

by
**George
Peterson**

as a springboard to push the woofer's cone forward. Vented systems—sometimes called bass-reflex systems—have one or more openings (vents or ports) that create a small amount of phase cancellation at the woofer's resonant frequency, while increasing bass response at a lower frequency.

Vented monitors typically require a larger enclosure than their sealed counterparts; however, this disadvantage is offset by an increase in efficiency (more

sound-per-watt input) and extended low-frequency response.

One novel design approach applied by several manufacturers is the use of coaxially mounted speakers, usually some sort of tweeter or other high-frequency unit mounted in the center of a bass reproducer. This method gives the impression that the sound is coming from a single point source, which improves coherence, especially at close listening distances.

Seven different approaches to monitor design, shown clockwise from lower left: Tannoy System 8 NFM; Electro-Voice S-40; JBL Model 4406; LM Acoustics NF-25A; Radian MM8; Meyer HD-1 and KRK 703 (center).



PHOTO BILL SCHWOB

Not surprisingly, the actual components used in a loudspeaker system have a greater effect on a monitor's sound than the enclosure itself. In the present state of studio transducer technology, low-frequency reproduction is handled by large-diameter woofers with cones ranging from six to 15 inches. As a rule, speakers used for mid- and high-frequency reproduction in studio monitors are either of the direct-radiator (such as cones and domes) type or some sort of compression

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Direct-radiator designs offer a smooth response and a wide dispersion of the reproduced sound, yet they are less efficient than horn/compression drivers. Since efficiency is lower, direct-radiator driver systems cannot produce the very loud levels attainable by horn systems. In near-field listening, extremely loud reproduction is seldom required, as the monitors are placed in close proximity to the listener.

INTERPRETING SPECS

Interpreting specifications from speaker manufacturers can be regarded as either high art or a real chore. Yet you can tell a lot about a company and its speakers by taking a good look at the spec sheets.

The most important (yet over-hyped) bit of information on that glossy brochure is "frequency response." Simply put, this is a measurement of the range of frequencies that a given loudspeaker can reproduce. Unfortunately, that figure alone is virtually useless without some sort of qualifier, often expressed as something like ± 2 or ± 3 dB. The *ideal* loudspeaker system would reproduce all frequencies at a constant level; this is referred to as a "flat" response.

Theoretically, a 3-inch transistor radio speaker could have a frequency response of 20 to 20k Hz; what's left out is the fact that its actual frequency response may be -90 dB at the extreme ends of the scale. Since every 10 dB of change represents a doubling (or halving) in perceived volume, the amount of 20Hz energy being reproduced by the 3-inch speaker is infinitesimally small.

A monitor's sensitivity rating gives an indication of the system's overall efficiency, and is expressed as the sound pressure level (in decibels) the monitor will produce, given a 1-watt input, measured at one meter. Since console-mounted speakers are usually heard from a distance of about one meter, the sensitivity rating is quite important. Sensitivity ratings for loudspeakers range from about 80 dB to over 100 dB (1W/1m). Most direct-radiator monitors fall into the 87-93dB range, while horn-type systems occupy the upper end of the scale, typically 95 dB and higher.

What does this all mean in *real* terms? Let's say your monitor has a

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A Buyer's Guide

sensitivity spec of 90 dB (1W/1m). In that case, the monitor will provide 100 dB from a 10-watt input; 110 dB from a 100-watt input; and reaching 120 dB would require a 1,000-watt input—at which point your poor little monitors would have emitted a pungent whiff of black smoke and then lain very quiet. By now, you should have figured out the pattern: Each 10dB increase in volume requires ten times more amplifier power. Since the scale is based on a logarithmic progression, we also know that each 3dB volume increase requires a doubling of amplifier power. By combining this knowledge of sensitivity with a monitor's maximum power rating, you can tell whether any given monitor will be loud enough to suit your tastes.

There seems to be a considerable amount of confusion regarding the question of what is the "right" number of components in a loudspeaker system. Obviously, there is no single speaker that can faithfully reproduce the entire audio spectrum. But is a two-way system (utilizing a woofer and a combination mid/high-frequency driver) any better than a three-way system (with woofer, MF and HF components)?

The concept of dividing the load of audio reproduction among many specialized drivers seems to be a good idea, at least in theory. Unfortunately, the reality is that each crossover network used to route the sound to its respective driver introduces a certain amount of phase error. Also, the physical realities of close-in listening imparts some real limitations in the number of drivers you can cluster together and still have a coherent sound image. Therefore, most—if not all—compact studio monitors are either two- or three-way systems.

THE BUYER'S GUIDE

The following chart lists over 30 systems designed for reference monitoring applications, limited to speakers with 10-inch or smaller woofers. All weigh under 50 pounds each, a fact that is sure to be appreciated by the independent engineer who brings monitors along on different sessions.

The entry for "Type" indicates whether the enclosure is vented or sealed; "X-over" denotes the crossover frequency point(s); "Mag?" states

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Genelec
S30 NF

Yorkville
YSM 1



Klark-Teknik
Jade One
MK II



Manufacturer	Model	Type	LF	MF	HF	X-Over	Freq. Resp.	Sens.	Mag?	Dimensions (mm)	Wt. (kg.)	Price/pair	Notes
Audix	MMS	V	5"	-	.75"	3.2k	50-18k ±3dB	86	N	217x145x217	3.2	329	P, D
Audix	HRM-1	V	6.5"	-	1"	3k	50-18k ±3dB	88	N	386x241x175	6.8	499	D
Audix	HRM-2	V	(2) 6.5"	-	1"	3k	47 18k ±2dB	94	N	458x289x241	11.4	649	D
Audix	HRM-3	V	(2) 6.5"	-	1"	3k	47 19k ±2dB	92	N	458x289x241	11.4	799	D
Auratone	5CTV	S	5"	-	10mm	3k	90-25k ±2.5dB	88	Y	191x191x191	3.4	180	D
Auratone	RT5V	V	5"	-	.75"	3k	70-20k ±3dB	88	Y	133x419x216	7.7	280	D
Auratone	5RTV	V	5"	-	10mm	3k	70-25k ±3dB	88	Y	133x419x216	7.7	200	D
Auratone	T5V	S	5"	-	.75"	3.5k	75-20k ±3dB	88	Y	279x191x178	4.75	230	D
CSI	MDM-4	V	(2) 6.6"	-	2.9"	1.5k	60-17k ±3dB	80	N	483x330x248	11.4	1190	C
CSI	TA-2	V	6.6"	-	.75"	2.5k	60-20k ±3dB	78	N	406x299x235	9.1	1290	C
Celestion	Model 3	S	5"	-	1"	5k	75-20k -3dB	86	N	289x193x217	3.8	300	M
Celestion	Model 5	S	6"	-	1"	4k	70-20k -3dB	88	N	331x195x237	4.7	450	M
Digital Designs	DD6	S	6.5"	-	20mm	3.7k	70-20k ±2dB	88	Y	277x193x193	5	336	S, D
Digital Designs	DD161	S	6.5"	-	20mm	3.7k	55-20k ±2dB	88	Y	325x217x241	7.7	530	S, F, D
Digital Designs	DD261	S	(2) 6.5"	-	20mm	3.7k	50-20k ±2dB	88	Y	446x241x325	13.6	720	S, D
ElectroVoice	S-40	V	5.25"	-	1"	3.5k	83-20k ±3dB	85	N	249x178x150	2.6	336	F, D
ElectroVoice	MS-802	V	8"	-	1.5"	2k	45-18k ±3dB	91	N	438x305x282	12.2	630	D
ElectroVoice	Sentry 100A	V	8"	-	1.5"	2k	45-18k ±3dB	91	N	438x305x282	12.7	760	D
ElectroVoice	Sentry 100EL	V	8"	-	1.5"	2k	45-18k ±3dB	-	N	438x305x282	15	1580	A, D
Fastex	RM800	V	6.5"	-	RP horn	5k	55-25k ±3dB	89	N	216x380x220	6.7	500	X
Fastex	RM900	V	8"	-	RP horn	5k	50-25k ±3dB	92	N	260x440x265	8.5	798	X
Genelec	S30NF	V	8"	3.5"	2.5"	400, 4k	42-25k -3dB	-	N	320x495x280	20	4500	T, R
JBL	Control 1	V	5.25"	-	.75"	6k	120 20k ±3dB	90	Y	235x159x143	1.8	250	S, D
JBL	Control 1 Plus	V	5.25"	-	.75"	6k	110-20k ±3dB	91	Y	235x159x143	2.5	295	S, TT
JBL	Control 5	V	6.5"	-	1"	3k	75-20k ±3dB	92	Y	387x251x229	4.5	395	S, TT
JBL	4406	V	6.5"	-	1"	3k	55-20k ±2dB	87	N	390x238x216	7.7	500	TT
JBL	4408	V	8"	-	1"	2.5k	50-20k ±2dB	89	N	438x305x293	12	650	TT
JBL	Control 10	V	10"	5"	1"	1.1k, 4.6k	35-27k *	94	Y	610x432x305	14.5	1150	TT
Klark-Teknik	Jade One MkII	V	8"	-	1.25"	2.5k	55-17k ±3dB	-	N	534x390x264	22	2295	A, D
KRK	703	V	7"	-	1"	3k	54-15k ±3dB	92	N	289x265x247	11.4	899	D
KRK	1002	V	10"	-	1"	2.1k	49-19k ±3dB	94	N	422x416x313	20.4	1699	D
LM Acoustics	NF-25A	S	5.25"	-	10mm	3.5k	53-22k ±3dB	-	Y	254x286x260	14.5	599	A, D

Key to Comments

A = Internal Amplifier, B = Internal Biamplification, C = Cone Tweeter, D = Dome Tweeter, F = Resettable Tweeter "Fuse", H = HF Compression Driver, M = Metal Dome Tweeter, P = Powered Version Available, R = Ribbon Tweeter, S = Optional Subwoofer, T = Internal Triamplification, TT = Titanium Dome Tweeter, W = Down-firing Woofer, X = Curved Design



Celestion
Model 3



Digital
Designs
DD161

Smithline
2X4



A Buyer's Guide A Buyer's Guide A Buyer's Guide



Peavey
PRM
308S



USCO
DFW-3B



Auratone
T5V

Manufacturer	Model	Type	LF	MF	HF	X-Over	Freq. Resp.	Sens.	Mag?	Dimensions (mm)	Wt. (kg.)	Price/pair	Notes
Meyer	HD-1	V	8"	-	1"	1.6k	32-22k -3dB	-	N	386x289x386	20.9	4550	B, D
Meyer	HD-1S	V	8"	-	1"	1.6k	32-22kz -3dB	-	Y	386x289x386	23	4990	B, D
Norberg	BCS 16	V	6.5"	-	piezo	1.8k	42-18k +4/-3dB	88	N	434x241x241	10	695	
Norberg	BCS 28	V	(2) 6.5"	-	piezo	1.8k	33-18k +4/-3dB	88	N	289x434x325	15.9	1495	
Paradigm	3SE mini	V	6"	-	1"	3k	70-20k ±2dB	88	N	361x205x229	8.2	249	D
Paradigm	7SE MkII	V	8"	-	1"	2k	50-20k ±2dB	91	N	602x265x325	15.5	569	D
Paradigm	Compact	V	6"	-	1"	2k	55-23k ±2dB	88	N	373x205x289	10.5	599	D, M
Paradigm	Export	V	8"	-	1"	1.6k	45-23k ±2dB	90	N	578x265x337	15.9	849	D, M
Peavey	PRM 205A	S	5"	-	1"	2.5k	79-18k ±3dB	85	N	210x292x171	3.2	300	D
Peavey	PRM 208S	S	8"	-	1"	2.5k	68-18k ±3dB	92	N	248x381x210	7.3	400	D
Peavey	PRM 308S	V	8"	5"	1"	300, 3k	45-18k ±3dB	88	N	311x445x292	11.8	600	D
Peavey	PRM 310S	V	10"	5"	1"	300, 3k	44-18k ±3dB	88	N	533x356x286	18.2	740	D
Radian	MM8	V	8"	-	1.75"	1.8k	35-22k **	89.5	N	241x386x193	10.2	858	X, H
Radian	MS8	V	8"	-	1.75"	1.8k	30-22K **	89.5	N	458x289x235	15.9	996	X, H
Smithline Audio	2x4	V	(2) 4"	-	.75"	3.6k	70-20k ±3dB	87	N	319x241x145	5.9	549	D
Smithline Audio	2x4S	V	(2) 4"	-	.75"	3.6k	70-20k ±3dB	87	Y	319x241x145	6.4	599	D
Tannoy	PBM-6.5	V	6.5" poly	-	.75"	2.6k	57-20k ±3dB	90	N	319x217x213	11.5	350	S, D
Tannoy	PBM-8	V	8" poly	-	1"	2.4k	47-20k ±3dB	92	N	401x277x274	19	500	S, D
Tannoy	System2 NFM	V	6.5"	-	1"	3k	55-25k ±3dB	90	Y	540x440x260	28.8	550	S, D
Tannoy	System8 NFM	V	8"	-	1"	2.3k	48-25k ±3dB	93	N	510x350x280	26.4	1000	X, H
Tannoy	System10 NFM	V	10"	-	1"	2.3k	46-25k ±3dB	94	N	660x465x390	19	1500	X, H
TOA	265 ME-AV	V	6.3"	-	1.2"	3k	60-20k ±5dB	88	Y	206x350x245	5.2	398	D
TOA	280 ME-AV	S	7.9"	1.2"	0.8"	1.5k, 14k	60-20k ±5dB	89	Y	235x400x235	7	518	D
TOA	312 ME-AV	V	11"	4.7"	1.2"	500, 5k	50-20k ±4dB	91	Y	335x580x295	16.2	869	D
USCO	DFW-3B	S	6.5"	5.25"	1"	286, 4.7k	60-15k ±3dB	91	N	229x229x193	6.6	900	S, W
Westlake	BBSM-4	V	(2) 4"	-	.75"	1.5k	65-20k ±3dB	89	N	203x381x254	11.3	1258	D
Westlake	BBSM-5	V	(2) 5"	-	1.25"	1.2k	63-18k ±3dB	90	N	270x457x241	15.9	1458	D
Westlake	BBSM-6	V	(2) 6"	3.5"	1"	600, 6k	60-20k ±3dB	91	N	273x558x330	25	1950	D
Yamaha	S8M	V	8"	5"	3"	2.3k, 13.4k	50-20k ±3dB	90	N	483x267x222	7.5	180	F, D
Yamaha	NS-10M Studio	S	7"	-	33mm	2k	60-20k ±2dB	90	N	382x215x198	6.5	430	D
Yamaha	NS-40M Studio	S	(2) 7"	2.5"		1.3k, 5.5k	60-20k +2/-3dB	90	N	598x293x312	17	850	D
Yorkville	YSM-1	V	6.5"	-	1"	2.5k	40-20k ±3dB	90	N	392x235x211	8.6	280	D

* No ±dB tolerance available from manufacturer. Frequency response listed indicates only 10dB 11 point

** No ±dB tolerance available from manufacturer. Frequency response listed indicates only 6dB 11 point



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whether the monitor is magnetically shielded; and "Weight" refers to a single speaker. Prices stated are suggested retail for a *pair* (in the least expensive cabinet finish), rounded off to the nearest dollar. In addition to the models listed, there are a number of consumer-type loudspeakers—such as those manufactured by ADS (Wilmington, Mass.), B&W (Buffalo, N.Y.) and KEF (Chantilly, Va.)—that are popular with engineers who record classical music, and may be suitable for studio reference applications.

FEATURES

Starting from the back, one thing to

check out is the input terminal, which can range from a simple screw fastener to gold-plated, five-way binding posts. The latter are extremely versatile and can accommodate banana plugs, spade lugs, test prods, bare wire bent to go around the post, as well as holes in the post itself for inserting wires of various gauges.

Self-powered speakers with internal amplification seem to be gaining in popularity. These offer the advantage of providing a complete, matched monitoring system, and may be a good choice for the traveling engineer who is looking for a reliable, consistent ref-

—CONTINUED ON PAGE 150

Manufacturers of Reference Monitors

Audix, 5653 Stoneridge Drive, Pleasanton, CA 94566; (415) 463-1112.

Auratone, Box 180698, Coronado, CA 92178-0698; (619) 297-2820.

Calibration Standard Instruments, Box 2727, Oakland, CA 94602; (415) 531-8725.

Celestion, 89 Doug Brown Way, Holliston, MA 01746; (508) 429-6706.

Digital Designs, 125 West Main Street, El Centro, CA 92243; (619) 353-1290.

Electro-Voice, 600 Cecil Street, Buchanan, MI 49107; (616) 695-6831.

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

Genelec/QMI, 15 Strathmore Road, Natick, MA 01760; (508) 650-9444.

JBL Professional/UREI, 8500 Balboa Blvd., Northridge, CA 91329; (818) 893-8411.

Klark-Teknik, 308 Banfi Plaza North, Farmingdale, NY 11735; (516) 249-3660.

KRK Monitoring Systems, 16462 Gothard St. Unit D, Huntington Beach, CA 92647; (714) 841-1600.

LM Acoustics, 31133 Via Colinas, Suite 111, Westlake Village, CA 91362; (818) 707-2621.

Meyer Sound Labs, 2832 San Pablo Ave., Berkeley, CA 94702; (415) 486-1166.

Norberg, c/o Soundstage Electro Acoustics, 10052 Babbitt Ave., Northridge, CA 91325; (818) 993-8717.

Paradigm Electronics, 569 Fenmar Drive, Weston, Ontario, Canada M9L 2R6; (416) 749-2889.

Peavey Electronics, 711 A Street, Meridian, MS 39302; (601) 483-5372.

Quested c/o AKG Acoustics, 1525 Alvarado Street, San Leandro, CA 94577; (415) 351-3500.

Radian, 4520 E. Eisenhower Circle, Anaheim, CA 92807; (714) 693-9277.

Smithline Audio, 7766 Burnet Ave., Van Nuys, CA 91405; (818) 786-7324.

Tannoy/TGI, 300 Gage Ave., Unit 1, Kitchener, Ontario, Canada N2M 2C8; (519) 745-1158.

TOA Electronics, 601 Gateway Blvd., South San Francisco, CA 94080; (415) 588-2538.

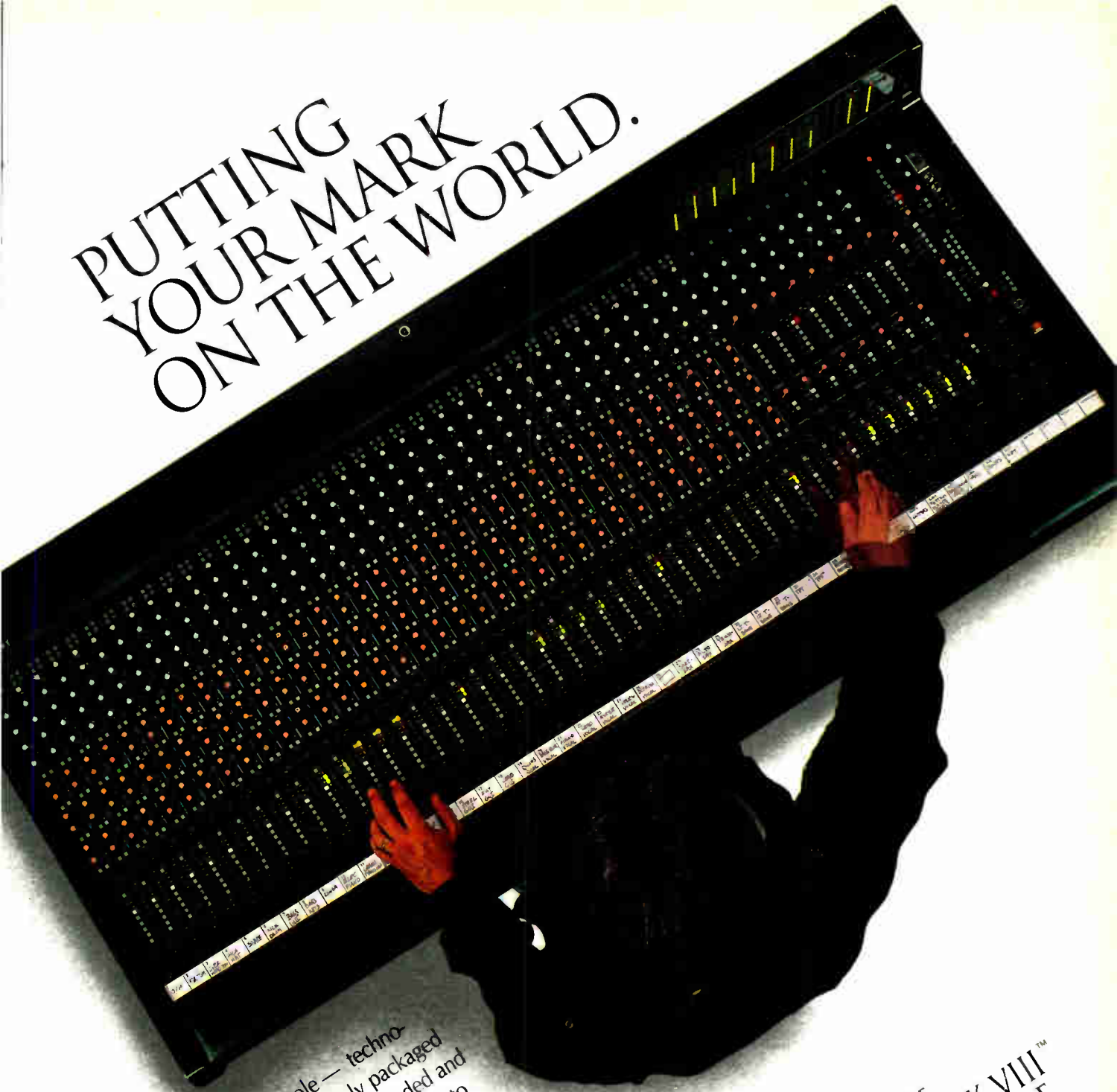
USCO Audio, 2623 Canyon Drive, Hollywood, CA 90068; (213) 465-4370.

Westlake Audio, 2696 Lavery Court #18, Newbury Park, CA 91320; (805) 499-3686.

Yamaha Pro Audio, 6600 Orange-thorpe Ave., Buena Park, CA 90622; (714) 522-9011.

Yorkville Sound, 4600 Witmer Industrial Estate, Niagara Falls, NY 14305; (716) 297-2920.

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Watch for your voting ballot in the August issue of *Mix!*

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Skyline Studios, New York, NY

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MasterMix, Nashville, TN
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Margarita Mix, Hollywood, CA
Post Logic Inc., Hollywood, CA
Howard Schwartz Recording Inc., New York, NY
Sync Sound Inc., New York, NY

Remote Recording Facility

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Efi'anel Music Inc., New York, NY
Le Mobile, North Hollywood, CA
Remote Recording Services Inc., Lahaska, PA
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Drawmer DL 241 Dual Auto Compressor
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Lexicon 300 Digital Effects System
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AMS AudioFile Plus
Panasonic SV-3700 DAT Recorder
Sony PCM-7000 Series Studer D820-48 48-Channel DASH Digital Recorder
3M 996 Tape

Console Technology

Crest/Gamble EX Monitor Console
Euphonix Crescendo Audio Mixing System
Harrison Series Ten B
Mackie CR-1604
Otari Premiere Console
Soundcraft 3200

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E-mu Proteus 2
Ensoniq EPS-16 Plus Digital Sampling Workstation
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Electro-Voice RE27 N/D
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Computer Software/Peripherals

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Opcode Studio Vision
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Ancillary Equipment

Audio Precision Portable One
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Niche ACM Audio Control Module
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Sound Reinforcement Product of the Year

ATI Paragon House Console
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JBL SR4700 Series Loudspeaker Systems
Sabine FBX Feedback Exterminator
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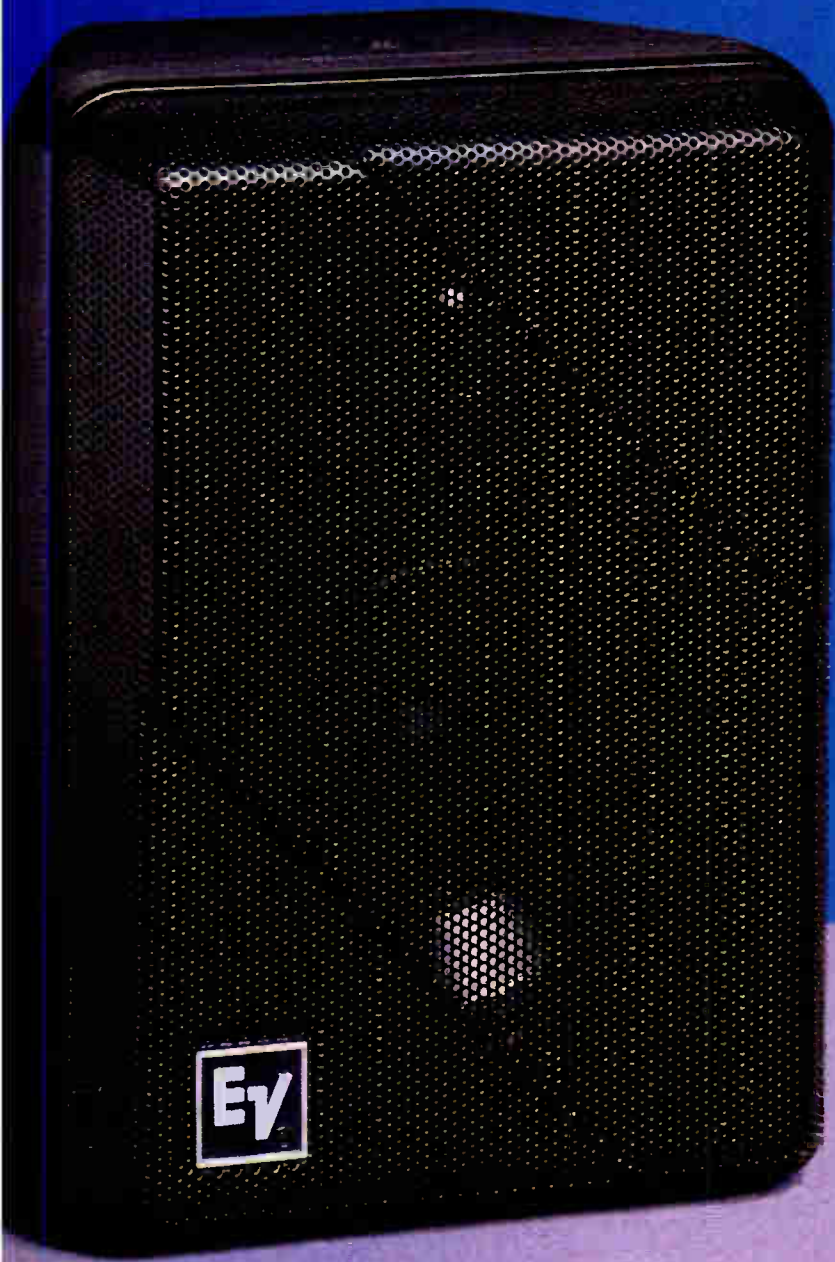
Recording Product of the Year

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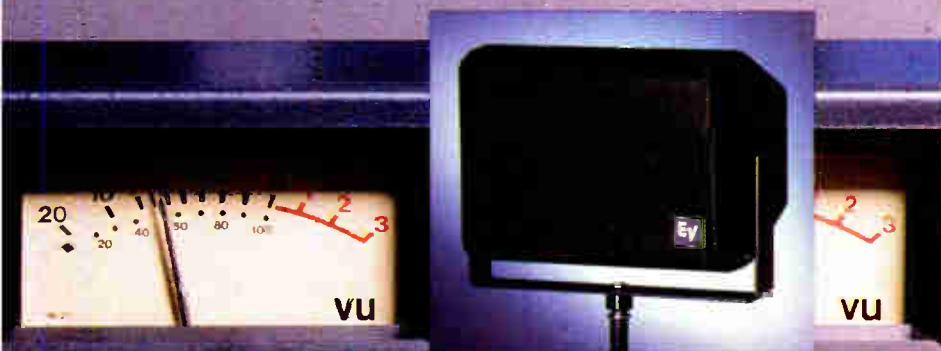
We like to say that the S-40 "breathes freely." Unlike our competitors, we gave it independent woofer and tweeter protection, which activates only when the speaker is overdriven, never before. EV's exclusive PRO™ circuit protection guarantees 160 watts of long-term power capacity.

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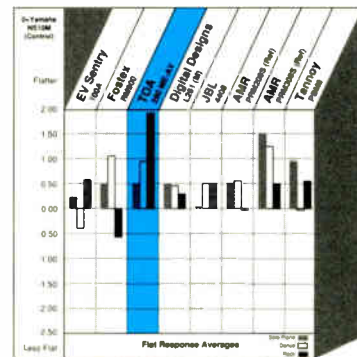
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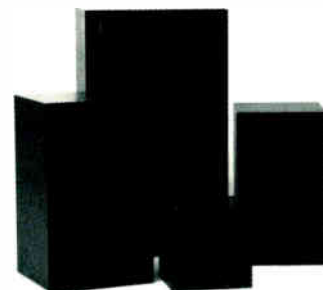
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by Bob Hodas

MEYER SOUND LABS

CP-10 STEREO PARAMETRIC EQ AND VX-1 STEREO PROGRAM EQ

M

eyer Sound Laboratories has developed two equalizers that have applications for both the studio and live sound markets. The already established CP-10 is a stereo parametric EQ, while the new VX-1 is a stereo program EQ. Both exhibit the same attention to detail and sound quality that has built the Meyer reputation.

The CP-10 is 2U x 7.5 inches deep and weighs ten pounds. The front panel displays two channels of controls. Each channel has five bands of parametric EQ plus high and lowpass shelving filters. Each parametric band has an in/out switch, while three continuously variable pots control frequency boost/cut, center frequency select and band-

also selects either single-ended or balanced push-pull operation. Voltage selection of 120/240 volts is also accessible from the rear panel.

The CP-10 (the CP stands for Complimentary Phase) was designed for eliminating room resonances in studios and concert venues, but it is also useful in the recording environment on individual tracks and mastering. This circuitry allows only minimum phase distortion, even at extreme settings. For instance, a 15dB boost on one channel can be matched and corrected with a 15dB cut on a second channel and exhibit no measurable distortion or phase



width. The bands cover frequency ranges of 20-200 Hz, 600-600 Hz, 200-2k Hz, 600-6k Hz and 2-20 kHz. Bandwidth range is 0.1-1.1 octaves and amplitude is ± 15 dB. LEDs indicate power, ready, and input and output clipping. A security cover is optional.

The rear panel contains balanced XLR in/out connectors, chassis ground lift switch and AC receptacle. A switch

shift (see Fig. 1). The design allows the CP-10 to suppress early room reflections of up to 40 milliseconds with anti-resonant equalization.

I have used this EQ on shows throughout the States and in Japan and must say that it delivers on its promises. It has a way of taming hall acoustics that must be heard in order to be believed. We did a test in a local coliseum with a CP-10 and a popular 31-band graphic in which we tuned the concert system with both equalizers. With the graphic the system sounded flatter, but we were still fighting the reverb of the arena and the music was unclear. With the CP-10 (utilizing the Meyer SIM™

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measurement system) the room appeared to become smaller, the vocals came out front and the music was intelligible. It was nothing short of amazing. [Note: More information on *SIM* is contained in the *AES reprint #2150 (18)*]

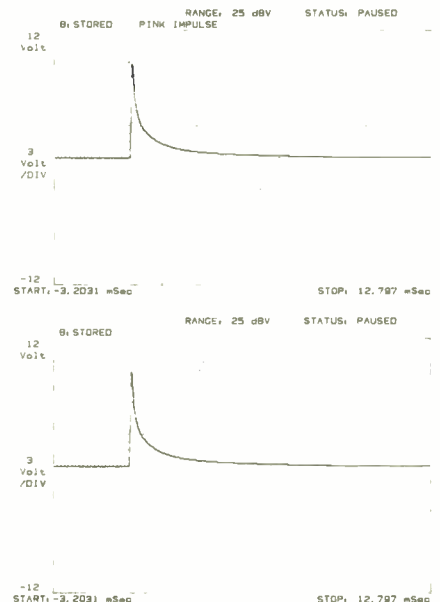
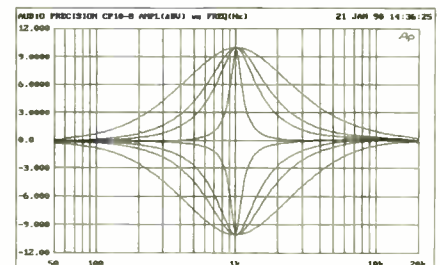


Fig. 1: Top, an unfiltered pulse. Bottom: A pulse gets a +15dB boost on one CP-10 channel and is corrected by a -15dB cut on the other channel, without phase shift or distortion.

In the studio, I used the CP-10 on a variety of material: vocals, drums, strings and horns. One of my complaints about most console equalizers is that the sound changes for the worse



Above: The CP-10's ± 10 dB EQ curves, ranging from full to minimum bandwidth, are symmetrical.

as soon as the EQ is engaged, even with all settings set for a "flat" response. With the CP-10 flat and the filters engaged, I inserted it into the track and heard no change at all. The EQ was



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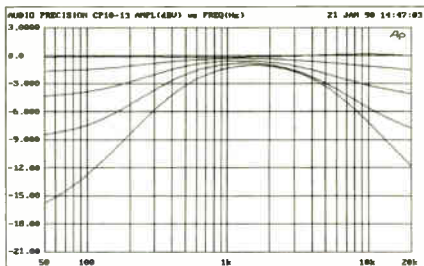
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The figure above shows the smooth shelving action of the CP-10's high/lowpass filters.

smooth and transparent, and I could make major high-end boosts without the sound becoming thin or gritty. I like having a constant bandwidth as opposed to a constant Q—that way I can affect only the frequencies I'm going after no matter how much amplitude change I use. I also like having symmetrical curves in boost or cut. With five overlapping bands plus high/lowpass filters, I have plenty to work with. This is what I want in a studio outboard EQ.

I spoke with Roger Nichols, who has been using a CP-10 for some time. He liked the transparency of the unit and felt that he could change the source without sounding like he was running through something. He also noted that most EQs affect the sound when inserted into the track. He has used the CP-10 on piano, sax and vocals, and puts it on "the most important instrument" when cutting live tracks.

VX-1

The VX-1 program equalizer is unique and versatile. It can be considered a "virtual crossover," since it looks like an active speaker crossover. One application is setting a house curve on your near-field reference monitors. Analog and digital project curves should be different, since digital doesn't exhibit any high-end loss. If your near-fields are too bright, you could roll off exactly the amount of high end you desire. Maybe you want to simulate a disco system, theater curve or some other non-linear playback system. All of this is possible with the VX-1, in addition to mastering and track EQ.

Mastering engineers will find the VX-1 gentle and subtle as it utilizes 6 dB/octave minimum phase filters. All three bands can be boosted or cut to the limit and the only change will be amplitude—no ripple, phase shift or tonal change. Pots are detented so repeatability of setup is no problem.

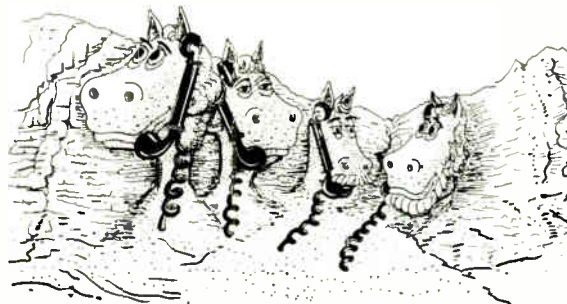
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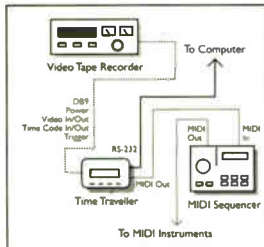
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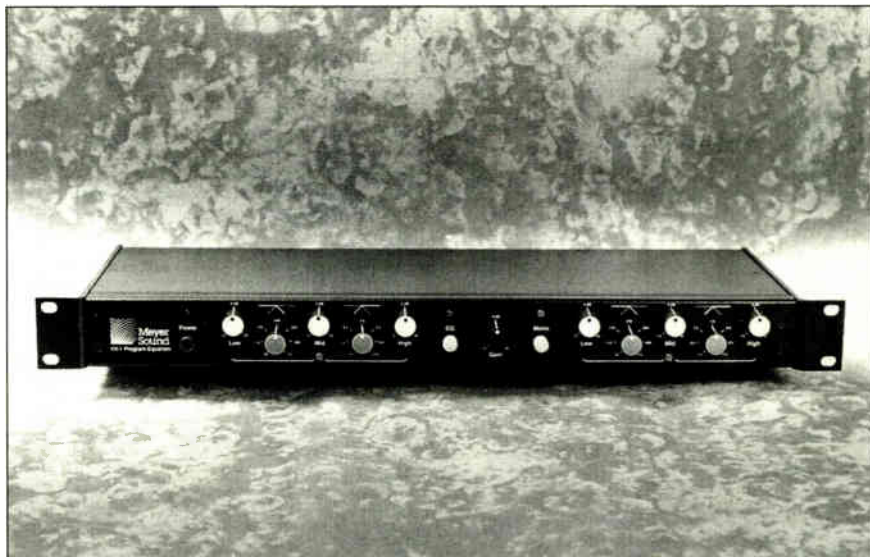
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FIELD TEST

box. The front panel contains three switches with LEDs that control power, mono mode (handy for checking phase) and EQ in/out. A variable gain

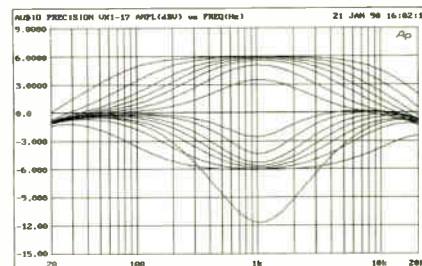
worked well. On vocals I was able to add air and trim out some proximity effect with no effort. On guitar I knocked down some low mid and added a distinctive brightness to the instrument without radical moves.



pot allows unity matching (-12/+6 dB). Each channel has three available bands: high and low bands are shelving, and the mid is peaking. Adjustable break frequency on the lows are 60-1k Hz and the highs are 1-16 kHz. Each band has 12 dB of cut and 6 dB of boost available.

I spoke with Hank Williams at MasterMix in Nashville about his impression of the VX-1 for mastering. He had used some subtle additions on a couple of different projects, and thought it was smooth and gave the projects a finished sound. Roger Nichols has also been using the VX-1. He feels it is extremely clean and has been

The rear panel houses a power cord receptacle and switches for setting four AC power ranges that cover any requirement. The VX-1 will accept balanced +4dBu XLR inputs or unbalanced -10dBV RCA inputs. A switch is provided to select between the two. The XLR inputs contain Meyer's ISO™ circuit, providing true earth isolation on all pins with no gain change, regardless of which pin pairs you use. The outputs are electronically balanced +4dBu XLRs.



The action of the VX-1's filters at various midrange settings.

The VX-1 sounded great in all settings I tried. I recently used it to mix an album in L.A. at an unfamiliar studio with a very bright room. When placed in-line between the console and my HD-1 monitors—to roll some top off and add a little bottom—the VX-1 made just the right difference and the mixes turned out well-balanced. It was a lot better than guessing and mixing with the material uncomfortably bright on the whole project.

using his primarily in front of his HD-1s to compensate for console and room problems.

Both the CP-10 and VX-1 are excellent-sounding tools. The minimum phase technology combined with Meyer reliability and competitive pricing make them quite attractive for the studio and the road.

I also used it where I would normally use a Pultec program EQ. Using the VX-1 on kick drum (to pull out just a bit of bottom and add a little top), it

Currently on tour in Asia, Bob Hodas is an independent engineer and producer based in the San Francisco Bay Area.

by David (Rudy) Trubitt and David Borough

THE STRAWBERRY MUSIC FESTIVAL



PHOTO: DAVID BOROUGH

Twice a year, a community of acoustic music lovers comes together in a campground in California's Sierra foothills, not far from Yosemite Valley. Over the course of a four-day weekend, as many as 4,000 people attend the Strawberry Music Festival. Produced by Strawberry Music Festivals (Sonora, Calif.), the festival began as a bluegrass event, but its musical scope has broadened to encompass a variety of acts, mostly acoustic. Last fall's show included performances by Emmylou Harris, Robin and Linda Williams and many others, while previous festivals have included k.d. lang, Taj Mahal and the David Grisman Quintet. In addition to the main stage performers, a variety of other acts and activities keep

several smaller stages busy.

With the number of stages and acts involved, keeping the sound systems moving smoothly requires a solid team effort. Supervising sound for the entire festival is Larry

Cummings of Nashville. Cummings participated in the very first festival as the tour engineer for the David Grisman Quartet. Strawberry's management was impressed when his tweaking made a noticeable improvement in their system's overall sound; a year later, they asked him to produce the festival's sound.

Linear Productions (Oakland, Calif.) provides equipment and crew for the festivals. Headed by Kaj Kline, Linear has provided equipment for the event since 1985. Starting as Linear Sound Systems in the late '70s, the company began with local shows and then moved into touring. A recent name change to Linear Productions reflects the company's growth into all facets of mul-



Top: Main stage from mix position

Left: Emmylou Harris with The O'Kanes; **Center:** Bela Fleck; **Right:** The Edlos (Bad Boys of A capella) at the Strawberry Music Festival.

PHOTOS: MARIA CAMILLO, STRAWBERRY STAFF

tistage event production.

The festival's main stage is situated at one end of a large meadow. Of course, equipment used reflects the nature of the music presented. For instance, Cummings prefers working with paper cone midrange drivers for acoustic music reproduction. The cabinets he relies on are built by Mark Wayne, formerly designer for Harbinger Audio, now with Electronic Acoustic Research. "It's an engineer's dream to be able to run without radical EQ," says Cummings, "and I can run these with the EQ literally flat."

Two models of EAR cabinets are used on the main stage, the M-800 and M-1000. Both are active three-way systems developed in the early '80s. The M-800 uses a JBL 2450 driver for the high end, a JBL E-120 12-inch for the midrange and a Vega 189ES 18-inch for the low end. The M-1000 uses the same high and mid components with two JBL 2226 15-inch cones. Eight M-800s sit on either side of the stage with a splay angle of 11.25 degrees between cabinets.



Larry Cummings leading the sound reinforcement workshop

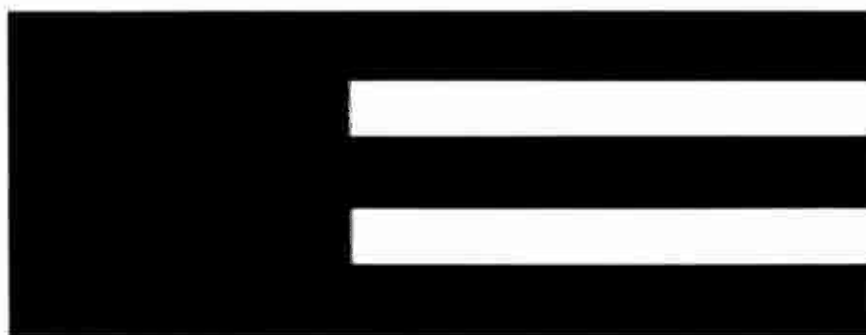
Two M-1000s are used in a delay tower located behind the mix position, with the left-right signals reversed to preserve stereo imaging for listeners off to the sides. The tower and mix position block sight-lines from center rear seats, so no one gets a reversed stereo image. A DeltaLab delay is used for alignment.

Linear Productions also uses EAR amplification. The amps are MOS-FET-based and take advantage of the soft clipping characteristics. The power supply rails of each amp channel are user-selectable, allowing the maximum power delivered

to each driver to be soft-limited at the amp. BSS crossovers and Klark-Teknik EQs drive the amp rack.

Depending on the act's needs, two consoles are available at the main stage—a Yamaha PM3000 and Soundcraft 800B. A number of gates and compressors (dbx units and Drawmer DS-201s) are available for insertion into individual channels. Effects are used sparingly, but a Yamaha REV5, SPX90 and Roland SDE-3000 are available should the need arise.

"Mic selection is not as critical as you might think," says Cummings. A



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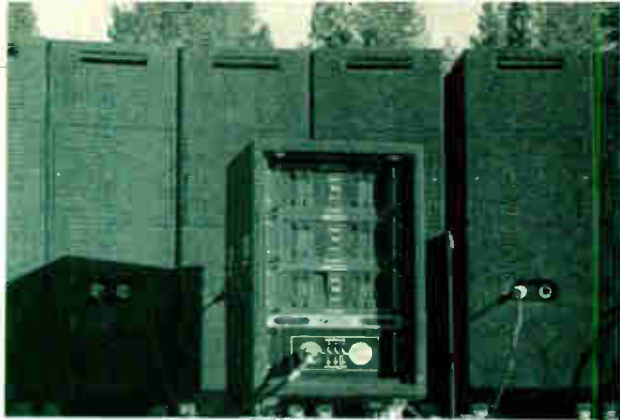
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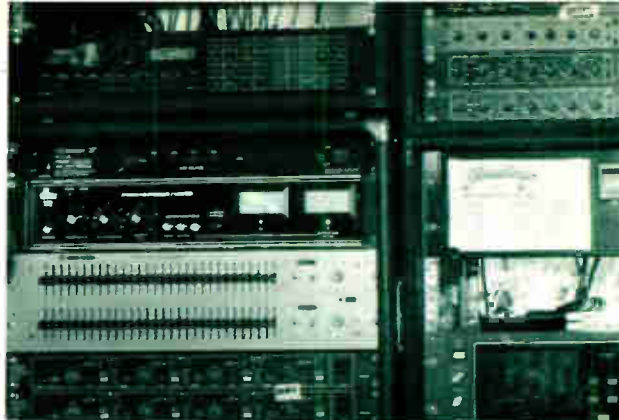
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EAR M-800 speakers and amp rack, main stage



Flat EQ on M-800 mains

mix of basic mics (SM57s, 58s and ATM-33Rs) along with higher-end condensers (AKG 452s or Neumann KM8 is) do the job. Cummings also favors a handmade drop-in mic built by Joe Mills (engineer for Owen Bradley) called the MM1. "We also use a lot of direct boxes," Kline adds, "since many acoustic acts have pickups in their guitars."

A Soundcraft Delta 24x10 and Amek/TAC Scorpion 40x12 share monitor mix duties, with Klark-Teknik 1/3-octave EQs for each mix. Either passive two-way or bi-amped wedges with JBL drivers are used.

EAR MOSFET amps are also used for the monitors, along with BSS FDS-310 crossovers. Drum monitors and sidefills are available, but are not required by most acts.

The Strawberry Music Festival takes the unusual step of providing a separate stage where performers can teach and answer questions in an informal setting. Workshop topics include vocal and instrumental techniques, songwriting and more. Sound system components for this stage include the EAR M-500, which is a passive two-way box, QSC power amps and a Yamaha 1604 mixer.

Recently, they began holding a sound reinforcement workshop. "With this type of festival," Cummings says, "a lot of the attendees are musicians who want to learn how to get a good sound. We start the workshop on the main stage from the performer's perspective. For instance, why do you need a monitor system? What is feedback? Anywhere from 20 to 40 people come up and get a better grasp of the show, which gives them a better appreciation of what we go through in our 16-hour day."

Yet another stage is set up on the



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Portable One




shores of a small lake. This stage plays host to children's and teen entertainment and a gospel show early Sunday morning. Lake stage sound includes four more EAR M-1000s and amplifiers, a Yamaha 1604 console, an SPX90 and a basic mic collection. Two monitor mixes are run from the FOH console. The full system is used for the Sunday morning show, and other events use a slightly scaled-down system.

The remaining performing area at the festival is up in the dining hall. Linear does not provide equipment for this space: It's staffed and equipped entirely by volunteers. Events at this hall include open mics, a teen dance, and after-hours appearances by some main stage performers. Sound here is run by Dave Nielsen, who has been making recordings of the festivals for some time. A group of volunteers plans the equipment needed for the room a few months in advance. "In all the years we've done the festival," Nielsen says, "we've never had to go back to get anything. Never!"

The spring '91 festival was held over Memorial Day weekend, and plans are already well under way to do it all again this fall. Dates are September 12 through 15, and the location is Camp Mather in Yosemite, Calif. Booked performers include the David Grisman Quintet, John Hartford and the Nashville Bluegrass Band, with more to come.

One thing missing from any description of technical details is the feel of the event itself. Everyone involved in the festival speaks of the great spirit of community generated during those four days in the Sierra Nevadas. "It's a magic place to play music," says Larry Cummings, "and the performances are exceptional—which, in the end, is what it's all about." ■

David (Rudy) Trubitt learned folk guitar as the mascot for a bluegrass class at the University of Hawaii. David Borough is a musician and photographer living in the San Francisco Bay Area.



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by David (Rudy) Trubitt

SOUND CHECK



Garrison Keillor's American Radio Company on location in Dallas

Take Them Bowling

Minnesota Public Radio's traveling American Radio Company recently found themselves at "the tackiest place we've ever done a show," according to an on-air quip by host Garrison Keillor. The Bronco Bowl of Dallas was built in the '50s as a venue for televised bowling. Since then, the lanes have been removed and the room is usually used for rock shows. In addition to its unique ambience, the former alley sports "one of the world's worst load-ins" according to crew members. The Radio Company travels with its own broadcast equipment, but hires out for house sound. In this case, **Bernhard Brown** (Dallas, TX) provided a Yamaha PM3000, Crest 8001 and 7001 amplifiers, Turbosound TMS-3 loudspeakers, Klark-Teknik EQ, BSS crossovers and stage lighting.

MPR's broadcast rig centers around a modified Gamble EX56 mixing console. The board includes two independent monitoring sections to allow the mixing engineer

and assistant to independently cue tape machines and broadcast feeds. An extensive talkback system provides communication with intercoms, foldback, house and actor headphones. Although the mics are split before the consoles for two independent mixes, the broadcast board feeds the house system with taped sound effects and occasional digital reverb.

"Our major requirement is for a high-fidelity sound system," says MPR technical director Scott Rivard. "When the room sounds good, the audience mics [picking up the FOH mix] provide a good-quality reverb for the broadcast. We travel with a house mix engineer [John "Klondike" Koehler] who understands what house sound does to the broadcast. For instance, if a sound effect is missed in the house system, it won't have any reverb and will sound dry. The sound system has to make the biggest positive contribution to the broadcast sound, and this usually is desirable for the house anyway."

High-Performance Award

Tampa was the site of this year's *Performance* magazine Summit Conference, held in February. Featured at the event were the mag's annual reader's poll awards. This year's winners include Brian Ruggles (house sound mixer), Tom Holmes (stage monitor mixer), JBL Professional (equipment manager) and Clair Brothers Audio (sound company). "We're happy to have regained the award—it's our 12th in 14 years and we're extremely pleased," says Clair spokesman Greg Hall. JBL is similarly pleased, and credits the award to its close relationship with its customers. "We cater to touring companies like an automotive company who sponsors a racing team," JBL's Mark Gander says. "This kind of intimate relationship helps us develop products that push the technology toward the future."

NEWS FLASHES

Platinum Sound Productions of Tampa, FL, and **Rafy Milan Audio** of Puerto Rico have added Turbo-sound equipment to their inventories. A variety of cabinets, including 12 TMS-4s and 18 QSC EX4000 amps were part of Platinum's order, while 16 TMS-4s made their way to Rafy. If either company needs a few extra TMS-4s, they'll be happy to know that the boxes are now part of the worldwide TurboLink network. The Link network provides touring companies access to extra equipment, as well as providing a forum for member cooperation, including the development of interconnection standards. **United Sound Associates** of Yakima, WA, handled sound duties for the Lionel Hampton/Chevron Jazz Festival held in February at the 18,000-seat Kibbie Dome on the campus of the University of Idaho. Dizzy Gillespie, Billy Eckstine and Stanley Turrentine ap-



United Sound Associates handled sound at the Lionel Hampton/Chevron Jazz Festival at the University of Idaho, Moscow. Pictured are a wheatstone MTA-88 (house) and Gamble HC40-24 (campus TV broadcast). A stereo array of the company's own MS-1 cabinets are pictured above the stage.

peared along with a host of others. United Sound used its own four-way MS-1 cabinets, a Gamble console and Crest amps. An Alesis I622 mixer was used in the backstage/green room area... Showco is busy with ZZ Top's ongoing U.S. tour, George Michael in Tokyo and London, INXS, Living Colour and the Beach Boys. With the shooting over in the Gulf, the company has noticed a big increase in summer overseas bookings. "June is *crazy* in Europe," a Showco spokesperson said... Meyer Sound notes: The McPherson Foundation Royal Theater in Victoria, BC, installed four MSL-3 cabinets. Another recent Canadian install for Meyer is the Unicorn Pub, located in Vancouver. A UPA-1 system has been installed in the pub, which is owned by the Irish Rovers... Pro Media (El Sobrante, CA) is padding across the Eastern Seaboard with *Cats*. The arena dates will be covered with MSL-3s, UPA-1s and the company's own dual 18-inch subwoofers... Clair Brothers systems are on the road with the Yes reunion tour, Edie Brickell & New Bohemians and Michael W. Smith to name a few. Clair Brothers Mexico (Mexico City) is open for business as of February 1991... Bag End Loudspeakers has reached another milestone—its 15th anniversary!... Wood Entertainment Services Co. of Little Rock, AR, recently picked up a Soundcraft Venue, while the Jubilee Christian Center in San Jose, CA, has taken delivery of a Soundcraft 6000.

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

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SOUND REINFORCEMENT NEW PRODUCTS

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Priced between the top-of-the-line SR9000 Superconsole and the Scorpion II models is the new TAC SR6000 from Amek/TAC U.S. of North Hollywood, Calif. Features include 4-band EQ with variable highpass filter, input metering on every channel, eight mute/VCA groups, 10x8 matrix, four stereo effects returns (with EQ and fader), and a unique aux send system offering from eight to 16 sends. Available in 40-, 32- and 24-input mainframes, the SR6000 is priced at \$59,500 in a 40-channel configuration.

Circle #290 on Reader Service Card

CLARK SNAKE CABLE

Clark Wire & Cable (Northbrook, Ill.) offers two lines of snake cable in sizes ranging from eight to 32 channels. The Flex line is a highly flexible cable designed for touring applications and features a 98% bare copper spiral shield and a black matte finish PVC jacket. Tailored for permanent installations, the AMS series has foil shielding and is said to pull through conduit easily. Both series of snake cables use 22-gauge, OFC (oxygen free copper) conductors with copper drain wires and individually jacketed and numbered pairs.

Circle #293 on Reader Service Card

**EV FM-12C FLOOR MONITOR**

The FM-12C from Electro-Voice (Buchanan, Mich.) is a compact stage monitor utilizing a rugged, roto-molded, polyethylene enclosure offering a lightweight (under 30 pounds) design. A unique cabinet shape incorporates an integral handle and allows the FM-12C to be oriented at 35, 45 or 50 degrees from the floor. This two-way system combines a 12-inch, cast-frame woofer (200W long-term, 800W peak) with a coaxially mounted SuperDome™ HF driver for controlled response to 18 kHz.

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**TELEX FMR-100 WIRELESS**

Featuring patented Pos-i-Phase™ true-diversity circuitry is the Telex (Minneapolis, Minn.) FMR-100 wireless system, operating in the 150-216 MHz VHF band. The compact receiver has LED indicators for RF level, audio output and diversity,

and up to 12 systems can be used simultaneously in one location. The system's dynamic range is said to be over 104 dB. The FMR-100/WT-60 beltback system is \$900;

equipped with the HT-100/10 handheld mic, the system retails at \$920.

Circle #294 on Reader Service Card

**SENNHEISER BF 530**

Designed for pro vocal applications is the BF 530 from Sennheiser of Old Lyme, Conn. The BF 530 is a supercardioid dynamic mic, and its adjustable basket slides to change the distance between the mic capsule and sound inlet, allowing control of the proximity effect (the bass boost that occurs with close-miking) to suit a vocalist's style. Other features include lockable, magnetic-reed on/off switching, steel mesh basket and shock-mounted capsule.

Circle #292 on Reader Service Card

STEWART PA-1200/1500 AMPLIFIERS

Stewart Electronics of Rancho Cordoba, Calif., has expanded its PA series of professional power amplifiers with the addition of the PA-1200 (400W/ch or 1,200 watts bridged mono at 4 ohms) and PA-1500 (500W/ch or 1,500 watts bridged mono). All models in the series use a switch-mode power supply, which substantially reduces the weight of the units: The PA-1200 weighs 15 pounds; the PA-1500 is 17 pounds. Both are housed in a two-rackspace chassis and feature balanced XLR and unbalanced 1/4-inch inputs; five-way binding post and 1/4-inch outputs; forced air cooling; LED indicators for power, clip and -20/-3dB level; and a true dual-mono configuration, where each chassis contains two independent amplifiers with separate power supplies.

Circle #295 on Reader Service Card

—FROM PAGE 50, EMERALD SOUND

who remained on staff from the studio's previous incarnation. Moore bought the studio and the adjacent three-story Victorian home from producers David Malloy and Evan Stevens in 1986. He hired Copp to oversee the revamping, which included gutting the control room, doubling the room size and bringing in Hidley to design the space around the new SSL console.

"We started from ground zero and didn't cut any corners," Copp says. The wiring is all by Mogami, Canare or Monster Cable, and the studio has 190 microphone inputs.

Emerald currently is conducting a survey to see what other equipment should be added. Little has prepared a list of possible purchases of various preamps, equalizers, effects, tape machines and microphones, and asks people to check which gear they would most likely use. The survey is being sent to regular clients and potential clients.

One of the big stories out of Emerald is the broadcast room with a 3.5-meter satellite dish. The company produces three syndicated radio shows—*Nashville Live*, *Saturday Night*

**"You can
record an album,
mix it and promote it
all in the same place.
It's one-stop
shopping."**

House Party (with country music dj Gerry House) and *Star Tracks*—out of the top floor of the Victorian building.

The satellite also allows artists to do interviews with radio stations elsewhere. Some have used it to promote new albums or concert dates. For example, Larry Gatlin did 20 interviews in two days in a promotion assisted by

Southwest Airlines. The station would play the single in conjunction with the interview. Then the disc jockey would tell listeners that the next time the song was played, a call-in winner would receive two round-trip tickets to anywhere Southwest flies.

"We're on every level of the food chain," Moore says. "You can record an album, mix it and promote it all in the same place. It's one-stop shopping."

Of course, the satellite can be used in the recording process, too, for sending mixes across the country or receiving overdubs from other studios with uplink abilities.

Emerald also runs a telephone research company as part of its Emerald Entertainment Group. During its live radio shows, the company advertises its 1-800-635-STAR number: Callers can enter a contest, join a fan club or sign up for mailing lists. In return, Emerald collects information such as age, sex, address, income, whether they are in the market for a car, whether they order items from catalogs, etc.

"With this, we've gained a profile of who the country music buyer and listener is, and it's radically different from what most people think," Moore says.



The phone service sometimes offers callers a sampling of songs from albums and requests opinions. They plan to use the line to sell albums and merchandise in the future.

"We do things a lot differently from the way it is normally done," Moore adds. "We talk a lot with our clients, and we're always looking for ways we can provide more services and more comforts for our clients."

Steve Winwood recently took full advantage of Emerald's extra touches. The British artist, who owns a large house on a farm in the countryside near Nashville, first worked at Emerald on a remix of his hit, "Don't You Know What the Night Can Do."

When it came time to record his recent album, *Refugees of the Heart*, he decided to do the bulk of the work at Emerald. The only other studio used for tracking was Winwood's personal studio in England.


Winwood booked Emerald for a month for his recording. He'd often arrive early and make his own breakfast in the kitchen. His manager, Ron Weisner, settled into an office on the top floor of the Victorian home. (Emerald currently is renovating another building across the alley to add more office space.) When the album was finished, Winwood did his promotional interviews for *Rockline* and other radio shows from Emerald's broadcast room.

"The Winwood project utilized every service we have," Moore says. "He recorded it here. He mixed it here. He had his album listening party in the tracking room, inviting program directors from across the country to come hear the album in the same room where it was recorded."

It's that kind of personal attention that Moore emphasizes to staff and clients. "You can't make a strong enough request for us," he says. "A lot of our clients have had a big hand in running their own business, so we will provide an office for them, give them secretarial support, whatever. Or we'll run and get you a cheeseburger in the middle of the night."

"We always have someone here, no matter what the hour, even if it is just to answer phones and keep the coffee fresh. We want to make sure the little things are taken care of for them, so they can concentrate on what they do best."

Mike McCall is a Nashville-based freelance writer.



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MICHAEL BOODICKER (on locking up two tape machines) "Thank you Russian Dragon! You've taken the guesswork out of syncing."



KEITH COHEN "I bought a Russian Dragon for a Paula Abdul project. Now I never mix without it."

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JEFF LORBER "I love the Russian Dragon. Now I can sync and lock up much faster. It's great to have audio and visual feedback. Lately, I've used it on MC Hammer, Ray Charles, and The Fix."

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LUNCHING WITH BONZAI

—FROM PAGE 71, LOS LOBOS

to them anymore. And we didn't want them to think we were forgetting them. We just moved out because we had kids and we had to get away from all the shit happening in East L.A. But when we go back, the people come out to shake hands. It feels good.

I'd like to believe we are role models, that we show people there are alternatives, options. We're certainly a miracle—just minority kids from the neighborhood. I don't know how it happened, but we just plugged into the alternative music thing in L.A. at the right time and had an opportunity to express ourselves. There are a lot of great musicians around, and maybe we're helping to open a few doors for others.

Hidalgo: Going to Mexico for the first time, it was nice to find out that people down there had been following our career, fans who are really behind what we are doing. It turns out that they have a lot of respect for us.

Perez: Like we are ambassadors of Mexican culture, rather than expatriates who have severed their ties.

Bonzai: Can you imagine doing any-

thing else besides making music?

Berlin: I think we all consider ourselves very lucky to be able to make a living at this. A few years back it seemed impossible that it was really happening, but it's still happening. I consider myself incredibly lucky.

"I'd like to believe we are role models, that we show people there are alternatives, options."

—Louie Perez

Bonzai: I imagine that your families are pretty proud. Did they have their doubts in the beginning?

Berlin: Mine did.

Perez: For us, growing up in the *barrio*, they were glad to see us doing something different, anything to get us off the streets. They bought us guitars and supported what we were trying to do. I'd get up in the morning and play guitar all day long. My mom wouldn't complain much.

As we got older and life got more complicated and we had wives and

families—speaking for myself—people would say, "Oh, that Louie, he's a musician." I wasn't way up on the rungs of the ladder, as far as the family was concerned. Then when things happened, I became the favorite.

Bonzai: Are you doing all right with this music thing?

Perez: Making a living, paying the bills. We've all managed to buy ourselves houses and fill them up with kids. Nothing luxurious.

Bonzai: Do you think your kids will grow up differently than you did?

Perez: It's funny you should ask. My kid is 14 years old, and even though we've moved to an average neighborhood, there is stuff in the schools that you can't avoid. He likes music, plays guitar and doesn't follow any trends. He's kinda crazy, but it's a good, creative kind of craziness.

There is still a lot of work to do in getting rid of the stereotypes and creating new images for the culture. We're doing our best—and trying to make some music that survives. ■

In his wilder days, Mr. Bonzai once danced the la bamba while eating a Chile relleno.



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by Philip De Lancie

RIAA REPORT

RECESSION SKIPS MUSIC MARKET

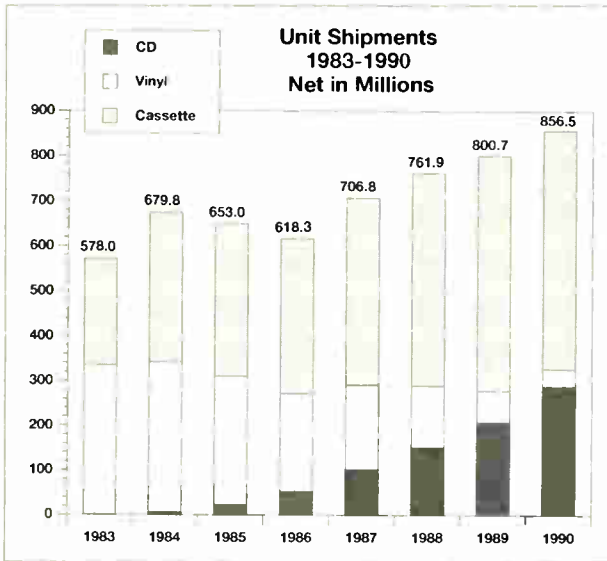


Fig. 1a

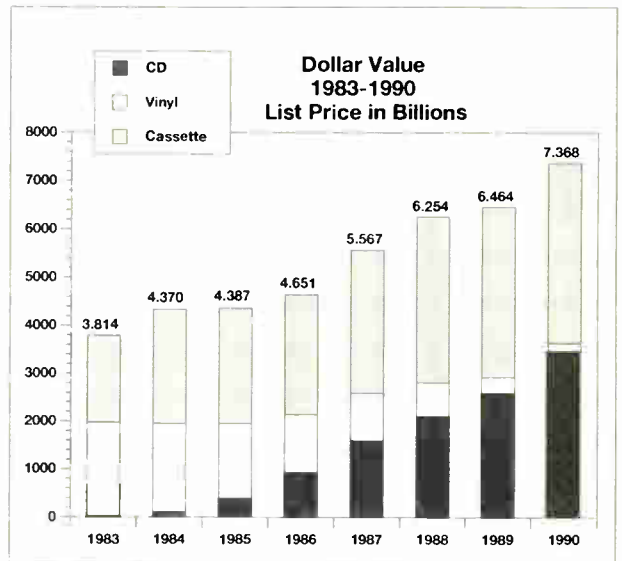


Fig. 1b

Predicting music industry sales performance during a general economic downturn is a tricky business. The pessimist points out that you can't eat cassettes when your unemployment checks run out. The optimist, on the other hand,

notes that when people give up on saving for Maseratis, they probably have a little more money to spend on CDs. This time, it looks as if the optimists are right. The Recording Industry Association of America reports that net shipments of pre-

recorded music rose to a record 857 million units in 1990 (Fig. 1a), despite the recession late in the year. The RIAA statistics were compiled from figures provided by the trade group's member record la-

—CONTINUED ON PAGE 114

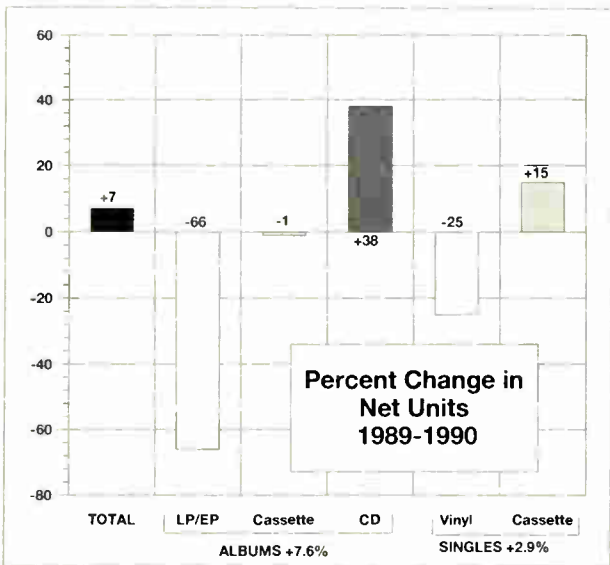


Fig. 2a

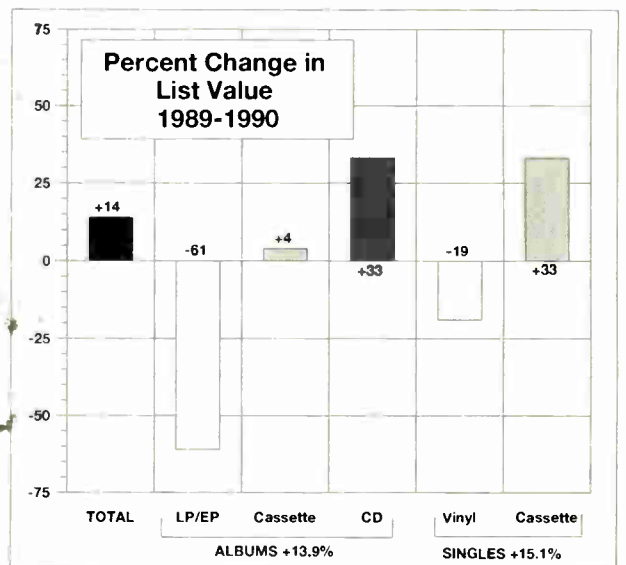


Fig. 2b

Tape & Disc News

Discovery Acquired by METATEC

METATEC Corporation announced an agreement to acquire all outstanding shares of CD replicator Discovery Systems. The company has owned a 48% interest in Discovery since 1989. Led by Jeffrey Wilkins, formerly Discovery's president, the consolidated operation has taken the new name of METATEC/Discovery Systems. The company's 25,000-square-foot CD plant in Ohio has an annual capacity of over 6 million discs.

JVC Plans ROM Recorder

JVC has announced development of a write-once CD-ROM drive that significantly lowers the price of admission for WORM disc recording.



Left: OD&ME's compact disc master recorder MR 100; right: Lyrec loop-bin master P-4400. See page 153

The XR-W1001 is slated for introduction in the fourth quarter of 1991, and is priced at around \$2,500. The CLV drive, designed for control by a PC via SCSI interface, will be able to record Orange Book standard discs of up to 580 megabytes.

TEC Venue Announced


Mix has selected the Grand Hyatt Hotel in Manhattan as the venue for the 1991 Technical Excellence and Creativity (TEC) Awards. Timed to coincide with the New York AES convention, the ceremony will be held on the evening of Saturday, October 5. The seventh annual event will honor innovators and

achievers in professional audio, including mastering engineers and facilities. Proceeds benefit hearing-impaired treatment and research, as well as funding audio education scholarships.

SPLICES


Nashville's Disc Mastering opened in a new location, with owner/engineer Randy Kling at the helm. Designed by Danny Hillel, the facility features a Neve DTC-1 digital console, Tannoy System 15 DMT monitors and a Sony DAE-3000 digital editor. Kling has also pro-

—CONTINUED ON PAGE 153



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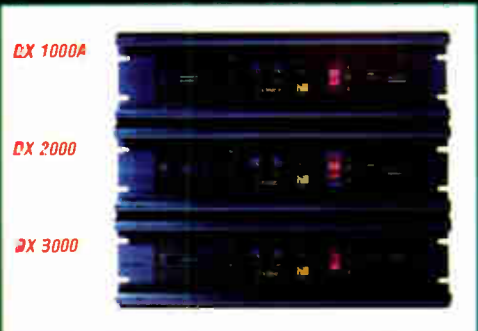
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—FROM PAGE 112, RIAA REPORT

bels, which are said to account for about 90% of prerecorded music sales in the U.S.

The unit growth of 7% over 1989 (Fig. 2a) translates into a 14% surge in the list value of shipments (Fig. 2b) to over \$7 billion (Fig. 1b). Value growth exceeded unit growth because sales gains came mostly in album-length configurations, which obviously sell for higher prices. Albums were up close to 8%, making 86% of all units shipped, while

singles shipments rose a more modest 3%.

Album value, meanwhile, rose almost 14%, reflecting the increasing percentage of albums sold on CD. CD shipments continue their strong upward climb, rising 38% over the year before.

Vinyl LPs, on the other hand, continue to suffer badly. Net shipments were down a whopping 66%. Major record companies have all but abandoned the format, with at least WEA and Sony already shipping on a one-way (no re-

turns) basis. Indeed, it looks as if 1991 may be the last year in which LP sales, already under 2% of the album market in 1990 (Fig. 3a), are statistically significant.

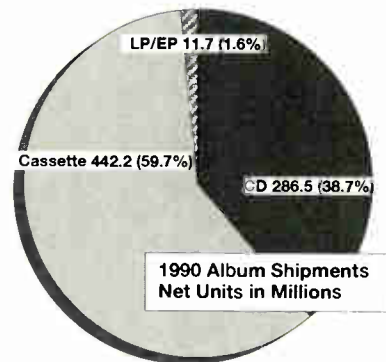


Fig. 3a

Still dominant in both album and singles markets is the compact cassette, which accounts for more than six of every ten audio units shipped. But for the second year in a row, the sale of cassette albums has stagnated, fueling anxiety

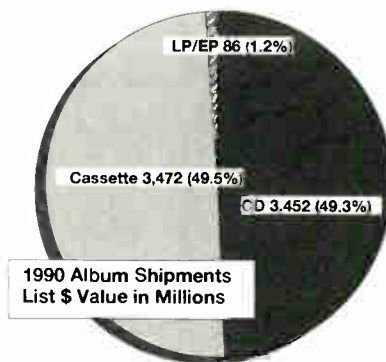


Fig. 3b

among duplicators that the CD, having finished off the LP, will now begin to make significant inroads into the cassette market. A few months ago, results from the first half of 1990 (in which cassette shipments rose 5% over the same period in 1989) served to allay those fears somewhat. But the disappointing final 1990 figures are sure to raise concerns again, especially since they show that the value of cassette and CD album shipments is now nearly equal (Fig. 3b).

Luckily for duplicators, the cassette continues to shine as a singles

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configuration, jumping 15% over 1989. That's a far cry from the three-digit increases of years past, but healthy nonetheless. In just three years, the format has

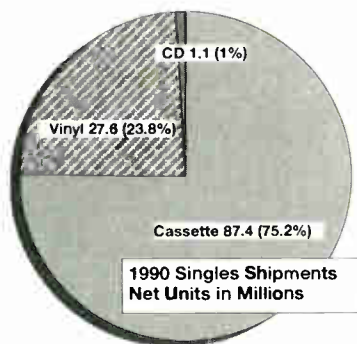


Fig. 4a

captured over 75% of the singles market (Fig. 4a). Vinyl singles, meanwhile, fared better than vinyl albums, slipping "only" 25% from the year before to a market share of just under 24%.

The remaining 1% of the sin-

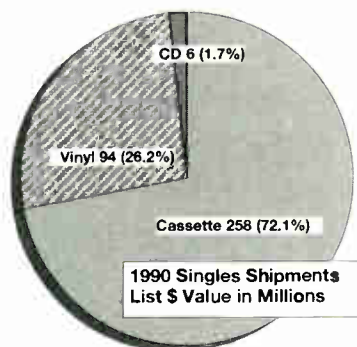
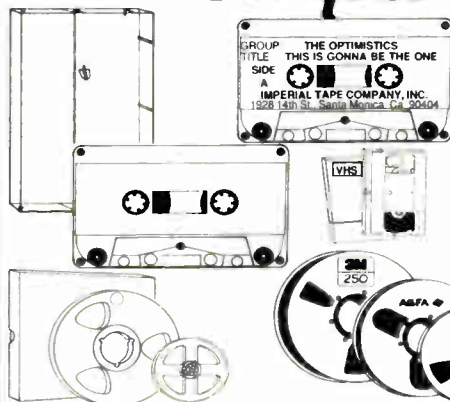


Fig. 4b

gles market went to CD singles. In 1989, the format was nearly given up for dead after the rare achievement of negative net shipments (more returns than sales). In 1990, interest rebounded a bit. But with sales of just 1.1 million, the CD single has a long way to go before establishing itself as a mass-hit product. It probably doesn't help that the configuration's average list price, at \$5.45 (Fig. 5), puts it closer to the price of a cassette album (\$7.85) than a cassette single (\$2.95). That price gap between

—CONTINUED ON PAGE 151

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C O A S T

L.A. GRAPEVINE

by Amy Ziffer

The Walt Tucker Group was host to another rip-roaring production and party on February 28 to celebrate final recording of the upcoming indie feature film *Baby Doll Blues*. Bonnie Bramlett, Stephen Stills, Willie Dixon and many other musicians—all of whom also star in the Pellegrini/Finnigan Inc.-produced flick—were on hand to sing and play. Toward the end of the evening, conductor Michael Finnigan invited the audience to sing in a gospel chorus to be used for the final scene. Walt Tucker president and saxophonist Scott Page is music producer for the movie, which has a story line set in the L.A. music scene.

David Kronemyer, VP of business affairs at CEMA, the North American sales and distri-

—CONTINUED ON PAGE 120

SESSIONS & STUDIO NEWS

SOUTHEAST

Spanish moss, sweet Southern nights and a side of hominy grits: This month the Coast goes down South. With the success of the Kentucky Headhunters,



lowing activity: Australians The Hummingbirds recorded their album, *Va Va Voom* for rooArt/PolyGram Records, with producer Mitch Easter, engineer Williams and assistant Tracey Schroeder; Tony Berg produced Murray Attaway (formerly of Guadalcanal Diary) on his solo project, with Don Dixon on bass

Mitch Easter (co-producer for R.E.M.'s classic *Murmur*) relaxes in Reflection's Studio C with Hummingbird's drummer, Mark Temple.

Indigo Girls, the Black Crowes and R.E.M.'s new release, you can find Southern songs working their way up the charts. Although many feel Nashville is the only state-of-the-art recording center in the South, those in Memphis, New Orleans, Atlanta and Miami (and others) beg to differ.

Mark Williams of Reflection Sound Studios (Charlotte, NC) reports the fol-

and Jim Brock on drums. Additions at Reflection include Studio B Productions, which is a MIDI production room run by Dave Harris. Studio B is equipped with Digidesign Sound Tools Digital Audio Recording and Editing System, Mark of the Unicorn Performer software, Sony 2500 DAT recorder, Mac IIcx with 8MB RAM and Mogami tielines into Reflection's 24-track studios, A and C.

In Metairie (pronounced *Met-try* by locals), just outside of N'Awlins, you'll find Southlake Recording Studios. Elvis Costello crossed the Atlantic to record the Dirty Dozen Brass Band at Southlake, and recently studio designer Vincent Van Haaff was flown in from L.A. to meet with Southlake owner Paul DeCorte and chief engineer Steve Himelfarb to discuss a New Orleans project. The Subdudes recorded their new album for Atlantic East/West at Southlake, which was produced by Rob Fraboni and engineered by Himelfarb. Beausoleil recorded their upcoming project, which was mixed at



The Allman Brothers Band checked into Ardent's Studio A (Memphis) for an upcoming project. Standing (l to r): Jaimoe, Warren Haynes, Allen Woody, Dickey Betts and producer Tom Dowd. Sitting (l to r): engineer Jay Marks, Jeff Powell and Butch Trucks.

PHOTO: KEN WALKER

C O A S T



Phyllis Hyman works with producer Nick Martinelli in Criteria's Studio C (Miami).

Bias Recording in Springfield, VA, by Bob Dawson.

In Virginia Beach, Michael Marquart built Windmark Recording from the ground up and from the client's point of view: with noted studio designer Steven Durr. "I've spent my life traveling and playing in studios, so I know what a musician wants," Marquart says. Recent projects at Windmark include *Dead On* (SBK Records); Kyle Davis on Rincon Records, featuring the rhythm section from Bruce Hornsby's band, *The Range*; and *Cast a Giant Shadow* on Marquart's own label, Windmark Records. "We have a mastering facility on the premises, which kind of evolved because there were no others in the area," Marquart notes, "and we just began mastering our own CDs."

Twelve groups from five Southern states recorded *RiverRock*, *Southern Musicians for Clean Water* at White-water Recording Studios of Asheville, NC. Adam Greenberg, owner and president, served as the project engineer/producer. Over 150 bands competed to appear on the album; sales proceeds went directly to the French

Broad River Foundation. *RiverRock* includes Geronimo Rex, Hugo-A-Go-Go, Alien Music Club and others. "Album sales have been great," Greenberg exalts. "We've raised thousands of dollars for the river."

Cheshire Sound Studios of Atlanta had Mick Jagger in tracking vocals for a cut ("Sex Drive") on the Rolling Stones' new *Highwire* album. George Pappas and David Kahne (Sony Music's representative) engineered with assistance from Dale Abbott...Recent clients at Muscle Shoals Sound Studios in Sheffield, AL, included John

Hiatt, recording a song for a sound track, and veteran blues singer Denise LaSalle...Famed producer and piano-playing member of the Muscle Shoals rhythm section Barry Beckett has been

N.Y. METRO REPORT

by Dan Daley

While new studio start-ups appear somewhat stunted, expansions of existing facilities seem to be in high gear.

Steve Burgh's Baby Monster Studio on Broadway near Houston is expanding into the former MRC Studio on West 14th. Burgh, who produced Steve Forbert's debut LP and who has been a session bassist in town for years, has installed a 32x8 vintage Neve Series 80 console and a Studer A80 MkIII multitrack, as well as Studer and Sony DAT mixdown decks for an early April opening. MRC has a 35x25-foot oak and

—CONTINUED ON PAGE 122



busy at Digital Recorders in Nashville producing Lionel Cartwright, with Mike Clute engineering and Doug Edwards assisting...The Sound Cellar, Stone Mountain, GA, had Rick Masters recording his album *Fiction* for Dent Records (a large indie label in GA) with

Overlooking Madison Park in a Stanford White-designed 1896 structure, Ruggieri Music incorporates a weird elegance that mixes gray-pinstripe and high-tech.

engineer Rick Sheppard...Nightwing Recording Complex in Shreveport, LA, was visited by New Kids Donny and Mark Wahlberg, as they recorded the tenth song on the upcoming NKOTB album for Columbia... Michael Elledge produced, engineered and played on contemporary Christian artist David Chanault's first album project at Mileage Studio in Memphis...Randy Travis was at Recording Arts in Nashville doing overdubs on his new Warner Bros. release. Kyle Lehning produced and engineered...At the recently relocated Garden Studios of Chapel Hill, NC, Jon Shain and John Whitehead of Flyin' Mice assisted producer/engineer Charles E. Jones in the mixdown of their debut release, *So-High Drive*...

SOUTHWEST

Digital Services of Houston sent its remote to record Neil Young at the Summit; it was engineered by John Moran and Larry Greenhill. Back at Digital Services' Studio A, Ray Bensen mixed songs by Dolly Parton and Asleep at the Wheel for an ABC movie...In Dallas, blues guitarist Bob Shehorn was in Planet Dallas cutting

tracks for his next album. Sam Meyers, formerly with the Elmore James Band, added drums and harmonica...

SOUTHERN CALIFORNIA

Steve Lukather was at Sunset Sound

(Hollywood) putting guitar overdubs on a track he's producing for Cher's next album...Larry Duhart was at Valley Center Studios in Van Nuys producing and engineering the upcoming release by Acid Jazz artist Dread Flim-

Nashville Skyline

by Dan Daley

For an audio town, Nashville has been seeing plenty of video action lately, with all the audio-for-video that goes with it. According to a report in the *Nashville Tennessean*, Bob Cummings Productions, which up until six months ago did only commercials and industrials, unveiled a new video editing suite the last week of March, spurred by music video work. Greg Crutcher's Dream Ranch Pictures, which has done vids for Eddie Rabbit and others, moved into bigger quarters in Brentwood; Scene Three, Nashville's biggest video maker, added L.A. rock-vid producer Cynthia Biedermann to the staff; and

there are new openings for Sunrise Teleproductions over on the Row and for Moore Productions.

Greg Aldrich, director of operations at Scene Three, says an increased national emphasis on country music video production is sparking local audio-for-video post-production work. He cites Scene Three's work on the Kentucky Headhunters' "Davy Crockett" track, in which sound effects and an extended guitar solo were added in post. "In the last year-and-a-half we've seen quite a proliferation of country video," Aldrich says. "The demand has gone up at least 50 percent. It's been beneficial to the audio industry as well, but I'm not sure who's driving whom."

A pioneer of the local recording

—CONTINUED ON PAGE 123

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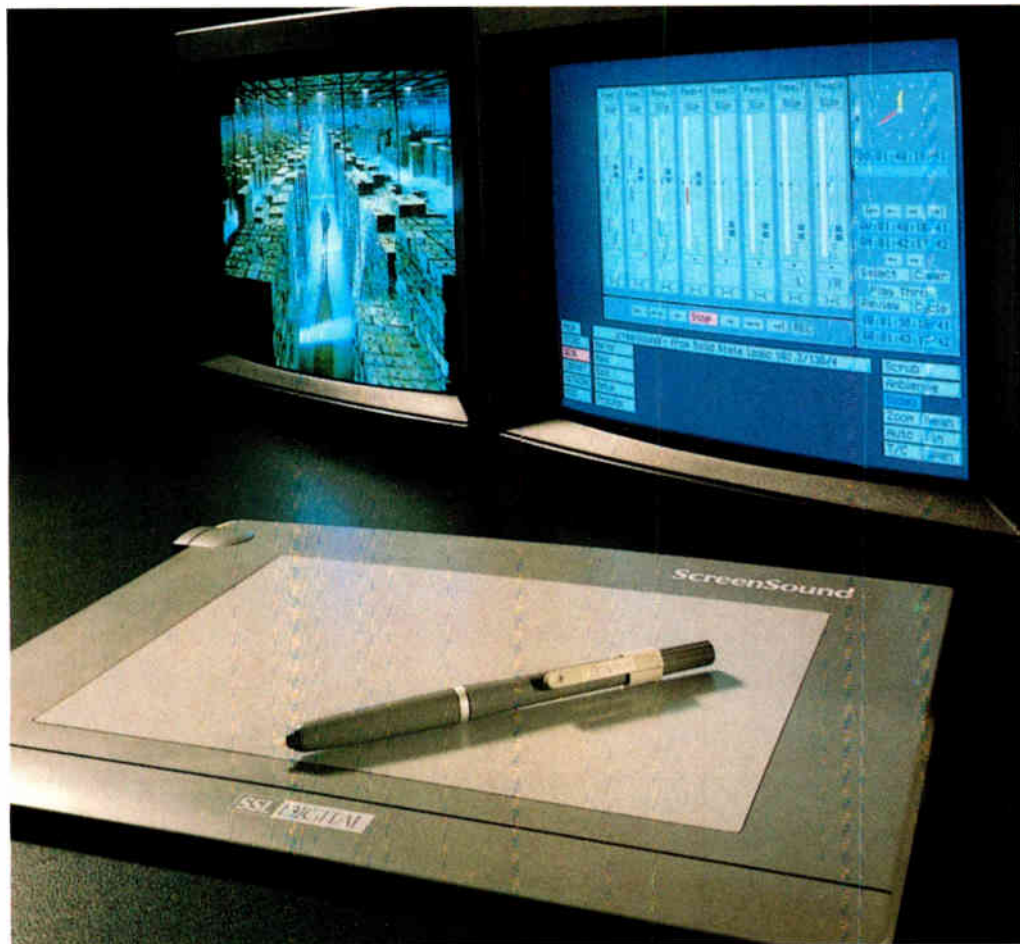
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stone... At Ground Control Studios in Santa Monica, Tommy Page was in mixing a song (written by Diane Warren and Michael Bolton) for his upcoming album, *Whenever You Close Your Eyes*. Humberto Gatica engineered with assistance from Alejandro

Rodriguez. Michael McDonald is in Studio B mixing songs for Alyssa Milano. Tom Milano is producing, with Matthew Gruber assisting...

NORTHWEST

The Looters, one of the Bay Area's po-

litically active bands, recorded *Jericho Down* for the Monster Music label at Kommotion International in San Francisco. Mat Callahan and Fred Cirillo, both of the Looters, produced and engineered the sessions that included percussion sounds from car keys,

—FROM PAGE 116, L. A. GRAPEVINE

tribution arm for all record companies owned by Capitol/EMI, recently installed a 56-input Amek G2520 console with Diskmix automation and a Sony APR-24 with Dolby SR in his no-name, private-use facility in Calabasas. Kronemyer says, "I get demo tapes regularly, and occasionally something comes through the door that's too interesting to pass up. I wanted to get better-caliber equipment in there for more commercially viable recordings."

Post Logic owner/manager Miles Christiansen recently engaged in a game of musical consoles, removing a Ramsa board from Studio D and replacing it with the Neotek Elite formerly in Studio C, replacing the Neotek with an SSL formerly in Studio B, and replacing the SSL with a new Neve VRP. The Ramsa was sold. A 16-track Syn-

clavier Direct-to-Disk was added to Studio D for composer Simon Franglen, who wrote and co-produced with David Foster the "Voices that Care" project. After completing the remix in Studio D, Franglen decided to take up residence.

Post Logic is also expanding with four video editing suites. Construction is underway now, and the rooms are expected to be online by fall. Design credit goes to George Newburn, Peter Maurer and Peter Grueneisen of Studio Bau:ton.

Speaking of that firm, I was recently treated to a tour of Studio Bau:ton's downtown facility, housed in a Spanish Colonial-style. Depression-era building across the street from the landmark Wiltern Theatre at Wilshire and Western. The trio's turnkey operation includes everything from site

location through the design and construction phase to equipment selection. "We try to match the creativity of the artists through architectural means," the company's profile says. Maurer adds, "It's a given that the acoustics have to be perfect." One project on the agenda for 1991 is an "anti-studio" for Bill Bottrell in Pasadena. "It's completely unconventional from both acoustic and aesthetic standpoints," Maurer says. "He wanted it to have no resemblance to typical commercial recording studio environments."

Lastly, apologies to Stoli Jäger of Hot Tin Roof, whose name was inadvertently Americanized to Jaeger last month.

Send studio news to Amy Ziffer, c/o *Mix*, 19725 Sherman Way, Suite 380, Canoga Park, CA 91306; or call (818) 567-1429, fax (818) 709-6773. ■

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popping lightbulbs and furniture being whacked by a two-by-four... The Deli Creeps were at Different Fur Recording of San Francisco recording their first album. Bucket Head (the blistering lead guitarist of the Creeps) was also in recording a solo guitar album. Both projects were produced by Pete Scaturro and engineered by Howard Johnston and Matthew Murman... Further north, Mudhoney and Truely booked Lawson Productions in Seattle. Mudhoney shot a video on the Lawson soundstage, and Truely mixed its first release, with engineer Ed Brooks and producer John Auer... Nelson was at Avalanche Recording in Northglenn, CO, cutting tracks and mixing with engineer Toby Francis and assistant Harry Warman...

NORTH CENTRAL

Die Warzau was at Chicago Trax working on their second album. Producer Mike Rogers (Deee-Lite, Sinead O'Connor) came in to help Jim Marcus and Van Christie with the production on several cuts. Paul Manno and Christie engineered... Narada artist David Arkenstone completed his new album, *In the Wake of the Wind*, at A.D.

Productions in Milwaukee. Arkenstone produced with Eric Lindert, and Gary Epstein engineered with assistance from A.L. Williams. Also at A.D., David Z and The BoDeans were in adding final touches to their new release *Black and White* on Warner/Sire... Jazz group Count Three recorded a live-to-digital demo with engineer Jim Franke at Chicago's Paragon Recording Studios...

NORTHEAST

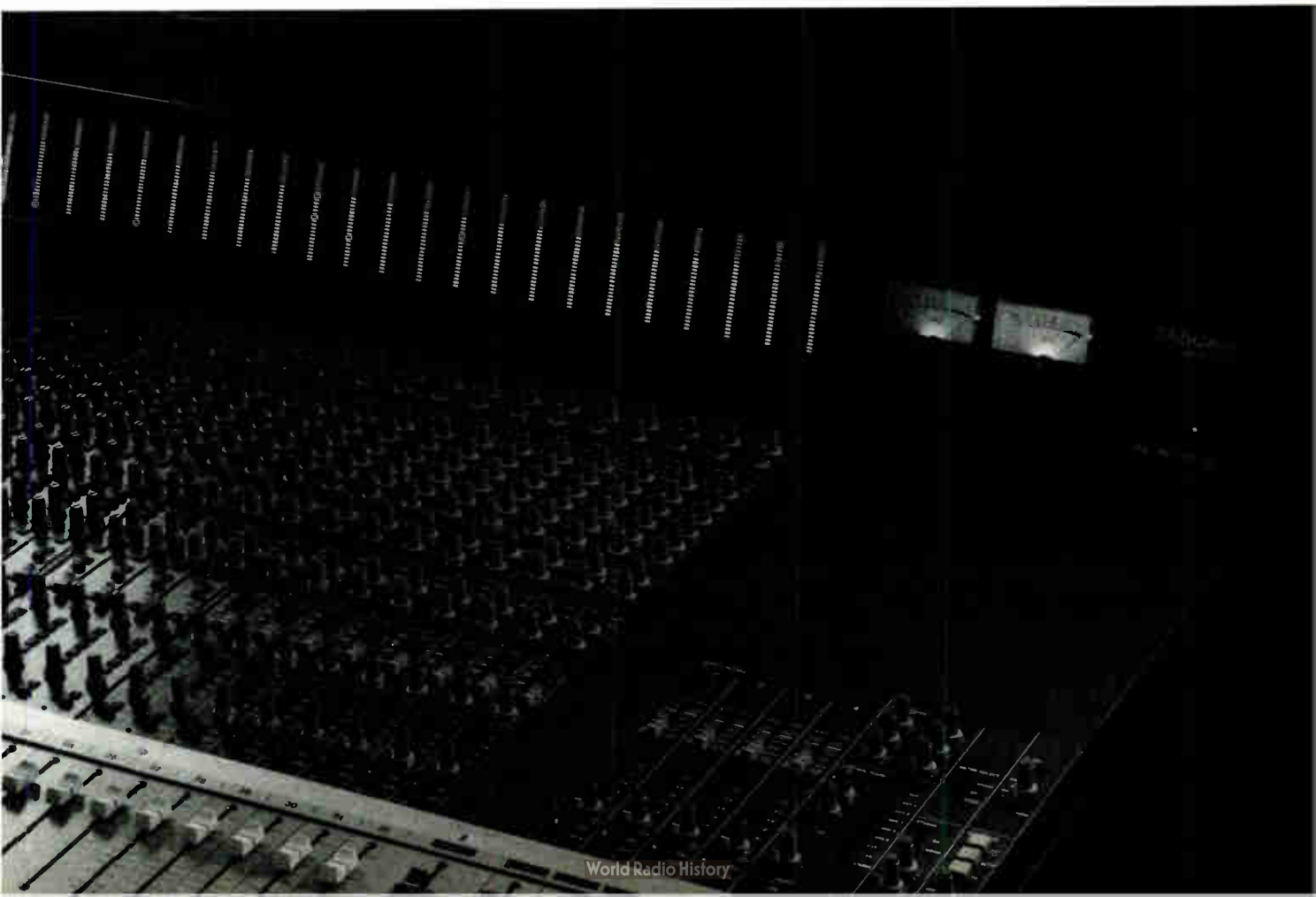
Crystal Sound Recording (Manhattan) recently had a knockout lockout session: Bernard Purdie on drums, Merl Saunders on organ, Gordon Edwards on bass, Larry Golding on piano and Arnie Lawrence on sax... Producer KRS-One is producing Ziggy Marley's *Kosmic* for Virgin Records at Power Play Studio in Long Island City. Dwayne Sumal engineered with the assistance of Peter Jorge and Chris Conway... Get Hip recording artists The M-80s recorded their debut LP at Pittsburgh's Audiomation Studios with producer Gregg Kostelich... Many cuts on Patti Labelle's upcoming Christmas LP were recorded and mixed at Kajem Victory of Gladwyne, PA, with Joe Alexander

engineering and Brian Stover assisting... At Science Lab Studios in NYC, producer Glenn "Sweety G" Toby recently completed the track "Forever" for Dana Laguna's upcoming project with engineer Stephen Seltzer...

STUDIO NEWS

Audio Animations moved to Smyrna, GA. The 24-track facility, founded in 1986 by Roger Kennerly, is still home to "Mavis," Eddy Offord's old console... Beale Street in Memphis has been synonymous with great blues since W.C. Handy's times. It is only fitting that the "King of the Blues" decided to open his own club there. B.B. King's Blues Club has an impressive sound system and a 30-input TAC Bullet console... MCA Recording artist Bobby Brown purchased Soundscape Recording Studios in Atlanta, GA, which he renamed Bosstown Recording in tribute to his hometown of Boston. Brown added an SSL SL 4000 G Series console as part of an overall facility upgrade...

Send nationwide sessions and studio news to sessions editor Jeff Forlenza, c/o *Mix* magazine, 6400 Hollis St. #12, Emeryville, CA 94608. ■



—FROM PAGE 117, N.Y. METRO

pine recording room, which Burgh says will give him access to tracking sessions that the original Baby Monster couldn't handle. "We did lots of overdubs there," Burgh says, "but it simply wasn't big enough for serious tracking. Now the same clients I had for overdubs will be able to do more of their entire project at Baby Monster. I also like the fact that keeping MRC open helps New York keep a healthy base of tracking rooms, especially after losing places like Media and A&R over the last few years."

The rates on the new room will be carded at \$100 per hour, with discounts for CODs and block time. Burgh says he'll continue to operate the original Baby Monster location, with its Trident Series 65 console and Sony JH-24 multitrack, at least into the fall.

The '80s never really ended... Ruggieri Music is perhaps the only recording studio where both gray-pinstripe-types and Cole Porter could feel at home. The newly opened studio, ensconced in an exquisitely decorated floor-through apartment overlooking Madison Park in a Stanford White-designed 1896 structure, incorporates a

weird elegance that mixes black tie and high-tech. Owner Robert Ruggieri made his mark as a minimalist composer of ballet scores for Alvin Ailey and others. He has since branched out to jingle composition and recording, including work for Coke, New York Telephone and Volkswagen. Ruggieri's *beaux arts* background is still thriving, however, with pieces for the Guggenheim Museum and the *Ballet Fran aise de Nancy*. And he recently finished production on Mecano, a mega-selling group from Madrid that BMG International is betting eight figures on.

This eclectic cultural backdrop is reflected in the overall design of the studio, in which a Trident Series 75 and an Otari MX-80 occupy a wall in a huge living room designed by Carl Laanes, who's also done designs for the Museum of Modern Art and owns the deco-heavy Empire Diner. Ruggieri admits that style counted as much as substance in the room's design: "I didn't really do much with the acoustics," he says. "I know that when I need to mix I can go to Soundtracks or Skyline, both of which are relatively close by, and get everything I need. I wanted this place

to be a little world unto itself, a music boutique where the atmosphere affects the overall quality of the music. That kind of approach pays off in commercials."

321 Studios, on the site of the former Record Plant, has resuscitated the original Pyramid mix room at the facility. The Plexiglas ceiling has been removed and the room opened up a bit, but the basic Tom Hidley design remains, according to studio manager Gary Salzman. The room opened in March and has a new Neve VR Series console with Total Recall and Flying Faders, a Sony 3348 digital multitrack and a new dialable subwoofer system. The first project mixed there was Ceybil Jefferies' disc on Atlantic.

Photomag has added a fifth suite to its East Side facility. Studio E was designed by Jimmy Maher of Sound House Design to handle staff mixer Steve Rosen's burgeoning client list. Chief engineer K.C. Green says the new room is equipped with a Neve V Series—the studio's fourth V console and fifth Neve overall—as well as a Studer A820 multitrack and KRK main monitors powered by Bryston 800-watt 4B amps. Studio E incorporates the Pho-

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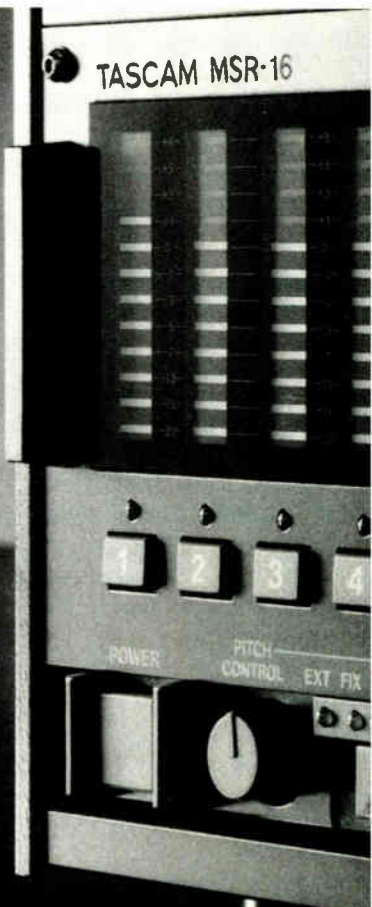
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—FROM PAGE 118, NASHVILLE SKYLINE

industry is quickly getting new life: Woodland Sound Studios is now reincarnated as Woodland Digital, under the helm of Bob Solomon, who worked there as an engineer in the early '70s. Solomon took over on a lease from the former owners, AVI, after the studio lay dormant for more than a year. He has already installed a Mitsubishi X-850 digital multitrack and Neve V 60 for studio B. For the reconstruction of the A room, Solomon is looking at Amek's Mozart and SSL and Neve consoles. The overall redesign is by Steven Durr.

Woodland began under the direction of Glenn Snoddy and grew up as one of the early independents (along with rooms like Bradley's Barn) in an age of label-owned or label-leased studios. A one-time movie theater, Woodland could double as a museum of technology and offbeat culture.

During a quick tour, Solomon pointed out a couple of pieces of gear of uncertain origin and function. "I think that's a compressor, but I'm not sure," he says of one item. "And I'm dying to plug it in and find out." Further in the back are hundreds of pieces of Liberace memorabilia, including books and tapes, a legacy of another former principal, Seymour Heller, who managed the late candelabra man.

Another changing of the guard is taking place at Adobe Sound in Hendersonville, where Willie Nelson is lending his good name (one of the few things not attached by the IRS) and is planning on recording his next several records for CBS there, according to studio co-owner Billy Meyers. Nelson had been partners in other ventures in the past with Adobe's other owner, Jean Lackey. Adobe's room has been extensively redesigned by Steven Durr, and an MCI J-600 console with heavy modifications and an MCI JH-24 multitrack have been installed. Studio maintenance head John Goetz says another 24-track deck and a synchronizer will likely be installed shortly, since much of Nelson's past work has been recorded to 48-track analog. The

studio is also handling *C.C. McCartney's Climbing Country* syndicated radio show. Adobe is the former Air Studio, previously owned by Bob Solomon.

Short Takes...Recording Arts is testing a four-module mini-version of the Raindirk Symphony LN console. Studio owner Carl Tatz says his intention is to provide another mix system alternative in town. "We're mainly an overdub room," Tatz says, "and I want to add the best possible mix option I can while also providing something that's not already available in Nashville." Or in the U.S., for that matter. If Tatz goes with the Raindirk, it would be the first American installation (Jeff Lynne owns one in the U.K.). Tatz's initial reaction after a few days of testing: "It's unbelievably quiet."

Elite Post of Nashville Inc. added a Studer Dyaxis system, using it to post audio on K.T. Oslin's "Willi and Mary" and Pirates of the Mississippi's "Feed Jake." The latter got enhanced sound effects, and K.T.'s vid got an extended music track via the Dyaxis.

[Dan Daley is Mix's East Coast editor. The "Nashville Skyline" column will appear every other month.—ed.] ■





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SOUTHEAST STUDIOS

Information in the following directory section is based on listing applications mailed earlier this year and was supplied by those facilities listed. *Mix* claims no responsibility for the accuracy of this information. Personnel, equipment, locations and rates may change, so please verify critical information with the companies directly.



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Upcoming Directory Deadlines:

Southern California, Southwest & Hawaiian Studios: **June 17, 1991**
 New Products for 1992 AES Special: **July 16, 1991**
 North Central & Canadian Studios: **August 16, 1991**

Mix listings procedure: Every month, *Mix* mails listing applications to recording studios and/or other vital facilities and services for the recording, sound and video production industries. There is a nominal charge to list a Boldface Listing (name, address, contact) and an Extended Listing (equipment, credits, specialization and photo or logo). If you would like to be listed in a *Mix* Directory, write or call the *Mix* Directories Department, 6400 Hollis Street #12, Emeryville, CA 94608; toll free 800-344-UST1.

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World Radio History

Southeast

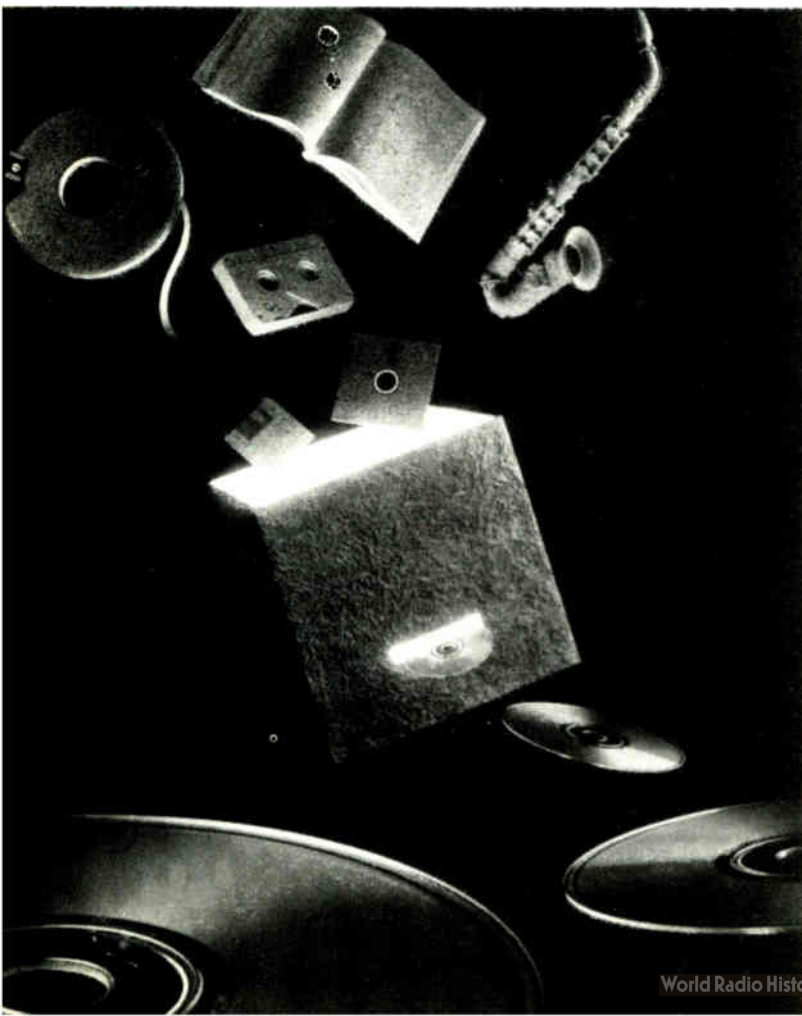
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ILLUSTRATION: MARTY BRAUN

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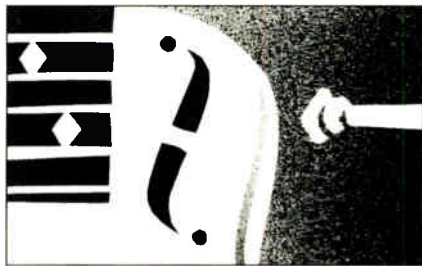


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Southeast

24-track studios



[24+] **ACOUSTIC CREATIONS RECORDING STUDIO;** also REMOTE RECORDING; 4813 W. Wendover Ave.; Greensboro, NC 27410; (919) 632-1004. Owner: Kip Williams. Manager: Kip Williams.

[24+] **ADVENT PRODUCTIONS;** also REMOTE RECORDING; 2518 Southview Dr.; Lexington, KY 40503-2250; (606) 278-5852. Owner: RSD Enterprises.

[24+] **AIRWAVE PRODUCTION GROUP INC.;** also REMOTE RECORDING; 1916 28th Ave. South; Birmingham, AL 35209; (205) 870-3239; FAX: (205) 870-0624. Owner: Corporation. Manager: Conrad Rafield. Michael Panepento.

[24+] **ALLGOOD PRODUCTIONS;** 1827 Powers Ferry Rd.; Powers Ridge, #15—Ste. 100; Marietta, GA 30067; (404) 956-7956. Owner: Toni Allgood. Manager: William Allgood.

[24+] **ALIEN STUDIOS;** also REMOTE RECORDING; PO Box 230; Slidell, LA 70459; (504) 646-2653; FAX: (504) 643-4859. Owner: The Morrow Corporation Ltd. Manager: S.M. Schneider.

[24+] **ALIVE RECORDINGS;** also REMOTE RECORDING; 1251 Virginia Ave.; Harrisonburg, VA 22801; (703) 434-6701. Manager: Abe Rittenhouse.



ALLEN-MARTIN PRODUCTIONS INC.
Louisville, KY

[24+] **ALLEN-MARTIN PRODUCTIONS INC.;** 9701 Taylorsville Rd.; Louisville, KY 40299; (502) 267-9658; FAX: (502) 267-9070. Owner: Bill Porter, president. Manager: Nick Stevens. **Specialization & Credits:** Audio Studio A: 24-track analog with full Mac-driven Synclavier system and tons of outboard sound sources; Sony MXP-3036 44-input console fully-automated to hard disk. Live room is 30x40x20 with Steinway concert grand piano and extensive mic collection, including vintage Telefunken and Neumanns. Audio Studio B: 16-track 2" analog and complete MIDI studio with isolation booth. Video suite: audio-to-video sync, SMPTE-driven editing systems; multi-cam remote capabilities and 30x30x20 cyclorama; two editing suites. All rooms are linked via audio, video and MIDI. Our production team is experienced in all phases of production management. Staff specialist can assist in album production (musicians on staff), pressing and duplication, music video production, film scoring, post scoring and mixing. Staff scriptwriters, songwriters and engineers. Jingle division's clients include: Coca-Cola Inc., AMC, Nationwide Insurance, Chevron, Valvoline, GE, Exxon, McDonald's, Wendy's, Kentucky Fried Chicken. Located on a private estate, offers a warm, creative atmosphere.

[24+] **ARCADIA;** 425 Windsor Pkwy.; Atlanta, GA 30342; (404) 255-3284. Owner: Sammy Knox. Manager: Axel Black.



ARDENT RECORDINGS INC.
Memphis, TN

[24+] **ARDENT RECORDINGS INC.;** 2000 Madison Ave.; Memphis, TN 38104-2794; (901) 725-0855; FAX: (901) 725-7011. Owner: John E. Fry. Manager: Ken Whitehead. Engineers: Joe Hardy, John Hampton, Tom Laune, Paul Ebersold, Jeff Powell, G.E. Teel, James Senter. **Dimensions:** Room 1: studio 25x40, control room 20x24. Room 2: studio 24x17, control room 24x20. Room 3: studio 25x35, control room 18x25. **Mixing Consoles:** Neve VR w/Flying Faders automation 48x48, State Logic 6000E 44x32, Neve V Series w/Neacm 96 automation 40x48. **Audio Recorders:** Mitsubishi X-880, Mitsubishi X-850 32-track digital, Mitsubishi X-800 32-track digital, (2) MCI JH-24 24-track, Mitsubishi X-86 2-track digital, Mitsubishi X-80 2-track digital, (3) MCI JH-110 2-track, Echo, Reverb & Delay Systems: Lexicon 224, Lexicon 224XL, Quantec, (6) Yamaha REV5, Publison Infernal Machine, Lexicon Prime Time. (2) Eventide 949 Harmonizer, DeltaLab Effectron, ADR Scamp ACT, Marsnall Time Modulator, (3) EMT, AMS RMX-16, AMS DMX-16, BEL BD-8, (3) live chambers. **Other Outboard Equipment:** (2) Fairchild Limiter, (2) UA 176 limiter, UA 1176, (4) dbx 160, (6) dbx 165, (3) Scamp Racks w/gates, compressors, de-essers, dynamic noise filter, auto panner, (2) Valley intelligent de-esser, Garfield Master Beat. **Microphones:** Neumann M; 49, Neumann U67, Neumann U87, Neumann KM86; B&K; Sanken; AKG C-422 stereo, AKG C-414, AKG C-451, AKG C-12; Crown PZM, Electro-Voice RE20, Electro-Voice RE15; Sennheiser MD-421, Sennheiser MD-441; Shure SM81, Shure SN357, Beyers 201; also Sony and RCA. **Monitor Amplifiers:** EGW, Hatler. **Monitor Speakers:** Audicon, JBL 4350. KEF, Yamaha NS-10M, Auratone. **Musical Instruments:** Fairlight Series III, Yamaha DX7, Roland D-50, (2) Roland piano synthesizer, Minimoog w/MIDI, Moog Memorymoog, Steinway grand piano, Yamaha grand piano, Harmon M-3 organ. (2) Gretsch drum sets. **Video Equipment:** Complete 1" videotape, Betacam SP, 16 and 35mm film production and editing. **Other:** Rental charge for these items. **Rates:** Available on request. **Specialization & Credits:** Ardent Recordings Inc., the largest recording facility in Tennessee, was founded in 1966 by John E. Fry, who still serves as its president today. Originally located in northeast Memphis, Ardent moved to the current Madison Avenue address in 1971. The custom built facility was designed from the outset to provide optimum efficiency for the operation of three complete and constantly updated recording studios. Clients include ZZ Top, R.E.M., Steve Earle, Robert Cray, Colin James, Nile Rodgers, Stevie Ray & Jimmie Vaughan, The Georgia Satellites, Kevin

Paige, Tora Tora, The Fabulous Thunderbirds, The Replacements, Lynyrd Skynyrd, The Eric Gales Band, Gregg Brown, Travis Tritt, etc.

[24+] **AUDIO INCORPORATED;** 1917 Cleveland Ave.; Charlotte, NC 28203; (704) 376-3818. Owner: Frank and Sandi Rogers. Manager: Frank and Sandi Rogers.

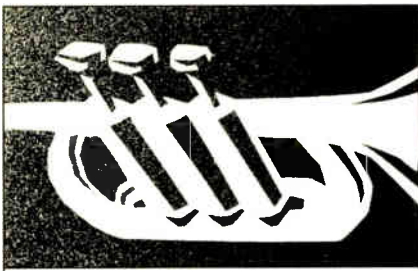
[24+] **AUDIO ANIMATIONS;** also REMOTE RECORDING; 1719 Powers Ferry Rd.; Marietta, GA 30067; (404) 953-9015. Owner: Roger Kennerly, Pat and Sheila Storey. Manager: Sheila Storey.

[24+] **AXIUM RECORDERS;** also REMOTE RECORDING; 2406 S. MacDill Ave.; Tampa, FL 33629; (813) 837-6384. Owner: Shaun Egger. Manager: Shaun Egger.

[24+] **BATES BROTHERS RECORDING;** also REMOTE RECORDING; 25 Joy Ave. #101; Birmingham, AL 35023; (205) 491-4066. Owner: Eugene Bates, Eric Bates. Manager: Eugene Bates. Engineers: Eric Bates, Eugene Bates, Rodney Thomas, George Vinson. **Dimensions:** Room 1: studio 30x18, control room 22x18. Room 2: studio 14x8. Room 3: studio 10x9. Room 4: control room 14x12. **Mixing Consoles:** Amek/TAC Scorpion II 36x12x24, Amek/TAC w/32 channels and JL Cooper Magi II Automation w/Macintosh LC computer, Ramsa WR-8210, Akai MG1212. **Audio Recorders:** MCI JH-24 24-track w/Autolocator III, Akai MG14D 12-track, Akai MG1212 12-track. (2) Technics RS-1500 2-track, Panasonic SV-3700 DAT, Cassette Recorders/Duplicators: (2) Sony Noise Reduction Equipment: (2) dbx 150 Type I, Echo, Reverb & Delay Systems: Yamaha D1500 DDL, Yamaha REV7 digital reverb, Yamaha SPX900 multi-effects processor, Ibanez SDR-1000 digital reverb, Alesis QuadraVerb, Ibanez DM-2000 digital delay, Yamaha E1010 analog delay. **Other Outboard Equipment:** Gatem 4-ch. noise gate/expander/Kepex, Rane DC-24 dual-ch. limiter/comp, Ashly Audio SC-50 limiter/comp, (2) Yamaha GC2020 dual-ch. limiter/comp, BBE 802 stereo exciter, Aphex Aural Exciter Type C-2-ch., (3) dbx 263X de-esser, Rockman Sustainner module, Rockman stereo chorus/delay module. **Microphones:** AKG C-61 tube, (4) AKG C-414, AKG C-414BULS, EV RE20, (2) AKG C-460EB, (2) Shure SM81, (2) Sennheiser 421, (3) Shure SM57, (2) A.T. Unipoints, many more. **Monitor Amplifiers:** Yamaha P2200, Crown D-60, Yamaha CA-610II. **Monitor Speakers:** (2) JBL 4430 biradial, (2) Yamaha NS-10M Studio, (2) Auratone Cube, (12) AKG K240M and Sennheiser headphones. **Musical Instruments:** Yamaha G36' grand piano, Yamaha DX7IID, Yamaha TX7, Korg M1R, Ensoniq VFX, Ensoniq EPS, Ensoniq ESQ-1, Roland D-110, Korg EX-8000, Ensoniq Mirage multisampler, Yamaha RX12L percussion machine, Korg DDD-1 drum machine, Roland Octapad, Tama 5-piece drum set w/Sabian and Zildjian cymbals, Aria Pro 2 electric guitar w/EMG pickups, Yamaha acoustic guitar, Yamaha BB5000 bass guitar, Ibanez Musician bass guitar, (3) Yamaha and Fender guitar and bass amp, assorted Latin percussion, Roland PD-31 drum pad. **Other MIDI Equipment:** Roland MC-500 digital sequencer w/Super MRC software, Roland SBX-80 SMPTE-to-MIDI converter, Yamaha MJC-8 MIDI patcher, Yamaha YME-8 MIDI expander. **Other:** Sony CD player, Technics turntable.

[24+] **THE BENNETT HOUSE STUDIOS INC.;** 134 4th Ave. N.; Franklin, TN 37064; (615) 790-8696. Owner: Bob Montgomery. Manager: Gene Eichelberger. Susan Garrett. Engineers: Gene Eichelberger, Shawn McLean, Roy Gamble. **Dimensions:** Room 1: studio 44x18, control room 20x26. Room 2: studio 9x12, control room 14x18. **House recording rooms:** (3) 16x20, 12' ceiling. **Mixing Consoles:** Trident A Range 28x24, Trident 80B w/Bud Wyatt modifications. **Audio Recorders:** (2) Studer A800 24-track, MCI 24-track transformerless, (2) Studer B67 2-track, Sony APR-5003 2-track w/center-track time code, Ampex ATR-100 2-track 1/2". **Cassette Recorders/Duplicators:** Sony, (3) Sharp. **Studio Synchronization Systems:** (3) TimeLine Lynx SMPTE time code module. **Echo, Reverb & Delay Systems:** EMT 250, (2) Lawson plate, Lexicon 200, Yamaha REV7, Eventide 949, Lexicon 224X w/LARC, (3) Sony MU-R-201. **Other Outboard Equipment:** (8) Kepex II gate, EQs, delays, CD player. **Microphones:** Neumann M249 tube, Neumann 87, Neumann 414, Neumann 421, Neumann 224, AKG Tube, Sanken, UA1, U32. **Monitor Amplifiers:** Yamaha. **Monitor Speakers:** JBL 4411, Meyer Sound Labs studio, Yamaha NS-10M, Electro-Voice Sentry 100, Braun 3-way, Auratone. **Musical Instruments:** Baldwin 7' grand piano, Eddy Reynolds Fender Rhodes electric piano, Yamaha DX7, LM-1 Linn drum, Garfield Drum Doctor, Tama Techstar TS305, Simmons drum, Roland Super Jupiter MKS-80 and MPG-80. **Video Equipment:** Sony 5850 3/4" VTR, cameras, monitors. **Rates:** Please call for rates. **Specialization & Credits:** The Bennett House Studios offers a unique recording experience designed for creature comfort. Our facility offers SMPTE stereo 2-track with center-track time code and Lynx module lockup to 3/4" video at no additional charge, making it ideal for jingle production. Adjacent to the two top-quality studios, both with 48-track capabilities, is the historic two-story home, fully furnished with three bedrooms available to our clients for lodging during master projects. Our beautiful home provides a spacious, creative atmosphere with its high ceilings, plaster walls and many large rooms. The location is most desirable since we are away from the hustle and bustle of Nashville, yet conveniently located in the heart of historic Franklin. During master sessions, we also provide a hot, home-

—LISTING CONTINUED ON NEXT PAGE



Southeast 24-track studios

—LISTING CONTINUED FROM PREVIOUS PAGE

cooked meal daily (except weekends) for four people (or more at your request for a slight charge). Many artists and producers have found the ambience of the house to be especially suited for recording live drum and vocals, as well as other instruments. Recent artists include: Chagall Guevara, Tammy Wynette, Joe Diffie, Shelby Lynne, Waylon Jennings & Willie Nelson, Doug Stone, Rachel Rachel, Vanessa Williams, Vern Gosdin, BeBe & CeCe Winans and Amy Grant. Our staff will see that your stay is enjoyable and memorable.

[24+] BERMUDASOUND RECORDING STUDIOS; PO Box DV 732; Devonshire, DVBX BERMUDA; (809) 292-1103; FAX: (809) 295-4973. Manager: Ian Marshall.

[24+] BIAS RECORDING COMPANY INC.; also REMOTE RECORDING; 5400 Carolina Pl.; Springfield, VA 22151; (703) 941-3333. Owner: William O. McElroy, Robert Dawson. Manager: Gloria Dawson. Engineers: Robert R. Dawson, William O. McElroy, James T. Robeson, Andrew Berner. Dimensions: Room 1: studio 16x20, control room 16x16. Room 2: studio 16x20, control room 16x16. Room 3: studio 16x20. Mixing Consoles: API 4032 48-input w/Audio Kinetics MasterMix automation, API 2488 24-input modified w/Allison Fader automation. Audio Recorders: Ampex 440-B 4-track, (2) Studer A67 2-track, (7) Studer B-67 2-track, (2) Ampex MM-1200 24-track. Cassette Recorders/Duplicators: (4) Nakamichi MR-1, (22) KABA real-time duplication system. Noise Reduction Equipment: (2) Dolby A M-24. Echo, Reverb & Delay Systems: Lexicon PCM70, (2) Lexicon 200, Lexicon Prime Time, Eventide Harmonizer, Yamaha SPX90, Lexicon PCM60, Lexicon 224, AKG BX20E, (2) EMT 162. Other Outboard Equipment: UREI 1176LN, UREI LA-4, UREI 964 digital retronome, dbx 160, Teltronix LA-2A, Kepex Dyna-Mite, MXR phaser/flanger. Microphones: Neumann U87, U47, KM86, L48, U67, Sony, AKG C-451, C-452, C-414, C-460, Shure SM57, Sennheiser 421-D. Monitor Amplifiers: Bryston, Crown. Monitor Speakers: Sierra/Hidley, Auratone, Yamaha NS-10. Musical Instruments: Yamaha C5 grand piano, Yamaha C3 grand piano, Hammond C-3 w/Leslie, Fender Rhodes, Hohner clavinet, Slingerland drums, Fibes drums, Fender Precision bass, Fender Twin Reverb, Fender Pro blond, (2) Fender Deluxe tweed, Fender Vibrolux tweed, Oberheim DX drum machine, Yamaha DX7, Yamaha RX5 drum machine. Other: Sony F1 digital recording system, Nakamichi F1 digital recording system. Rates: Studio A: \$100/hr. Studio B: \$75/hr. Bulk rate available.

[24+] BLUE WAVE RECORDING STUDIO; Bayleys Plantation; St. Philip, Barbados; (809) 423-6286; FAX: (809) 423-5154. Owner: Eddy Grant. Manager: Ann Grant, Dawn G. Thomas. Engineers: Tom Gunzalez, Frank Agarrat. Dimensions: Room 1: Studio 35x36, control room 27x20. Room 2: studio 20x15, control room 20x25. Mixing Consoles: SSL 52-channels, computer w/Total Recall, TAC 24-track. Audio Recorders: (2) Otari MTR-9 MkII, (2) Ampex ATR-102. Cassette Recorders/Duplicators: Aiva F9900 2-track, (2) Sony DTC-1000ES, Nakamichi. Noise Reduction Equipment: (2) Scamp S100 dual channel, (2) Scamp S05 dynamic noise filter gate, (2) Scamp S06 dynamic noise filter gate. Synchronization Systems: Adams-Smith 2600 3-syn modules. Echo, Reverb & Delay Systems: Yamaha REV1, (2) AMS RMX 16, AKG BX-20 spring reverb, Yamaha SPX-1000 multiple FX unit, Yamaha SPX90 multiple effects unit, (2) AMS DMX 15080S digital DDI/HARM 3.2 secs. Other Outboard Equipment: (4) Scamp S30 expander, (2) Scamp S31 comp compressor, (4) Scamp S24 module, Scamp S25 de-esser, ADSF760X compex compress/expand, ADS Panascan, EXR SP1 Aural Exciter, MXR flanger/doubler. Microphones: (7) Neumann J87 3-pattern roll-off, 10db pad, Neumann U47 2-pattern vintage tube, (2) Neumann KM86 3-pattern, Neumann KM85 encased shock mounted version KM84, (2) Neumann KM83 omni-directional, AKG Tube 3 (9 steps) roll off 10/20db pad, (4) AKG D-25 dynamic vintage D-12 style, (4) AKG C-414 condenser, 4-pattern, roll off 10/20db, (5) Shure SM58 dynamic cardioid, (2) Sennheiser MD-441. Monitor Amplifiers: (2) Crown Microtech, (3) Amcron PSA-2, Amcron DC-300A, Studer A68, (2) Crown D75. Monitor Speakers: (2) JBL 4350, (4) Yamaha NS-10M, (2) Realistic Minimus. Musical Instruments: Yamaha C3 6" grand piano, Yamaha DX7 digital programmable synth, (2) E-max HD digital sampling

keyboard, Fender Rhodes 73 key suitcase model, LinnDrum programmable digital drum machine, Yamaha FX5, Oberheim DX, (4) Simmons pads live trigger w/two tom modules, Akai MPC-60 digital drum machine sampler/sequencer. Other MIDI Equipment: Sony VO-5630 3/4" video cassette recorder. Video Equipment: Macintosh SE30 dataframe 650 meg hard disk, Digidesign Sound Tools, (2) digital editing package, Performer 3.2/MIDI sequencing, Digidesign softsynth Sound Creation package, Garfield real-time clock and synchronizer, Yamaha CD-2 compact disc player. Rates: U.S. \$175/hr.



BOSSTOWN RECORDING STUDIOS Atlanta, GA

[24+] BOSSTOWN RECORDING STUDIOS; 677 Antone St.; Atlanta, GA 30318; (404) 351-1003; FAX: (404) 351-1076. Owner: Bobby Brown. Manager: Jon Marett. Engineers: Ted Malia. Dimensions: Room 1: studio 50x60, control room 28x29. Room 2: studio 18x14, control room 15x16. Room 3: studio 8x9, control room 9x13. Mixing Consoles: SSL 4040E w/36 mono, 4 stereo, all G Series electronics, SSL 4000G 80 frame w/64 mono, 8 stereo, 24 E Series EQ, Sound-craft Delta w/28 mono, 4 stereo. Audio Recorders: (2) Studer A820 24-track, Studer 820 2-track 1/2" w/1/4" center-track time code conv., Studer 820 2-track 1/2", Studer A80RC 2-track 1/4", Studer B67 2-track 1/4", Studer A810 2-track 1/4", Sony 2500 DAT, (2) JVC DTC900 DAT w/time code interface, Otari MTR-90 24-track, Sony TCD-D10 portable DAT. Cassette Recorders/Duplicators: Tascam T-122, (4) Nakamichi MR-1, (10) Nakamichi MR-2. Noise Reduction Equipment: (4) Dolby SR, (28) Dolby A. Synchronization Systems: Adams-Smith Zeta-3, (7) Lynx module, (2) Lynx Keyboard controller KC-1. Echo, Reverb & Delay Systems: Lexicon 480L, Lexicon 224XL, (2) AMS reverb, (2) AMS delay, (2) TC Electronic delay, (2) TC Electronic Spatial Enhancer, (5) Lexicon PCM70, (2) Lexicon LXP-1, Lexicon LXP-5, (3) Eventide H3000, Eventide H910, Lexicon PCM41, Yamaha SPX900, Yamaha REV5, Yamaha REV7, (2) Yamaha SPX1000, Lexicon Super Prime Time, (6) Lexicon PCM42, (10) Drawmer stereo, (2) Drawmer tube limiters, (4) dbx 160XT, (4) dbx 165A, (12) dbx de-esser, (6) dbx gate, dbx 162, (6) UREI 1176, (2) UREI 1178 stereo, (2) UREI LA4, (2) Tube-Tech compressor, (2) Aphex gates, (2) Focusrite EQ, (2) GML EQ, (2) Tube-Tech EQ, (2) Sontec EQ, (2) Pultec EQ, (8) API 550B EQ, API 5502 stereo, (8) Hordy mic pre, ADR vocal Stresser, (2) Bedini spatial expander, (2) Barcus-Berry Sonic Maximizer. Microphones: (14) Neumann (including vintage tube), (8) AKG (including tube), (3) Crown PZM, (6) Sennheiser, (10) Shure. Monitor Amplifiers: (9) Genelec 1,600 watt modules, (2) FM Acoustic, (2) Bryston. Monitor Speakers: (2) Genelec 1035A, (2) Genelec 1033. Rates: Call for rates. Specialization & Credits: Bosstown Recording Studios was formerly Sound-scape Studios. The same management and staff is proud to serve our clients under new ownership.

[24+] BOUTWELL RECORDING STUDIOS INC.; also REMOTE RECORDING; 720 S. 23rd St.; Birmingham, AL 35233; (205) 251-8889; FAX: (205) 251-9905. Owner: Corporate. Manager: Mark Harrelson.

[24+] BRADLEY'S BARN INC.; PO Box 120838; Nashville, TN 37212; (615) 244-1060. Owner: Owen Bradley. Manager: Michael Bevington. Engineers: Bobby Bradley, Doug Crider. Dimensions: Room 1: studio 24x28, control room 15x20. Room 2: studio 63x47. Mixing Consoles: Sound Work-shop Series 40 w/ARMS automation and 4-channel cue. Audio Recorders: Studer A80 24-track, (2) Studer A80 2-track 1/2", Studer B67 2-track 1/4", (3) Ampex 440 2-track 1/4", (2) Sony 501 w/Betamax, (2) Sharp SX-D100 DAT. Cassette Recorders/Duplicators: (2) Onkyo, Sony. Noise Reduction Equipment: (26) Dolby. Synchronization Systems: BTX. Echo, Reverb & Delay Systems: Lexicon 224XL, Eventide H3000, Yamaha REV7, (2) Yamaha SPX90, Lexicon PCM42, (2) Lexicon PCM60, Eventide 910, (2) EMT tube plate. Other Outboard Equipment: (2) LA2A tube limiter, (3) Pultec EQH2, Pultec EQPIA, Pultec Mavec mic preamp and EQ tube, (2) Audio & Design F769X-R recording Vocal Stresser, Audioarts parametric EQ 4200A, (2) Teltronix UREI LA3A limiters, (2) Omni Craft GT-4 noise gates, Scamp Rack, (2) Dyna-Mite signal processors, Wendel Jr. w/various cartridges, (2) Orban de-esser. Microphones: (9) Neumann

U67, (2) Neumann U87, (6) Neumann U47FE, (4) Neumann U48 tube, (14) Neumann KM84, Neumann KM54 tube, Neumann U64, Neumann KM56 tube, (5) Neumann M49 tube, (2) Telefunken ELAM 251 tube, (2) Sony C-500, Telefunken ELAM 921 tube, (3) Sony ECM-50, (3) Shure SM57, Shure SM81, (4) RCA 44 ribbon, (6) RCA DX77 ribbon, RCA 74B ribbon, (2) Altec 150A tube, (7) Electro-Voice RE20, (7) Electro-Voice RE15, (2) Sony ECM-22, (3) Electro-Voice RE16, AKG 414, (5) Sennheiser MD-421, (2) Crown PZM, (2) Wahrenbrock PZM. Monitor Amplifiers: (2) Crown Microtech 1200, (6) McIntosh 2100, (3) Phase Linear 400. Monitor Speakers: (4) UREI 813, (4) Yamaha NS-10M, (4) Auratone, (4) JBL 4313. Musical Instruments: Steinway grand piano w/MIDI, Baldwin grand piano, Hammond B-3 organ w/Leslie. Video Equipment: (2) JVC 3/4" video machines, JVC RM-88U editing unit.

[24+] THE CASTLE RECORDING; 1393 Old Hillsboro Rd.; Franklin, TN 37064; (615) 791-0810. Owner: Jozef Nuyens. Manager: Jozef Nuyens.

[24+] CATSPA W STUDIOS; also REMOTE RECORDING; 560 Dutch Valley Rd., NE; Atlanta, GA 30324; (404) 876-CATS; FAX: (404) 881-8409. Owner: Recording Studio Inc. Manager: Brad Jones.

[24+] CHANDLER AUDIO INC.; also REMOTE RECORDING; 3030 Piedmont Rd.; Huntington, WV 25704; (304) 429-MIXX. Owner: Chandler Audio Inc. Manager: Denny Chandler. Engineers: Denny Chandler, independents. Dimensions: Room 1: studio 40x36, control room 24x24. Room 2: studio 12x10, control room 20x16. Mixing Consoles: Harrison 3624, Soundtracs PC MIDI. Audio Recorders: Ampex ATR-102 2-track, Ampex ATR-800 2-track, Studer A80 24-track, Fostex 6-16, Fostex E-2. Cassette Recorders/Duplicators: (2) Nakamichi BX-300. Synchronization Systems: (2) Time-Line Lynx. Echo, Reverb & Delay Systems: Ibanez SDR-1000A, (2) Yamaha REV5, Klark-Teknik DN-780, Lexicon PCM60, (2) Lexicon Prime Time, Yamaha SPX900, (2) Korg SDD-3000, Ursa Major Space Station, TC Electronic 1210 stereo chorus, TC Electronic 2290, Roland Dimension D, Roland chorus/echo. Other Outboard Equipment: (2) Valley People Dyna-Mite, (2) UREI 1176, (4) Ashly Audio comp/limiter, (2) dbx 160X, Aphex Compeller, Orban de-esser, Barcus-Berry BBE, (2) White Instruments EQ, Gates noise gate, Studio Technologies Mic-Pre, Demeter Tube Mic-Pre and Dis. Microphones: AKG The Tube, (2) AKG 414, (5) Neumann U87, (2) Neumann KM84, (6) AKG 451, (6) Sennheiser 421, (2) Sennheiser 441, Shure SM7, (12) Shure SM54, (4) Shure SM81, (2) EV RE20, (4) EV 408, (2) Crown PZM. Monitor Amplifiers: (5) Crown. Monitor Speakers: UREI 813, JBL 4311, Yamaha NS-10, (2) Auratone, EV 100. Musical Instruments: Oberheim DPX-1, Roland D-50, Roland MKS-70, (2) Linn 9000 w/Forat modifications, Oberheim OB-8, Akai S612, Rogers drum kit, Music Man bass, Ludwig tympani, Musser vibes and orchestra bells, Ensoniq ESQ-M, Yamaha DX7, Yamaha C5 grand piano. Other MIDI Equipment: (2) Digital Creations patch bay, IBM PC, Atari ST, Roland SBX-80. Video Equipment: JVC 6250 3/4" U-matic. Rates: \$90 per hour 24-track/\$30 per hour 16-track.



CHARICO STUDIOS Clearwater, FL

[24+] CHARICO STUDIOS; also REMOTE RECORDING; 2382 Congress Ave.; Clearwater, FL 34623; (813) 784-7411; FAX: (813) 784-8211. Owner: Charis Corporation. Manager: James B. McCullough. Engineers: Daryl Wicker, Tim Brownell, Scott Seehaver, Mark Brownell, Rick Cole. Dimensions: Room 1: studio 19x24, control room 16x25. Room 2: studio 8x12. Room 3: studio 13x14, control room 12x15. Mixing Consoles: Trident A-Range 40x24x8x42 console updated to digital standards w/Allison Research automation. Audio Recorders: Studer A80 MkII 24-track w/ALC, Panasonic SV-3700 DAT, Tascam DA-50 DAT, Tascam 38-8 8-track w/dbx, Tascam A3440-5 4-track w/dbx, Tascam 35-2 2-track w/dbx. Cassette Recorders/Duplicators: Tascam 122 MkII, Technics RS-M280. Synchronization Systems: Adams-Smith Zeta-3. Echo, Reverb & Delay Systems: Eventide H-3000 Harmonizer w/MIDI automation, Korg DRV-3000 digital programmable reverb, Lexicon LXP-1 w/MIDI automation, Lexicon

LXP-5 w/MIDI automation, Lexicon LEX-200 w/MIDI automation, Yamaha D1500, Yamaha REV5. **Other Outboard Equipment:** Klark-Teknik BN 504 Quad compressor/limiter, Yamaha CC-2020B compressor, Valley People EXR Exciter. **Microphones:** AKG C-451, (3) AKG D-70ME, AKG D-112, (5) Barcus-Berry 2050 contact mics, Beyer D500, Neumann U87, (3) Sennheiser MD-421, Shure SM57. **Monitor Amplifiers:** (2) Hafler P-230. **Monitor Speakers:** (2) Yamaha NS-10, (2) B&W 801A, (2) JBL 8330, (2) Tannoy SRM-128. **Musical Instruments:** Alesis HR-16, Roland R-8/Octapad, Korg M1, Roland RD-3005 MIDI digital piano, Roland D-50, Yamaha DX7, Moog Minimoog. **Other MIDI Equipment:** Korg EX-8000 MIDI expander brain, Kurzweil PX100+ MIDI expander brain, Kurzweil "Librarian" software, Opcode Vision, Opcode Studio Three MIDI/SMPTe synchronizer, Lexicon MRC MIDI controller, Roland Super FX MIDI sound module, Roland S-770, Oberheim MX-1000 MIDI keyboard expander, Macintosh SE30 MIDI computer system.

[24+] **CHESHIRE SOUND STUDIOS;** also *REMOTE RECORDING*; 2093 Faulkner Rd. NE, Atlanta, GA 30324; (404) 633-6626; FAX: (404) 636-7738. **Owner:** Tom Wright. **Manager:** Wynette Smith.

[24+] **CINETEL PRODUCTIONS;** 9701 Madison Ave.; Knoxville, TN 37932; (615) 690-9950; FAX: (615) 693-6576. **Owner:** Bagwell Communications. **Manager:** Bob Jordan. **Engineers:** Jerry Nantz, chief engineer; Bryan Siedschlag, senior engineer; Glen Wright, Jim Hess. **Dimensions:** Room 1: studio 80x100, control room 15x20. Room 2: studio 40x40, control room 15x20. **Mixing Consoles:** Anek Mozart 56 PO/48-channel w/Steinberg auto, Soundcraft 800B/32-channel, Soundcraft 500/24-channel, Yamaha MC2404, Shure SM32. **Audio Recorders:** Otari MX-70 16-track, (2) Tascam MSR-16 16-track, (2) Panasonic SV-3900 DAT, TEAC 35-2-2-track, Otari MX-5050 2-track. **Cassette Recorders/Duplicators:** (4) Sony TC-WR720. **Noise Reduction Equipment:** dbx 180 Type I, (6) dbx 900. **Synchronization Systems:** (2) Alpha Audio Boss II w/TimeLine Lynx system. **Echo, Reverb & Delay Systems:** Lexicon 200, Yamaha SPX1000, MICMIX reverb. **Other Outboard Equipment:** (8) dbx 165A compressor/limiter, Klark-Teknik DN-410 parametric equalizer, (3) B&B Systems phase monitor, Audio Control SA-3050A analyzer, (2) UREI 1178 comp/limiter. **Microphones:** (4) Shure SM85 condenser, (3) Shure SM57 cardioid, (2) Shure SM58 cardioid, (8) TRAM TR50, Schoeps MK41 shotgun, (3) Sennheiser 416, Sennheiser 816, (2) Neumann SRM 190-I stereo. **Monitor Amplifiers:** (2) Crown D-75, (3) Ramsa 9210, QSC 1400 power amp, QSC 1700 power amp. **Monitor Speakers:** (2) Tannoy SGM-1000, (4) Tannoy PBM-6.5, (2) Auratone NFM, (6) Electro-Voice Sentry 100A, (2) JBL 4311B. **Musical Instruments:** Yamaha SY77 MIDI keyboard, Yamaha CP70 keyboard. **Video Equipment:** (3) RCA TK-47 w/Fujinon 17:1 lenses, (5) Sony BVP-50 Betacam SP w/triax, Ikegami HL-79E w/triax, (2) Ikegami HL-83 CCU control, 28" Grip/lighting tractor-trailer w/Crawford Gen., 14" Grip/lighting van, 25" mobile "beta bug" control van, (2) Paltex ES/D computer editors, Chyron Infinity, Grass Valley 200 switcher, Grass Valley 300 switcher, Silicon Graphics 4D/80 Superwork Station, Vertigo 3-D animation system, Paintbox, (10) Beta SP deck, (8) Sony 1" deck, Elmar crab dolly, Barber boom.

[24+] **CLIFTY STUDIOS;** PO Box 15; Paris, TN 38242; (901) 644-7111; FAX: (901) 644-7171. **Owner:** Keith Lancaster. **Manager:** Todd Austin. **Engineers:** John Laws, Gary Miller. **Dimensions:** Room 1: studio 16x25, control room 15x24. Room 2: studio 14x13, control room 24x16. **Mixing Consoles:** AHB CMC 32, (4) Yamaha DMP7 automated digital mixing processor, (4) Yamaha DMP7D automated digital mixing processor, Tascam M-600. **Audio Recorders:** Otari MX-5050B 2-track 1/4", Akai A-DAM 24-track digital, Sony PCM-2500 R-DAT. **Cassette Recorders/Duplicators:** (2) Tascam 122 MkII. **Noise Reduction Equipment:** (2) Dolby SR. **Synchronization Systems:** Fostex 4030/4035 Echo, Reverb & Delay Systems; Lexicon PCM70, Lexicon 480L, (2) Eventide H3000 SE/B Ultra-Harmonizer. **Other Outboard Equipment:** Aphex Expressor comp/limiter, (4) Valley People Dyna-Mite comp/limiter/expander/gate, Valley Audio GateX, Barcus-Berry sonic enhancer model 802, Aphex Aural Exciter, (2) Klotz AFC 1.12 digital format converter, Yamaha FMC1 digital format converter, Yamaha AD8X A/D 8-channel converter, Yamaha AD2X A/D 2-channel converter. **Microphones:** AKG The Tube, (2) Neumann U89, (2) AKG C-414, Sony C-535P, Sony C-536P, (4) AKG C-535EB, EV RE20, CAD Equitek II. **Monitor Speakers:** JBL 4435 studio, JBL 4430 monitor, (2) Yamaha NS-10M, EAW, Akai MS200 studio, Auratone 5C, JBL J216. **Musical Instruments:** Kurzweil K-250 sampler, Kurzweil K250 RMX, Kurzweil K1000, (2) Akai S1000 stereo sampler, Akai S900 sampler, (2) Akai MPC60 sequencer/sampler/drum machine. **Other:** Macintosh SE computer, (9) AKG K-240M headphones, (2) AKG K-270 headphones.

[24+] **COMMERCIAL MUSIC RECORDING COMPLEX;** CFA-232 Memphis State University; Memphis, TN 38152; (901) 678-2559 (office); (901) 678-2015 (studio); FAX: (901) 678-5118. **Owner:** Memphis State University. **Manager:** Larry Lipman. **Engineers:** Larry Lipman, E. Joe Walsh, advanced students in audio degree program. **Dimensions:** Studio A: 60x60x20. Studio B: 23x16x20, control room 20x16x12, electronic music lab 16x10x12. Synclavier suite: 11x11x10. **Mixing Consoles:** MCI JH-636 36x24. **Audio Recorders:** Otari MTR-901 24-track, Otari MTR-12 CT 1/2-track 1/4", (2) Panasonic SV-3700 DAT, Otari 5050 MkII-B 8-track 1", MCI JH-110B 1/2-track 1/4", Studer PR99 1/2-track 1/4". **Noise**



COMMERCIAL MUSIC RECORDING COMPLEX
Memphis, TN

Reduction Equipment: dbx 208 Z4 channels. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon M97 Super Prime Time, (2) Yamaha SPX901. **Other Outboard Equipment:** Aphex Type B Aural Exciter, Eventide H949 Harmonizer, (2) dbx 160X, (2) Valley People Dyna-Mite, Scamp, (2) Yamaha SPX901. **Microphones:** (2) Neumann U87, Neumann U47, Neumann KM84, (2) AKG C-414EB/P48, (2) AKG C-452, CK-1S, (5) Sennheiser MD-421U, (2) Shure SM57, Shure SM57, Electro-Voice RE1C Electro-Voice RE20, Electro-Voice 654A, (2) Crown PZM 30GP Monitor Amplifiers: (2) BGW, (5) A3 Systems. **Monitor Speakers:** (2) UREI 813A, (2) UREI 811A, (2) Tannoy GLM, (2) Tannoy PBM 6.5, (2) Yamaha NS-10, (2) JBL 4401, (2) JBL 4412, (2) Auratone. **Musical Instruments:** Steinway 7' grand, Baldwin 9' concert grand, Yamaha DX7, Roland JX-10, Roland MC-500, Roland MPU-101, Roland Pad-3 Octapad, Roland TR-707, Roland TR-727, Roland MT-32, Akai S900, Akai ME-30P, Moog 3C, full complement of studio orchestral and percussion instruments available. **Other MIDI Equipment:** Macintosh Plus. **Video Equipment:** Complete 1", 3/4", Betacam and Super VHS video production/CMX post-production services available, funding has been requested to enable video production: able to be interfaced with recording studios. **Other:** Synclavier 3200 w/16 voices and 16 MB waveform RAM, 2GB optical disk drive loaded w/NED TimeLine Library, 80MB and 160MB Winchester drives, 20MB Kennedy cartridge drive, 1.2MB disk drive, Macintosh II graphics workstation, extensive sample library, Yamaha turntable, Adcom preamp, (2) Countryman Type 85 direct box, (12) Active cue system. **Notes:** The CMUS Complex is operated primarily as an instructional facility. Although normally unavailable for commercial use, studio rental is authorized under special circumstances. Availability and rates upon request. **Specialization & Credits:** Memphis State offers the Bachelor of Music degree in Commercial Music: with concentrations in Recording Technology, Music Business, Jazz Composition, and Jazz Performance. CMUS majors won the prestigious 1990 NARAS Student Music Award in the Jazz/Big Band category. Our program stresses a thorough understanding of fundamental concepts within each concentration. Equal emphasis is placed upon developing the student's ability to quickly adapt to new practices, technologies and creative directions. Our students work with instructors who possess a broad knowledge of music industry practices and who are actively involved in today's commercial music industry. The Memphis arts community offers a dynamic environment, providing students with diverse cultural opportunities and a rich assortment of internship possibilities. Scholarship funds are available for exceptional students, and many states offer our students financial assistance through the Academic Common Market. A commitment to personal attention and quality instruction requires that enrollment be limited and based on selective procedures.

[24+] **CORAL SOUNDS STUDIO;** REMOTE RECORDING only; 10 Milling Ave.; Sea Lots, PO Box 783; Port of Spain, Trinidad, West Indies; (809) 623-7739; FAX: (809) 642-0567. **Owner:** Coral Recording Services Ltd. **Manager:** Mike Schuler. **Engineers:** Eric Michaud. **Dimensions:** Studio: 48x30 w/20' ceiling, control room: 24x12. **Mixing Consoles:** Audionics 26x2 w/8 Focusrite ISA-110 module rack. **Audio Recorders:** Otari MTR-90 24-track w/Dolby SR 24-channel connected, Otari MTR-20 1/2" w/Dolby SR 2-channel connected, MCI 1/4". **Cassette Recorders/Duplicators:** (2) Tascam 122. **Echo, Reverb & Delay Systems:** Lexicon 200, Lexicon Prime Time II, Yamaha REV7, (2) Yamaha SP790, Eventide Harmonizer 3969. **Other Outboard Equipment:** (2) Aphex Aural Exciter 103, Orban Sibilance Controller 516, (2) UREI 1176N limiting amplifier, (2) UREI LA-5 audio leveler, Orban parametric equalizer 522B, Studer A727 compact disc player. **Microphones:** (2) AKG The Tube, (2) Neumann U87, (2) Shure SM7, (2) AKG 414. **Monitor Amplifiers:** BGW 75, BGW 250E, BGW 75A, (2) JBL/UREI Room EQ. **Monitor Speakers:** (2) Altec Super Reds 604E, (2) Yamaha NS-10M, (2) Auratone 5C, (2) Viscon 9000, (2) Mastering Lab -rossovers. **Musical Instruments:** Oberheim Matrix-12 synth, E-max sampler/synth, Yamaha DX7/FI PD, Prophet-2002 sampler, Akai Linn MPC 60 drum machine/sequencer, Linn drum machine, Roland electronic drum set. —LISTING AND PHOTO/LOGO CONTINUED ON NEXT PAGE



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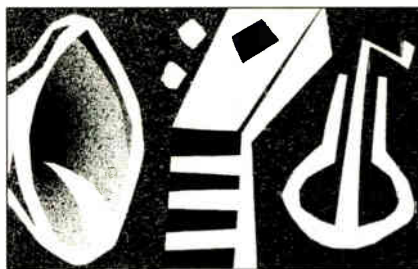
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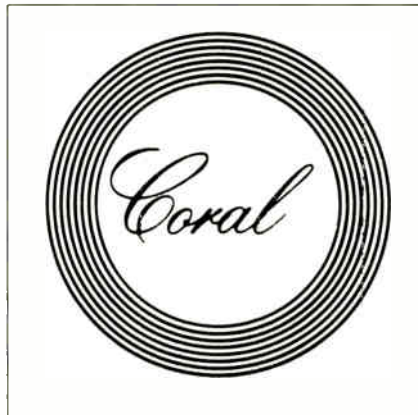
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Southeast
24-track studios

—LISTING CONTINUED FROM PREVIOUS PAGE



CORAL SOUNDS STUDIO
Port of Spain, Trinidad

tronic drum kit, Kawai baby grand acoustic piano, extensive library of E-max, Akai Linn and DX7 diskettes and cartridges. **Other:** Sound Ideas CD effects library, complete set professional percussion instruments, AKG headphones, Countryman Direct Boxes. **Rates:** Special introductory rate of U.S. \$40/mr. (or even less for quantity block bookings), which includes engineer with 15 years of experience and all equipment/instruments. Top-quality accommodation in relaxing and sunny locations available at surprisingly reasonable prices. **Specialization & Credits:** Relax in a Caribbean Island studio with a purpose-built room to professional specifications with top-quality equipment. We are "The Home of the Calypso Rhythm and Steelband Drums" in a modern 24-track studio with 24-channel Dolby SR and eight (8) Focusrite ISA-110 equalizer modules. We recently had a 50-member local Steelband Orchestra doing tracks for Jean-Michel Jarre of France, which was used as the basis for a live show in Paris on Bastille Day with an attendance of about 2 million people. We have also done a multitude of best-selling calypso records in the Caribbean for the past eight years. We welcome all types of music and projects and do our utmost to make all clients feel welcome and comfortable for their entire stay on the island.

[24+] **CPN TELEVISION INC.**; also **REMOTE RECORDING**; 14375 Myerlake Cir., Clearwater, FL 34620; (813) 530-5000; FAX: (813) 536-1864. Owner: Stuart W. Arnold. Manager: Bill Cavanaugh.

[24+] **CRAWFORD POST PRODUCTION INC.**; also **REMOTE RECORDING**; 535 Plasamur Dr.; Atlanta, GA 30324; (404) 876-7149; FAX: (404) 876-8956. Owner: Jesse Crawford. Manager: Steve Davis.

[24+] **CREATIVE SOUND CONCEPTS**; 495 Armour Cir. NE; Atlanta, GA 30324; (404) 873-6628; FAX: (404) 875-6220. Owner: Dennis Baxter, Spencer Herzog. Manager: Linda Morrison.

[24+] **CRITERIA RECORDING STUDIOS**; 1755 NE 149th St.; Miami, FL 33181; (305) 947-5611; FAX: (305) 956-5181. Owner: Joel M. Levy. Manager: Margie Curry. Engineers: Robert Knox, Clyde Hagler, Kurt Berge, Dimensions; Room A: studio 46x50, control room 25x27. Room B: studio 15x16, control room 23x26. Room C: studio 25x32, control room 15x16. Room D: studio 14x22, control room 17x19. Room E: studio 50x50, control room 23x26. **Mixing Consoles:** Solid State Logic 6000G 48x32, Solid State Logic 6000E 48x32, MCI 532B 32x32, MCI 532C 32x32, Neve 8078 40x24x32. **Audio Recorders:** Mitsubishi X-800 32-track, (2) Studer A8:0 24-track, (2) Otari MTR-90 24-track, MCI JH-24 24-track, (2) Mitsubishi X-800 2-track digital, (2) MCI JH-110B 4-track, (2) MCI JH-110B 2-track, 1 1/4" or 1/2", (2) Studer A820 2-track 1/2", (2) Sony PCM 2500. **Cassette Recorders/Duplicators:** (5)

Yamaha K1020, (10) Yamaha KX1200 U. **Noise Reduction Equipment:** (2) Dolby A racks 24 tracks, (24) dbx cards, (4) Dolby SR units. **Synchronization Systems:** (2) Adams-Smith Zeta-3 w/remote. **Echo, Reverb & Delay Systems:** EMT 251, Lexicon 224XL, (3) Lexicon 480L, (3) AMS RMX, (3) AMS DMX, (3) Lexicon PCM70, (4) Yamaha SPX90, Eventide 2016, (2) Lexicon PCM41, (8) Lexicon PCM42, (3) Eventide H3000. **Other Outboard Equipment:** (2) Focusrite 110 EQ module, (2) Focusrite 130 dynamic module, (6) Drawer 201 gate, (4) Kepex gate, (8) Pultec tube EQ, (2) UREI LA-4, (2) UREI LA-3, (8) dbx 160, (2) dbx 160X, (3) Teletronix LA2A, ADR Vocal Stressor, ADR Complex limiter. **Microphones:** (150) Various microphones. **Monitor Amplifiers:** (3) Briston, (5) McIntosh, (2) UREI 6500, (2) APT, (2) Acoustat. **Monitor Speakers:** (3) Criteria/Ed Long monitors, (2) Criteria custom tri-amped, (5) Yamaha NS-10M, (2) Westlake BBSM-2, (2) Genelec S30.



CUE RECORDING LTD.
Falls Church, VA

[24+] **CUE RECORDING LTD.**; 109 Park Ave., Ste. E; Falls Church, VA 22046; (703) 532-9033. Owner: Willard R. Jeffrey III. Manager: Willard R. Jeffrey III. Engineers: Jim Ebert, Ken Schubert, Tony Bonta, Jimmy Dugan, Tom Perrell, Tom Deakin. **Dimensions:** Room 1: studio 32x25, control room 25x21. Room 2: studio 15x11, control room 14x13. Room 3: studio 8x5, control room 9x8. **Mixing Consoles:** Trident TSM 40x32 automated, MCI JH-628 28x24 automated, Allen and Heath CMC 32x24. **Audio Recorders:** Studer A800 MkIII 24-track, MCI JH-16 24-track, Studer A810 2-track, Otari MTR-10 2-track, (2) Otari 5050B 2-track, Sony PCM-2500 DAT, Sony DTC-1000ES DAT, Panasonic SV-3500 DAT. **Cassette Recorders/Duplicators:** (12) Tascam 122B, Nakamichi MR-1. **Noise Reduction Equipment:** dbx Type 180 2-channel. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM70 digital reverb, (3) Yamaha REV7 digital reverb, (3) Yamaha SPX90, EMT 140S tube plate reverb, Lexicon 200 digital reverb, Lexicon PCM41 digital delay, (4) DeltaLab Effectron 1024 digital delay, Korg SDA-2000 sampling digital delay, Alesis XT digital reverb, MXR flanger doubler, Roland stereo chorus, Systech stereo phase shifter. **Other Outboard Equipment:** UREI 1176 compressor/limiter, (2) UREI LA-4 compressor/limiter, (2) dbx 160X compressor/limiter, Ashly Audio compressor/limiter, (2) dbx 166 compressor/limiter, Eventide H3000 Ultra-Harmonizer, (16) Kepex noise gate/expander, (4) Aphex Type C Aural Exciter, (6) BBE Sonic Maximizer, (2) UREI 1-octave equalizers, Rocktron Hush noise eliminator. **Microphones:** (3) Neumann U87, Neumann U67 tube, (2) Neumann KM86, (2) AKG 414, (2) AKG 451, (1) AKG D-12, (4) Sennheiser MD-421, Sennheiser MD-409, Sennheiser MD-441, (4) EV RE20, EV 636, Beyer M88, (2) Crown PZM, (8) Shure SM57, (2) Altec ribbon, Sony ECM-33F. **Monitor Amplifiers:** Briston 4B, Briston 3B, Crown PSA-2, Crown D-150, UREI/JBL 6200, Hafler LL-1200. **Monitor Speakers:** (2) State-of-the-Art Elektronik CFM-750, (2) UREI 813A, (2) Westlake BBSM-6, (6) Yamaha NS-10M, (2) Tannoy NFM-8, (2) Tannoy PBM-6.5. **Musical Instruments:** (2) Roland S-550 sampler, (2) Roland D-550, Linn 9000 digital drum machine w/32-track sequencer, Sojin 6' grand piano, Ludwig 6-pc. drum kit, various guitar amplifiers. **Rates:** Available upon request. **Specialization & Credits:** Cue Recording Ltd. is a three-studio facility located five minutes from the nation's capital. From our computerized MIDI room to automated mixing in Studios A and B, we provide top-notch audio recordings at sensible rates. Advanced control-room monitoring has been achieved using the R.F.Z. Reflection Free Zone architecture and RPG Diffusers in our control room A. Neil Muncy Associates, Ltd. in Toronto designed the room producing excellent results: accurate imaging with a remarkably flat frequency response, free from the need for room equalizers. The room is a pleasure to mix in, from all-cone monitoring by State-of-the-Art Elektronik, to the security of knowing what you're hearing now is what everyone else will be hearing later. Recent clients include Larry Faye of Peter Gabriel, Annie Haslam, Buddy Miles, Michael Fath, H.R., Wrathchild, The Newkeys with Nils Lofgren, Felton Pilate, (Rocky 5), E.U. and Rare Essence.

[24+] **D LAB AUDIO SERVICES**; also **REMOTE RECORDING**; 7017 East W.T. Harris Blvd.; Charlotte, NC 28215; (704) 535-7263; FAX: (704) 535-4515. Owner: Moody & Moody Inc.

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Manager: David Moody. **Engineers:** David Moody, Todd Lyons, Randell Owens. **Dimensions:** Room 1: studio 18x15, control room 15x15. Room 2: studio 12x15. **Mixing Consoles:** MCI JH-400 24x24 w/light meters. **Audio Recorders:** Sony MCI JH-24 w/autolocator III, Panasonic SV-3700 Pro DAT, Tascam DA-30 Pro DAT, Tascam TSR-8 8-track, Sony PCM-501 2-track digital, Sony HF-900 Beta transport, Scully 280B 2-track, Technics SL-1500 2-track, Ampex 440B 2-track. **Cassette Recorders/Duplicators:** JVC TD-V621 w/HX Pro, Wollensak 3M high-speed duplicator, JVC TD-W801 w/HX Pro. **Noise Reduction Equipment:** dbx 8 channels. **Echo, Reverb & Delay Systems:** Lexicon 200, Lexicon PCM60, Yamaha REV5, Yamaha SPX50D, Yamaha SPX90, Alesis Quadraverb, Digi-Tech GSP 21, AKG BX-10 stereo reverb, Boss DD-2 digital delay. **Other Outboard Equipment:** dbx 900 modular rack, (3) dbx 902 noise gate, (2) dbx 903 comp/limiter, dbx 905 de-esser, UREI 1176 comp/limiter, Aphex Aural Exciter, Korg DT-1 pro tuner, Conn Strobe tuner, Fostex 5030 line amp, Fostex TT-15 oscillator, JVC XL-Z411 compact disc player, Technics phonograph player. **Microphones:** (2) AKG 414, (2) AKG 451, (2) CAD Equitek II, (2) Shure SM81, (3) Shure SM58, (5) Shure SM57, (2) Audio-Technica ATM33R, (2) Electro-Voice RE20, (4) Electro-Voice RE15, (4) Electro-Voice 635, (2) Whirlwind DI, (4) Sescor DI. **Monitor Amplifiers:** Peavey 2600, Alesis Micro cue amp, (2) Symetric HP-10. **Monitor Speakers:** (2) JBL 4401, (2) Electro-Voice Sentry V, (2) Fostex T20 headphones. **Musical Instruments:** Korg M3R, Yamaha 6' conservatory grand, Yamaha TX812, Yamaha DX7, Yamaha DD11 drum pads, Alesis HR16 drum machine, Oberheim DX drum machine, (2) Wendel Jr. drum replacement computer, Slingerland drum kit w/Zildjian cymbals, various guitars and basses, Roland MC-300 sequencer micro composer. **Other:** Monster cable wiring. **Rates:** Available upon request.

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DIGITAL ASSOCIATES
Nashville, TN

[24+] **DIGITAL ASSOCIATES;** also **REMOTE RECORDING;** 2407 12th Ave. South; Nashville, TN 37204; (615) 297-3900. **Owner:** Rick Horton. **Manager:** Rick Horton. **Engineers:** Rick Horton, Kelly Key, Todd Kidd. **Dimensions:** Control room 1: 16x20. Control room 2: 14x14. **Mixing Consoles:** Amek TAC Matchless 36x32, Yamaha DMP7D. **Audio Recorders:** Mitsubishi X-880 32-track digital, Mitsubishi X-800 32-track digital, Mitsubishi X-86 2-track digital, (2) Mitsubishi X-80 2-track digital, Studer Edittech Dyaxis Digital Audio Production System 1.6GB, Sony PCM-2500 Pro DAT, Sony PCM-501ES digital audio processor, Studer A80 24-track analog, Studer B67 2-track analog, Otari MTR-12 2-track 1/4" and 1/2" analog. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Infonics 12-station mid-speed duplication system. **Noise Reduction Equipment:** Dolby A2-channels, Dolby SR2-channels, Dolby C 2-channels. **Echo, Reverb & Delay Systems:** Eventide H3000 Ultra-Harmonizer, (4) Aphex 612 expander/gate, Lexicon PCM70 processor, (2) Yamaha REV7 processor, UREI 1178 dual peak limiter. **Microphones:** AKG The Tube, Neumann U87, Neumann U47 tube, (2) Neumann M269 tube, (2) Neumann M256 tube, (2) Neumann KM54 tube, (2) Neumann M49 tube, (2) Schoeps M221-b tube, Crown SASS-P. **Monitor Amplifiers:** Hafler P500. **Monitor Speakers:** (4) Auratone T6. **Other:** Goldline 30 digital real-time analyzer, Macintosh II, (3) XT-compatible computer.

[24+] **DIGITAL MULTI-MEDIA POST INC.;** also **REMOTE RECORDING;** 502 N. Hudson St., Orlando, FL 32811; (407) 293-3390; FAX: (407) 876-2144. **Owner:** Robert Storer. **Manager:** Marie Hamlin.

[24+] **DIGITAL RECORDERS;** 49 Music Square W.; Nashville, TN 37203; (615) 327-1200; FAX: (615) 327-1272. **Owner:** Norbert Putnam. **Manager:** Bill Heath. **Dimensions:** Room 1: studio 35x45, control room 24x20. Room 2: studio 28x18, control room 22x18. Room 3: studio 10x12, control room 18.5x19. Room 4: studio 8x10, control room 20x15. **Mixing Consoles:** Neve VR60 w/48 modules, Neve VF48 w/Flying Faders automation, SSL 4000G 64 frames w/48 modules, Neve 8232 w/Flying Faders automation. **Audio Recorders:** Mitsubishi X-880, Mitsubishi X-850, Sony 3324A, (2) MTR-90 II w/internal synchronizers, (3) Sony PCM-2500 DAT, Panasonic 3500 DAT.

Digital Recorders

DIGITAL RECORDERS
Nashville, TN

Noise Reduction Equipment: Dolby SR 24-track, Dolby 361 SR 2-track. **Synchronization Systems:** Adams-Smith Zeta-3 3.5 software. **Echo, Reverb & Delay Systems:** (3) Lexicon 480L, (2) EMT 250, (4) TC Electronic 2290, large assortment of reverb and delay. **Monitor Amplifiers:** UREI 813C, various near-field monitors. **Musical Instruments:** Bosendorfer 9' grand piano w/Forte MIDI. **Specialization & Credits:** Recent clients include: Bob Seger, Patty Smyth, Billy Gibbons & ZZ Top, Barry Manilow, Take 6, T. Graham Brown, Clint Black, Sandy Patti, Alabama, Hank Williams Jr., Lorrie Morgan, Les Taylor, J.P. Pennington, Travis Tritt, Joelle Sonnier, One Bad Pig, David Mullin, Margaret Bell, Vanessa Williams, Kenny Rogers, Dolly Parton, Darnn Yankees, Johnny Van Zant, Amy Grant, Phil Keaggy, Lee Greenwood, Jimmy Buffett, Ashley Cleveland, Marie Osmond, Quincy Jones, K.T. Oslin, Randy Travis.

[24+] **DISK PRODUCTIONS INC.;** 1100 Perkins Rd.; Baton Rouge, LA 70802; (504) 343-5438. **Owner:** Joey Decker. **Manager:** Joey Decker.

[24+] **DIVERSIFIED PRODUCTIONS;** 6835 Raccoon Valley Rd.; Knoxville, TN 37938; (615) 922-7442. **Owner:** Mike Tansey. **Manager:** Mike Tansey.

[24+] **DOPPLER STUDIOS INC.;** also **REMOTE RECORDING;** 1922 Piedmont Cir.; Atlanta, GA 30324; (404) 873-6941; FAX: (404) 872-2160. **Owner:** Pete Caldwell. **Manager:** Bill Quinn. **Engineers:** Joe Neil (chief engineer), Curt Bush, Granger Beem, Mitch Eaton, Steve Schwartzberg, Tommy Smeltzer, Peter Blayney. **Dimensions:** Room 1: studio 35x50, control room 26x28. Room 2: studio 35x50, control room 26x28. Room 3: studio 25x35, control room 15x17. Room 4: studio 20x15, control room 15x17. Room 5: studio 10x13, control room 13x15. Room 6: studio 13x15. **Mixing Consoles:** SSL SL4048E 40-channel G computer, SSL SL4040E 32-channel G computer, Sphere B 28-channel, Ramsa 8428 28-channel, Audionics 110A 20-channel. **Audio Recorders:** (4) Otari MTR-9011 24-track, Otari MTR-10 4-track, (11) Otari MTR-10/12 2-track, (3) Ampex ATR-102 2-track, Tascam ATR-60/8 8-track, (4) Tascam 42B 2-track, Tascam DA-30 R-DAT, Panasonic SV-250 R-DAT. **Cassette Recorders/Duplicators:** Nakamichi MR-1, (15) Nakamichi MR-2. **Noise Reduction Equipment:** dbx noise reduction 100-channel. **Synchronization Systems:** (4) Cipher Digital Softouch system. **Echo, Reverb & Delay Systems:** (2) Lexicon 224XL, Lexicon PCM70, Lexicon LXP-1, (2) EMT 140 stereo plate, TC Electronic TC 2290, Eventide H3000B, Eventide 969 Harmonizer, (4) Yamaha SPX90II, Marshall Time Modulator, (8) dbx 165A, (2) Drawmer M-500, (4) UREI 1176LN. **Other Outboard Equipment:** (2) Plycor active cue system. **Microphones:** (16) Neumann, (12) AKG, (12) Sennheiser, (6) Shure. **Monitor Amplifiers:** (2) UREI 6500, (4) Hafler P500, (11) Yamaha P2100, (3) Yamaha P2200. **Monitor Speakers:** (3) UREI 813, (8) EAW MS-30, (2) Yamaha NS-10M. **Musical Instruments:** Steinway B grand piano, Baldwin baby grand piano, Pearl drum set, Hammond B-3 organ, Roland W-30 synth. **Video Equipment:** Sony BVH-1000A 1" Type C, (3) Sony VO-5850 3/4", Sony VO-9850 3/4", Sony DVR-10 D-2 digital. **Other:** WaveFrame AudioFrame hard disk recorder w/16-voice sampler. **Rates:** Please call for rates.

[24+] **E1212 RECORDING STUDIO;** also **REMOTE RECORDING;** 769 Andaluca Ave.; Puerto Rico, PR 00921; (809) 782-2745; FAX: (809) 781-8194. **Owner:** Carlos Bigro. **Manager:** Yamil Martinez.

[24+] **ECHO BEACH STUDIO;** 880 Jupiter Park Dr., Ste. 13; Jupiter, FL 33458; (407) 624-0672; FAX: (407) 624-0672. **Owner:** Chas Payson.

[24+] **ELEVEN-ELEVEN SOUND;** 1111 17th Ave. S.; Nashville, TN 37212; (615) 329-1111. **Owner:** Frank Dileo. **Manager:** Rodney Good. **Engineers:** Rodney Good, Kirk Eberhard, Steve Ledet, independents. **Dimensions:** Studio 34x36, control room 15x18. **Mixing Consoles:** Neve V Series II 48x48. **Audio Recorders:** Mitsubishi X-850 32-track digital, Otari MTR-9011 24-track analog, Mitsubishi X-80A 2-track digital. —LISTING CONTINUED ON NEXT PAGE



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Noise Reduction Equipment: (2) dbx Type 1 24 tracks, (2) Dolby SR, (4) Dolby A. Synchronization Systems: JL Cooper. **Echo, Reverb & Delay Systems:** Lawson Plate, Yamaha REV7, Yamaha SPX90II, Ibanez SDR-1000, Eventide H910 Harmonizer, Alesis Microverb III. **Other Outboard Equipment:** (4) dbx 160 compressor/limiter, (2) UREI 1176LN peak limiter, (2) UREI 545 parametric EQ, (2) Valley People Kepex II noise gate, (2) Valley People Maxi Q parametric EQ, (4) Audio Logic MT-44 noise gate, (6) UREI 539 1/3-octave graphic EQ, (2) Aphex Aural Exciter Type C. **Microphones:** (2) Neumann U87, (4) Neumann KM84, Neumann KM86, (6) AKG 451, (4) Shure SM5B, Shure SM81, (4) Shure SM56, EV RE20, AKG D-12E, (4) Sony ECM-50, (4) PZM, (10) direct boxes passive and active (various). **Monitor Amplifiers:** (7) Crown DC-300, DC-150, D-75, (12) Alesis micro cue amps on cue system. **Monitor Speakers:** (2) Klipsch K horns (mains), (2) Yamaha NS-10, (2) EV Sentry 100A, (2) Tannoy SGM-10, (2) Altec 9844 studio, (14) Fostex T-20 headphones, (4) Auratone 5C. **Musical Instruments:** Steinway CD-9'9" concert grand piano, Pearl 5-piece drum set w/Zildjian cymbals, (4) Fender, Ampeg and Peavey amps, Roland drum pad, Alesis HR-16, Yamaha PF-10 electric piano. **Other MIDI Equipment:** JL Cooper Magi II automation system (24 channels). **Other:** Two-way stereo active cue system, large drum booth w/great visibility, large collapsible vocal booth w/great visibility. Rates: \$65/hr, including engineer.

[24+] **HIX STUDIOS;** 2901 Hwy. 70 West; Hickory, NC 28602; (704) 328-2487; FAX: (704) 328-2489. Owner: Charles and Virginia Hicks. Manager: Marcus Kearns.



HOLLYWOOD RECORDING STUDIOS, INC.
(305) 962-1586/HOLLYWOOD, FL

HOLLYWOOD RECORDING STUDIOS INC.
Hollywood, FL

[24+] **HOLLYWOOD RECORDING STUDIOS INC.;** 3130 SW 19th St. #448; Hollywood, FL 33009; (305) 962-1586. Owner: Wayne Ricker. Engineers: Wayne Ricker, Jamie Swartz. Second engineer: Debbie DeNeese. Dimensions: Room 1: studio 25x19, control room 15x17. Room 2: studio 4x6. **Mixing Consoles:** TAC Scorpion II 36x24x12, Soundtracs M Series 24x8. **Audio Recorders:** Sony PCM-2500 DAT, Tascam 85-16 16-track, Ampex 2-track, Otari MX-80. **Cassette Recorders/Duplicators:** (5) Tascam 25000, JVC KDA3. **Noise Reduction Equipment:** dbx 150 on 16-track. **Synchronization Systems:** Unitor Box SMPTE generator, KMS30 sync box. **Echo, Reverb & Delay Systems:** Yamaha REV7, ART 01A, Eventide H949 Harmonizer, Lexicon Prime Time, (2) LXP-1 w/MRC controller, (2) MIDlverb III, Korg DRV-3000. **Other Outboard Equipment:** dbx 165 compressor, Valley People Dynamite, Aphex Aural Exciter, Moog MPKE parametric equalizer, Rane S band equalizer, BBE Sonic Maximizer, dbx 160 compressor, dbx 166 compressor, API 550A equalizer, Yamaha SPX90, Valley International GateX. **Microphones:** Neumann U87, Neumann U47FET, (4) Sennheiser 421, Sennheiser 441, (2) AKG 451, Shure SM81, (3) Shure SM57, EV N-DYM, C-408, C-308, AKG C-408, AKG D-12, AKG C-747, AKG D-12E, (2) RCA 77-DX, Neumann KM84, Beyer M260. **Monitor Amplifiers:** SAE, Carver, QSC 700. **Monitor Speakers:** Yamaha NS-10, Westlake BBSM 8. **Musical Instruments:** (2) Yamaha TX81Z, Roland D-50 linear synth, E-mu SP-12, Akai S1000 w/8 meg. **Other MIDI Equipment:** Atari 1040ST computer w/Notator sequencing software.

[24+] **IMPORTANT STUDIO;** also REMOTE RECORDING; PO Box 352; Estero, FL 33928; (813) 947-0103. Owner: Dianken Bernel, John McLane. Manager: John McLane.

[24+] **INNER EAR STUDIOS INC.;** also REMOTE RECORDING; 2701 S. Oakland St.; Arlington, VA 22206; (703) 820-8923; (703) 820-8768. Owner: Don Zientara. Manager: Eli Janney. Engineers: Don Zientara, Eli Janney, Paul Kearney, Joey Picuri, Jeff Turner. Dimensions: Room 1: studio 22x16, control room 11x18. Room 2: studio 12x10, control room 11x12. Room 3: studio 16x20, control room 12x15. **Mixing Consoles:** Tascam M-520, custom monitor/cue mixer, (8) JL Cooper MixMate automation. **Audio Recorders:** Fostex B-16 modified, Tascam Model 52, Tascam Model 32, Tascam Model 22, Fostex G-245, Tascam DA-30 R-DAT. **Cassette Recorders/Duplicators:** Tascam 122, Aiwa 6X, Akai VHS digital. **Noise Reduction Equipment:** (16) Dolby, (4) dbx Type

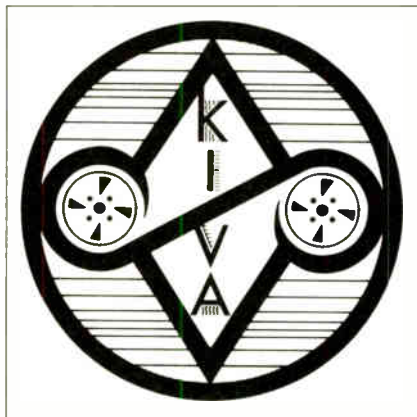
I. Synchronization Systems: Fostex 4050 SMPTE-to-MIDI box. **Echo, Reverb & Delay Systems:** (3) Korg SDD-2000 DDL, Lexicon PCM70, Lexicon PCM60, Lexicon PCM41 DDL, (2) Alesis MIDlverb II, Alesis Microverb, (3) DSP-128 Plus, Alesis Quadverb DSP, Lexicon LXP-1, Lexicon PCM60. **Other Outboard Equipment:** (4) Valley People noise gate, (16) Audio Logic GT-4 noise gate, (2) optical compressor/limiter, (4) Fostex compressor, (2) Valley People Leveller, (6) Alesis Micro limiter, (2) BBE 822 optimizer, (4) BBE 402, (2) BBE 802, (8) Tascam PE-40 parametric EQ, (2) Tascam graphic EQ, MXR pitch transposer, DigiTech IPS-33 harmonizer. **Microphones:** Neumann U87, (2) Neumann KM84, Milab VIP-50, (3) AKG C-414EB, (2) Shure SM81, Sennheiser 441, (2) Sennheiser 421, Sennheiser 409, (3) Electro-Voice N/D 757, (8) Electro-Voice N/D 408, (2) Electro-Voice N/D 308, (3) Shure SM57, (2) Yamaha 204, (2) Yamaha 205-BE, (5) Crown PZM. **Monitor Amplifiers:** Carver M 1.0 T, Yamaha 2100, (2) McIntosh MC-60 tube. **Monitor Speakers:** (2) JBL 4412, (2) Tannoy PBM-8, (2) Boston Acoustics A-60, (2) EV Sentry 500. **Musical Instruments:** E-mu Proteus, Kawai K-5, Roland D-110, Casio FZ-10, FZ-10M sampler, Korg Symphony module, Korg SG-1D full 88 keyboard, Roland JX-8P keyboard, Fender Super Champ amp (tube), Ampeg Gemini II amp (tube), Gallien-Krueger RCB-100 amp. **Other MIDI Equipment:** Yamaha MCS-7 control center, Lexicon MRC controller Roland MC-500II sequencer w/SMRC.

[24+] **JAVELINA RECORDING STUDIOS;** 808 19th Ave. S. and 30 Music Sq. W; Nashville, TN 37203; (615) 320-5985; FAX: (615) 327-0858. Owner: Warren Peterson, Vicki Peterson. Manager: Warren Peterson. Dimensions: Room 1: studio 45x75, control room 18x27. Room 2: studio 30x30, control room 15x20. **Mixing Consoles:** Calrec UA8000w/TASC automation 48-channel, Trident 80B Series 30-channel w/24 monitors. **Audio Recorders:** Mitsubishi X-880 32-track digital w/Apogee filter, Mitsubishi X-850 32-track digital, Sony APR-24 24-track analog, Mitsubishi X-400 16-track digital.

[24+] **JAY HOWARD PRODUCTION AUDIO INC.;** 307 Atherton St.; Charlotte, NC 28203; (704) 525-7864; FAX: (704) 523-5473. Owner: Jay Howard. Manager: JoAnn Jeffries.

[24+] **JY RECORDING;** also REMOTE RECORDING, 201 Trenton; West Monroe, LA 71291; (318) 325-4413; FAX: (318) 323-5915. Owner: James Young. Manager: Chris Turner.

[24+] **JOHN KEANE STUDIOS;** 165 Hillcrest Ave.; Athens, GA 30606; (404) 548-4137. Owner: John Keane. Manager: John Keane.



KIVA RECORDING STUDIO
Memphis, TN

[24+] **KIVA RECORDING STUDIO;** 904 Rayner St.; Memphis, TN 38114; (901) 278-1888. Owner: Gary Belz. Manager: Tim Ray. Engineers: Greg Archilla—chief eng., Doug Nightwine, William Brown, Johnny Walls. Dimensions: Room 1: studio 30x45, control room 27x19. Room 2: studio 11x18, control room 18x22. **MIDI room:** 23x24. **Mixing Consoles:** SSL 4056G 48x32 w/Total Recall automation and G Series computer, Westar 52x24 w/Neve Flying Faders automation, API 16x4 discrete. **Audio Recorders:** (2) Mitsubishi X-800 32-track digital, Studer 24-A800, Mitsubishi X-86 2-track digital, Studer A80Mk 24-track analog, Studer A80 2-track analog, Panasonic SAT-3500 DAT. **Cassette Recorders/Duplicators:** (2) Yamaha C300, (2) Nakamichi BX-300. **Noise Reduction Equipment:** Dolby Type A 24 channels. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon 480L w/LARC, Lexicon 224 w/LARC, Lexicon PCM70 w/ver, 3, AMS RMX 16, AMS DMX 15-80S, (3) Yamaha REV5, (3) EMT 162 plate. **Other Outboard Equipment:** (2) Drawer DS-201 gate, (2) Telatron LA-2A, (2) dbx 160, (2) dbx 165A, Lang PEQ2 tube EQ, (2) Yamaha SPX90, Eventide H949 Harmonizer, Fairchild Model 670 stereo, (4) Pultec EQP-1A, (2) Neve 1078 module, GML parametric EQ, Massenburg 4-channel mic preamp. **Microphones:** (6) AKG 414, (2) AKG D-112, (4) AKG 406, AKG D-224E, Beyer 101, EV 658-L, (2) EV Neumann, (3) Neumann U48 tube, Neumann U49 tube, Schoeps MK26 tube. —LISTING CONTINUED ON NEXT PAGE

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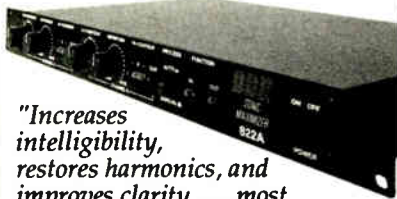
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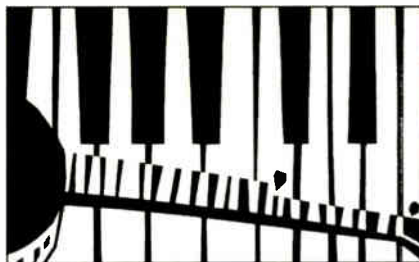
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—LISTING CONTINUED FROM PREVIOUS PAGE

(6) Neumann U87, (5) Neumann KM84, (2) Neumann TLM170, RCA 77-DX ribbon, RCA 44 ribbon, (7) Sennheiser 421, Sennheiser MD-211, Shure SM81, Shure 565-SD, Sony ECM-33. **Monitor Amplifiers:** (8) Yamaha P2250, (6) Yamaha PD2500, (2) FM Acoustic FM1000. **Monitor Speakers:** (2) JBL 4435, (8) Yamaha NS-10M, (2) Tannoy SGM-10B, (2) Hidley-designed Kinoshita 24Hz system. **Musical Instruments:** Baldwin 7' grand piano, Hammond B-3 organ w/Leslie, Yamaha DX7II^F, Roland D-550, Roland D-50, Roland S-50, PPG w/Wave Term, Roland Super JX-10, Akai S900. **Other MIDI Equipment:** Roland MC-800 sequencer. **Other:** Studer Revox A725 CD Player, Neve Prism Rack. **Rates:** Available upon request. **Specialization & Credits:** Studio A, a Tom Hidley-designed and constructed control room featuring a Kinoshita 24Hz monitoring system, is the only true mixing environment in the Memphis area. The console, an SSL 4056 G Series with Total Recall and automation, is complemented by an API 16x4 submixer with 550A EQ. Common ownership with the Peabody Hotel and the Holiday Inn Overton Square allows us to offer economical packages for studio time and luxury housing and accommodation. KIVA's list of clients include: Joe Walsh, Joe Vitale, Drivin' "N" Cryin'/Geoff Workman, Carl Perkins, Jimi Jamison, Albert King, Mark Lindsay, Bar Kays, Stevie Ray Vaughan, John Prine, Jerry Lee Lewis, Dennis Quaid, DeGarmo & Key, Ronnie McDowell and The BoDeans; and producers such as Norbert Putnam, Mark Wright, T. Bone Burnett and Barry Mann. We have worked with labels including Geffen, CBS Records, Scotti Brothers, Epic, Chrysalis, Island Records, Motown, PolyGram, Arista, RCA, MegaJam and Warner B.os. with the National Lampoon's Christmas Vacation soundtrack.

[24+] **L.A. SOUNDS RECORDING STUDIO;** also REMOTE RECORDING; 135 Long Circular Rd., Maraval; Port-of-Spain, Trinidad, West Indies; (809) 622-0572; FAX: (809) 675-1295. **Owner:** Robert Amar. **Manager:** Ricky Amar. **Engineers:** Sean Roland. **Dimensions:** Room 1: studio 52x46, control room 30x26. Room 2: studio 32x26, control room 26x21. **Mixing Consoles:** SSL 4064 G Series 64-track, Neve V Series 48-channel w/Flying Faders. **Audio Recorders:** Mitsubishi 32-track digital, (2) Otari MTR-90 24-track, (4) Otari MTR-12 2-track 1/2", (2) Otari MTR-12 2-track 1/4". **Cassette Recorders/Duplicators:** Otari DP-80 high-speed cassette duplicator and loader, (3) Tascam 122B. **Noise Reduction Equipment:** Dolby 422 and 363, etc. **Echo, Reverb & Delay Systems:** Roland DEP-5 and other Roland effects, Yamaha SPX90, Yamaha SPX1000, etc. **Microphones:** Neumann, Crown, Sennheiser, AKG and Shure, etc. **Monitor Amplifiers:** (22) Bryston 3B, 4B, 7B, (4) Crown MicroTech 1200. **Monitor Speakers:** (16) Westlake BBSM-8, BBSM-10, BBSM-12. (2) Westlake TM3. **Musical Instruments:** Emulator, Yamaha, Roland, etc. **Other MIDI Equipment:** Emulator, Macintosh ILCI, etc. **Other:** Neumann VMS66 and VMS72 mastering lathe, Alpha Toolex pressing plant, (2) Otari DDR-10 editing machine digital, (3) Panasonic SV-3700, (4) JVC DT900.

[24+] **THE "LOFT" RECORDING STUDIO;** 1815 Division St.; Nashville, TN 37076; (615) 327-8444; FAX: (615) 329-1739. **Owner:** Warner Bros. Records. **Manager:** Robert Tassi.

[24+] **LONE PINE RECORDING STUDIOS;** 5024 Simmons Rd.; Orlando, FL 32812; (407) 281-6881; FAX: (407) 275-1495. **Owner:** Michael Hurley. **Manager:** Patricia Boyer. **Engineers:** Michael Hurley. **Dimensions:** Studio 30x23, control room 17x21. **Mixing Consoles:** Trident Series 80-B 24x24x2 w/Visionary Audio modified mic preamps. **Audio Recorders:** Otari MX-80 24-track, (2) Panasonic SV-3900 w/MK 390 controller, Fostex E-2 2-track 15/30 ips, Tascam 42 2-track, Tascam 44 4-track, Tascam TSR-8 8-track. **Cassette Recorders/Duplicators:** (2) Kenwood KX-800. **Echo, Reverb & Delay Systems:** Eventide H3000SE Ultra-Harmonizer, Lexicon LXP-1, Lexicon LXP-5, (2) Alesis Quadraverb, (2) Alesis MIDVerb II, BBE 802 processor, Aphex Compellor, (2) Symatrix compressor/limiter. **Other Outboard Equipment:** Technics SLP-500 CD player. **Microphones:** Neumann U89, (6) Neumann KM84, (2) AKG 414, AKG C-33 stereo, Sennheiser MD-421, (2) Audio-Technica AT4051, (2) Audio-Technica AT813, Crown PZM, (5) Shure SM57, Shure SM58, AKG D-112E, AKG 460. **Monitor Amplifiers:** Bryston 4B, Bryston 3B.

(3) Dynaco D-150. **Monitor Speakers:** (2) UREI 809 w/subwoofer, (2) Yamaha NS-10M Studio, (2) Auratone. **Musical Instruments:** Yamaha 9' concert grand piano, Yamaha touring drums, Fender Precision bass, Ibanez acoustic guitar, tambourine, vibraslap, triangle, (6) Manhasset music stand w/light, (6) symphony-style musician chairs, Schoenhut toy piano, Proteus 1 & 2, Korg M-1R, Roland D-550, Kurzweil PX-1000, Yamaha DX7, Alesis HR-16 drum machine, Roland R-5 drum machine, Yamaha KX88 88-key controller, 360 Systems MIDI patcher, Akai ASQ-10 Roger Linn sequencer, Seiko digital metronome, Synclavier w/programmer available on rental basis. **Rates:** 24-track and direct-to-digital, \$110/hr; substantial discount for block bookings. 2/4/8-track, \$75/hr.

[24+] **MASTER SOUND RECORDING STUDIO;** also REMOTE RECORDING; 5249 Challedon Dr.; Virginia Beach, VA 23462; (804) 499-0000; (804) 496-0553. **Owner:** Robert Ullsh. **Manager:** Robert Ullsh. **Engineers:** Robert Ullsh, Mike Trimble, Brent Havens. **Dimensions:** Room 1: studio 45x35, control room 22x20. MIDI room 18x12. **Mixing Consoles:** Amek G2520 40x24x96 w/VCA bypass and MasterMix II automation. **Audio Recorders:** Studer A827 24-track, Sony/MCI JH-24 24-track w/autolocator III, Sony 3202 1/2-track digital, Otari MTR-12H 1/2-track 1/2" 30 ips, Sony 5003V 1/2-track 30 ips, (2) Panasonic SV-3500 R-DAT. **Synchronization Systems:** (2) TimeLine Lynx, Sony JH-45 SMPTE. **Echo, Reverb & Delay Systems:** (2) Lexicon 200 stereo digital reverb, (2) Yamaha SPX90II, (2) Alesis QuadraVerb, Ibanez SDR-1000, Eventide 969 Harmonizer, DigiTech IPS-33, Lexicon PCM42, Lexicon PCM70, DigiTech DSP-128, ART Multiverb, Korg DRV-3000. **Other Outboard Equipment:** Drawmer 1960 stereo tube limiter, Drawmer 201 stereo gate, Aphex 612 stereo expander/gate, (4) Valley Gate 4-channel gate, LT Sound CLX-2 stereo compressor/limiter/expander, BBE 802 2-channel exciter, Universal Audio 175 tube limiter, BS-402 stereo compressor/limiter, (11) Valley compressor/limiter, Panasonic SL-4300 CD player. **Microphones:** (2) Neumann U87, (2) Neumann U47, Neumann TLM170, Neumann U89, (6) AKG 414U/L, AKG TL-414, AKG The Tube, (8) AKG C-451/460B, AKG D-112, AKG D-12E, (6) Sennheiser MD-421, Sennheiser MD-441, (17) additional assorted dynamics. **Monitor Speakers:** (2) JBL/UREI 4435, (2) Tannoy SGM-15, (4) Tannoy PBM-8, (2) Tannoy PBM-6.5, (2) Yamaha NS-10, (2) Auratone, (2) TOA. **Musical Instruments:** Korg M-1, Yamaha C7 7'6" concert grand piano, E-mu Emax stereo sampling keyboard, Kawai K-5, Fender Rhodes, Yamaha DX7, Oberheim Matrix-6, Ensoniq ESQ, Yamaha FB-01, Roland Super JX-10, Roland Juno, E-mu SP-12 drum machine, Alesis HR-16B, Roland R-8 drum machine, Yamaha 9-piece custom recording series drum set. **Other MIDI Equipment:** Macintosh SE w/20MB HD, Southworth Jam Box/4+ SMPTE-to-MIDI controller, Performer, Southworth MIDI Paint. **Video Equipment:** Sony 3/4" recorder, NEC 19" color monitor. **Rates:** 48-track \$145/hr., 24-track \$95/hr., 16-track \$70/hr. video sweetening \$125/hr.

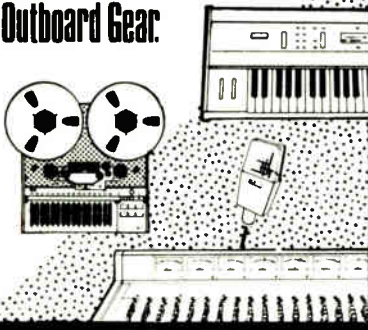
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MASTERFONICS INC.
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[24+] **MASTERFONICS INC.;** 28 Music Square E.; Nashville, TN 37203; (615) 327-4533; FAX: (615) 242-0111. **Owner:** Milan Bogdan, Glenn Meadows. **Manager:** G. Meadows, M. Bogdan. **Engineers:** Glenn Meadows, Milan Bogdan, Benny Quinn, Jim Loyd, Scott Gunter, David Boyer. **Dimensions:** Room 1: mix control room 26x20. Room 2: studio 45x20, control room 16x22. Room 3: mastering room 20x14. CD prep room 20x14. **Mixing Consoles:** SSL 4000E 64x32 w/stereo modules, Total Recall and G Series automation, SSL 4000E 48x32 w/stereo modules, Total Recall and G Series automation, JVC DM-900 digital, Neumann SP75, Neumann 272. **Audio Recorders:** (2) Otari DTR-900II 32/64-track digital, Studer A807, Ampex ATR-102, JVC 900 2-track digital, Sony 1630 2-track digital, Sony 3402 2-track digital, Mitsubishi X-86C 2-track digital, Sony 2500 R-DAT, (2) Panasonic SV-3500 R-DAT, Fostex D-20 R-DAT, (2) Tascam DA-30 R-DAT, Sony 601 2-track digital, Studer A80, Otari MX-55. **Cassette Recorders/Duplicators:** (20) Tascam 122 MIDI real-time. **Echo, Reverb & Delay Systems:** (4) EMT plate, EMT 250, EMT 252, AMS DMX 15-80S, AMS RMX 16, (3) Sony MU-R201, Quantec Room Simulator, Quantec QRS/XL w/Mac, (2) Lexicon 480L,

(3) Lexicon 224XL, (2) Lexicon PCM70, Yamaha SPX90II. **Other Outboard Equipment:** (3) Fairchild 670 tube, (3) Teletronix LA-2A tube, (2) Pultec EQP-1A3 tube EQ, Sontec EQ, GML 8900 comp/limiter, TC Electronic 2290, (5) API 550A EQ, Wendel Jr., (2) Publison IM-90, Eventide H969, Eventide H3000E, Drawmer DS-201, (2) Valley Audio PR-10 rack w/two DSP, (2) Valley People Gain Brain II, (6) Valley People Kepex II, (2) Valley People Maxi-Q, ADR F-796X-R, Sontec DRC-202, (2) dbx 160X, dbx 165A, Universal Limiting Amplifier 175, (2) Panasonic NN-6509 microwave oven, HAL-9000 Dynamic Acoustical Phasitron. **Microphones:** Neumann U47 tube, Neumann M49 tube, Neumann U87, Neumann U67 tube, TLM170, Telefunken 251, AKG 414EB, Shure, EV, Audio-Technica, Sennheiser, Sony. **Monitor Amplifiers:** FM Acoustic, JDF, Sony. **Monitor Speakers:** Hitley/Kinoshita, Yamaha NS-10, KEF C55, Genelec, B&W, Fostex 780, Auratone. **Musical Instruments:** Kimball 6' grand piano, (5) Gibson guitar, Fender Rhodes electric piano, Wurliizer electric piano, Leslie cabinet. **Video Equipment:** NEC monitor, JVC CR-8250, JVC CR-6600U, (2) JVC 600U, JVC 850U, JVC BR-7000 VHS Hi-fi, JVC SLO-1800 Beta, Sony DMR-4000. **Other:** Sony DFX-2400 sample frequency converter, Sony DTA-2000 tape analyzer, (3) Sony DAL-1000 digital compressor, JVC AE-90 and AE-900 digital editors, (3) JVC DS-LC900 digital parametric controller, JVC FC-900 format converter, JVC TC-900 time code unit, JVC 901 digital interface, Yamaha PDD5 CD disc system, Wadia Digital Digilink 20 fiber optic system, BASE, Neumann VMS70. **Specialization & Credits:** We here at Masterlinks are dedicated to making your project as much fun as possible, and we feel that you can get a pretty good-sounding record, too (if that's what you're after). We've got two fully furnished lounges with cable TV, Nintendo, and a full array of snacks and drinks for you to escape to when your ears need a rest. So come on by, say hey to the gang, and bring some music with you if you happen to think of it!

[24+] MASTERLINK STUDIOS I & II: Divisions of AI Jolson Enterprises Inc.; 114 17th Ave. S.; Nashville, TN 37203; (615) 244-5656. **Owner:** Albert Jolson. **Manager:** Jimmy Rose. **Engineers:** Glenn Rieut Jr., David Cherry, Shelton Rose, Jimmy Rose. **Dimensions:** Studio 32x39, control room 15x17. **Mixing Consoles:** Sphere Eclipse C 36x32. **Audio Recorders:** Otari MTR-100A 24-track, Ampex MM1200 24-track, Studer A80 1/4", Studer B67 2/4-track 1/4" and 1/2", Scully 3/4-track 1/2". **Cassette Recorders/Duplicators:** (104) KABA real-time duplicator, (5) Otari high-speed duplicator, (6) Denon DRM-240, Denon DRM-500, Kronos-4 cassette loader. **Noise Reduction Equipment:** Dolby Type A and SR, dbx 180A, Echo, **Reverb & Delay Systems:** Lexicon 200, (2) Lexicon PCM70, Yamaha SPX90, Roland DEP-5, AMS RMX-16, Lexicon 224, Lexicon Super Prime Time, Yamaha REV5. **Other Outboard Equipment:** Eventide 3000 Ultra-Harmonizer, Valley rack w/ Kepex/Commander/DSP/Gain Brain/dbx comp/limiter, (2) Symetrix comp/limiter, (2) Gatex noise gate, (2) Teletronix leveling amp, (2) UREI leveling amp, (2) Aphex Type B Aural Exciter, Summit Audio leveling amp, API parametric EQ (discrete), Sontec parametric EQ, (2) UREI 529 room EQ (graphic), (2) UREI crossover. **Microphones:** (5) Sennheiser 421, Shure SM57, (7) Neumann U87, Neumann U67, (2) Neumann U48, (2) Neumann U47, (3) Sennheiser 415, (4) Countryman EM101, (3) Sony ECM-22H, Sony ECM-50, Sony C-48, (2) Sennheiser MKH-40PA8-101, Neumann KM84. **Monitor Amplifiers:** (2) Crown, (3) McIntosh MC-2100, McIntosh MC-250. **Monitor Speakers:** UREI, Yamaha NS-10, B&W, Electro-Voice Sentry 100A, Westlake TMI. **Musical Instruments:** Baldwin 9' concert grand, Kawai 5'10" grand w/MIDI triggers, Roland MKB-1000 MIDI controller, Linn 9000, Roland Octapad, Roland DDR-30 digital drums (rack-mount), Akai 900 sampler, Roland D-50, Roland Super Jupiter w/programmer, Hammond B-3 organ w/ Leslie, 5-piece drum set, GM-70 GTR controller., Kawai 5'10" grand piano w/MIDI triggers. **Other MIDI Equipment:** Yamaha TX816 module, Oberheim Matrix-6, E-mu Emulator II+ w/hard disk. **Other:** Sony 2500 R-DAT, Panasonic R-DAT, Nakamichi A/D processor. A full Synclavier suite.



[24+] MASTERMIX: 1808 Division St.; Nashville, TN 37203; (615) 321-5970; FAX: (615) 321-0764. **Owner:** Trio Enter-

tainment Inc. **Manager:** Hank Williams. **Engineers:** Greg Parker, Jeff Giedt, Tim Farmer. **Dimensions:** Studio 23x19x11. **Mixing Consoles:** Calrec AMS UA-8000 64/64x32 automated. **Audio Recorders:** Otari DTR-900 32-track digital, Otari MTR-90 24-track, Otari MTR-10 2-track 1/2" and 1/4", Sony PCM-1630 digital, AMS AudioFile, Sony 3202. **Echo, Reverb & Delay Systems:** AMS RMX 16, AMS RMX 15-80, Publison Infernal 90, Lexicon 224XL, Lexicon Super Prime Time, EMT 250/251, Eventide H949, (2) Yamaha SPX900, Yamaha REV5 (2) Roland SDE-3000, Eventide Ultra-Harmonizer. **Other Outboard Equipment:** Valley People, Trident, Sontec, ITI, Audio & Design, API, Scamp, UREI, Teletronix, Neve, Fairchild Instruments, BBE, Summit. **Microphones:** Sanken, Neumann, AKG and classic tubes. **Monitor Amplifiers:** Bryston, Lenco, Hafler, Yamaha. **Monitor Speakers:** State-of-the-Art Elektronik CF-1000, 4-way cone system, Meyer, Fostex, Rogers, Auratone, Yamaha, MasterMix near-fields. **Video Equipment:** Sony BVU-800. **Rates:** Please call for hourly and block rates. **Specialization & Credits:** Stereo disc mastering, CD prep, CD ref, Sonic Solutions editing.


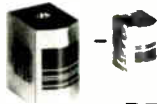

[24+] MIDLAND RECORDING STUDIOS; REMOTE RECORDING only, 4041 Laguna; Coral Gables, FL 33146; (305) 444-6222; FAX: (305) 446-5356. Owner: Andres Valdes Jr. **Manager:** J.C. Ulloa. **Engineers:** J.C. Ulloa, Will Tartak, Jim Munn, Alfredo Matheus, Julio Zambrano, Ricardo Pons. **Dimensions:** Room 1: studio 21x29, control room 21x18, Room 2: studio 7x7, control room 18x11, Room 3: control room 10x7. **Mixing Consoles:** Trident Series 80B 50x24x24 w/DiskMix III moving faders automation, Trident Series 65 32x16. **Audio Recorders:** Otari MTR-90II 24-track, Otari MX-80 24-track, Otari MTR-12 2-track 1/4" and 1/2". **Cassette Recorders/Duplicators:** Awa F990, (3) Tascam 122. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** Lexicon 480L, AMS RMX 16, AMS DMX 15-80S, (3) Lexicon PCM70, (2) Lexicon PCM42, Eventide H3000, (3) Yamaha SPX90, Roland SDE-3000 delay, Alesis MIDiverb II, Ibanez DM-2000 delay. **Other Outboard Equipment:** (2) L/L LAB 660 compressor, (4) Drawmer 201 stereo gate, (2) ADR Compex stereo limiter, dbx 162 stereo compressor, dbx 165A limiter, Aphex Type B Aural Exciter, (8) Aphex CX-1 compressor/gate, (4) Aphex EQF-2 equalizer, (4) Valley People Kepex II gate, (2) Valley People Gain Brain II compressor, Valley People DSP de-esser, (2) API 550B equalizer. **Microphones:** AKG C-24 stereo tube, (2) AKG 451, (4) AKG 414, AKG D-12, (2) Neumann U47FET, (2) Neumann U87, Neumann KM84, Neumann KM88, (2) Schoeps CMC5, (2) Sennheiser 421, (2) Sony ECM-55, (2) Sony C-37, (6) Shure SM57, Shure SM7, (4) Beyer M88, (2) Beyer 101, (2) Fostex M88. **Monitor Amplifiers:** (3) Hafler P-505, (2) Hafler P-225, (2) UREI 6230. **Monitor Speakers:** (2) Meyer Sound Labs 833 2/834 subwoofer, (2) Westlake BBSM-6, (2) Fourier, (6) Yamaha NS-10M, (2) JBL 4312, (4) Auratone 5C. **Musical Instruments:** Steinway D 9' grand piano, E-mu Emulator II 2.3, Yamaha DX7IID, Roland D-50, E-mu Emax HD, Roland Juno-106, Alesis HR-16 drum machine. **Other MIDI Equipment:** Roland PVC-350 vocoder, Roland A-880 8x8 MIDI patcher, Opcode Systems Studio 3 MIDI/SMPTe Mac interface. **Other:** Macintosh Plus w/Performer music sequencing software, Macintosh IIfx w/Sound Tools digital editing system. **Rates:** Available on request.

[24+] THE MONEY PIT; 622 Hamilton Ave.; Nashville, TN 37203; (615) 256-0311; FAX: (615) 259-4541. Owner: Paul Worley, Ed Bayers Sr., Ed Bayers Jr. **Manager:** Jim Burnett. **Engineers:** Mike Poole, Ed Seay (as available), Clark Schleicher, Ed Simonton, Jim Burnett. **Dimensions:** Room 1: studio 30x13, control room 22x22, Room 2: iso booth 13x10, Room 3: iso booth 16x10, Room 4: studio 20x11. **Mixing Consoles:** Trident Series 80 40x24x28 w/Diskmix 3 moving fader automation. **Audio Recorders:** Mitsubishii X-850 32-track digital w/Apogee filters and LaBarre analog modifications, Otari MTR-90II 24-track, Panasonic SV-3500 DAT, Studer B62 2-track 1/4". **Cassette Recorders/Duplicators:** Sony TC-W7ES, AWA AD-F800 3-head. **Echo, Reverb & Delay Systems:** EMT 250, Lexicon PCM70 v.2, (2) Roland SRV-2000, Yamaha SPX90, Publison Infernal machine 90 (available), (2) Lexicon PCM42 digital delay, ART Pro-Verb, Eventide H910 Harmonizer, (7) Valley People Kepex II gate, (2) Valley People Gain Brain, (2) Yamaha SPX900, Valley People DSP II, (2) dbx 160X compressor/limiter, (2) UREI 1178 dual peak limiter, (2) UREI 1176N limiting amp, LT Sound dual-channel parametric EQ, Klark-Teknik DN360 dual-channel graphic EQ, Pultec EQP-1 EQ, Pultec EQP-1A3 EQ, (2) dbx 160 comp/limiter, EMT 140 stereo plate w/162 electronics. **Microphones:** (2) Neumann U87 tube conversion, Neumann U47 tube, Neumann U64 tube, (2) AKG 414EB, (5) AKG C-451EB, (4) Electro-Voice ND408, (5) Sennheiser 421U, (2) Sennheiser 441U, (2) Crown PZM, (5) AKG C-1000, Electro-Voice RE20, (2) Sanken CU-32, (3) Shure SM57, Studer/Schoeps SKM5-U. **Monitor Amplifiers:** UREI 6500, (3) Hafler P500, (2) BGW 250D, Crown D-150. **Monitor Speakers:** Westlake BBSM-10, Acoustic Research AR18BV, Auratone 5C, EV S12-2A, Yamaha NS-10M. **Musical Instruments:** Yamaha PF80 88-key MIDI keyboard, Roland MKS-20 sampled grand piano, Roland D-550 linear synthesizer, various electric and acoustic guitars and basses available, Linn drum machine.

[24+] MONTANA RECORDING STUDIO; also REMOTE RECORDING; 12245 SW 130 St.; Miami, FL 33180; (305) 378-4417; FAX: (305) 378-4027. Owner: Fernan Mejia. **Manager:** Fernan Mejia.

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[24+] **MORRISOUND RECORDING INC.**; 12111 N. 56th St.; Tampa, FL 33617; (813) 989-2108; FAX: (813) 980-6950. Owner: Morrisound Recording Inc. Manager: Tom Morris.

[24+] **MUSCLE SHOALS SOUND STUDIOS**; also *REMOTE RECORDING*; 1000 Alabama Ave.; Sheffield, AL 35660; (205) 381-2060; FAX: (205) 381-6813. Owner: Malaco Inc. Manager: Jimmy Johnson.

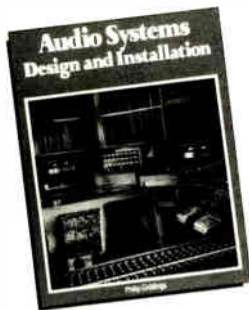
[24+] **MUSIC CITY AUDIO INC.**; also *REMOTE RECORDING*; PO Box 4762; Nashville, TN 37216; (615) 227-3542. Owner: Music City Audio Inc. Manager: Joe Mills.

[24+] **MUSIC MILL**; 1710 Roy Acuff Pl.; Nashville, TN 37203; (615) 254-5925. Owner: Harold Shedd. Manager: Patti Sedon, Paul Goldberg.

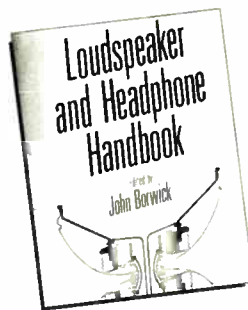
[24+] **MUSIPLEX**; also *REMOTE RECORDING*; 2091 Faulkner Rd. NE; Atlanta, GA 30324; (404) 321-2701; FAX: (404) 636-7738. Owner: Tom Wright. Manager: Alicia Paulete.

[24+] **NEW MEMPHIS MUSIC/COTTON ROW REC.**; 1503 Madison Ave.; Memphis, TN 38104; (901) 276-8518; FAX: (901) 276-8520. Owner: Nikos Lyras, Ward Archer Jr.

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NEW RIVER STUDIOS INC.
Fort Lauderdale, FL

[24+] **NEW RIVER STUDIOS INC.**; 408 S. Andrews Ave.; Fort Lauderdale, FL 33301; (305) 524-4000; FAX: (305) 524-3999. Owner: New River Productions Inc. Manager: Virginia Cayia. Engineers: Dave Barton, Jim Thomas, Larry Janus. Dimensions: Room 1: studio 25x20, control room 20x16. Room 2: studio 8x8, control room 12x14. **Mixing Consoles:** Neve 8101 56x48 w/Necam 96 automation, Trident Series 65 32x16. **Audio Recorders:** Mitsubishi X-850 32-track w/Apogee filters, (2) Studer A800 24-track, (2) Studer A80 2-track 1/2" and 1/4", Studer A80 4-track 1/4" w/center-channel SMPTE, Sony PCM-2500 R-DAT, Technics SV-DA10 DAT, Studer Revox B77 2-track. **Cassette Recorders/Duplicators:** (2) Yamaha KX1200, (2) Yamaha K1000. **Noise Reduction Equipment:** Dolby SP24, (2) Dolby SR, (4) Dolby 361 (A). **Synchronization Systems:** (3) Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** AMS RMX 16 digital reverb, Lexicon 480L digital effects, EMT 140 stereo tube plate, Lexicon 97 Super Prime Time, (2) Lexicon PCM42, (2) Eventide H949 Harmonizer, Neve 33609 stereo compressor/limiter, (2) Pultec EQP-1, Lexicon PCM70, Lexicon LXP-5 effects processor, Lexicon LXP-1 reverb, ADR scamp rack, (2) Teletronix LA-2A, (3) dbx 165 compressor, (2) Drawmer DS201 dual noise gate, (4) UREI 1176 limiter, (2) API 550 EQ, (4) API 550A EQ. **Microphones:** Neumann M49, (2) Neumann KM84, (2) Neumann KM86, (2) Neumann U87, (2) Neumann U89, (4) AKG 414, (4) Beyer M88, (2) Beyer M108, Schoeps CMTS 501 stereo, (4) Sennheiser 421, various others. **Monitor Amplifiers:** (5) Acoustat TNT 200. **Monitor Speakers:** (4) Westlake BBSM10, (4) Westlake BBSM6, (4) Yamaha NS-10M.

Musical Instruments: Yamaha C7D 7'6" grand piano, Sonor drum kit, Hammond B3 organ w/Leslie. **Other MIDI Equipment:** Macintosh Plus computer w/Performer, Opcode Studio Plus II computer MIDI interface, Akai S950 digital sampler, Yamaha TX802 keyboard module, Roland D-50 synthesizer, Roland D-550 synth module, Alesis HR16 drum machine, 360 Systems MIDI Bass, Opcode Time Code machine. **Video Equipment:** Sony BVU-850SP 3/4" U-matic, Proton 25" monitor, JVC 6600 3/4" U-matic, JVC monitor, Tektronix TSG-100 house sync generator. **Rates:** Please inquire about hourly and daily rates. **Specialization & Credits:** New River Studios has recently opened its new Studio B. This is an ideal MIDI production studio, composing studio and voice-over facility. It is equipped with a 24-track for recording. In addition, we have a new 1" layback service called SyncLink, formed with Seikirk Communications Video Services. If you need assistance in locating housing, car rentals, etc., we can help. Our most recent credits include Jimmy Buffett, The Everly Brothers, U.S. Air Force broadcast campaign and numerous others. We have just completed seven years in operation. Thanks to all our clients for your support.



NIGHT WING RECORDING COMPLEX
Shreveport, LA

[24+] **NIGHT WING RECORDING COMPLEX;** also *REMOTE RECORDING*, 4321 Fairy Av., Shreveport, LA 71108; (318) 636-7394. **Owner:** W. C. Wheat Jr., Marie Wheat. **Manager:** William Anderson. **Engineers:** Ron Capone, Wendell Durprange. **Dimensions:** Room 1: studio 32x38, control room 35x39, Room 2: studio 36x21, Room 3: studio 17x20. **Mixing Consoles:** Sony MXP-3036 fully automated console. **Audio Recorders:** Mitsubishi X-80 digital 2-track, Sony JH 2" 24-track, (2) Sharp R-DAT SX-D2000, Otari MX-5050 4-track, Otari MTR-12 1/2-track, Technics 1520 1/2-track. **Cassette Recorders/Duplicators:** Technics R95. **Noise Reduction Equipment:** (8) Valley People Kepex II. **Synchronization Systems:** Sony MXP computer SMPTE time code. **Echo, Reverb & Delay Systems:** Eventide Ultra-Harmonizer, Lexicon PCM4, (2) UREI LA-3, (2) dbx, BBE Sonic maximizer 822, EXR Exciter SP II, Multiverb III, Yamaha REV7, Ashly Audio SC-55 stereo peak limiters, (4) dbx 902, (12) dbx 903 limiters. **Microphones:** (4) Neumann U87, (4) AKG 414, (2) Electro-Voice RE20, (4) Neumann KM84, (2) Crown PZM, Sony ECM-170, (7) Shure 57, (5) Shure 58. **Monitor Amplifiers:** (2) FM 1000 acoustic amplifier. **Monitor Speakers:** Kinoshita Model 3 stereo monitor system, UREI 840. **Musical Instruments:** Yamaha Baby grand piano, Roland R-8 drum machine w/cards, Yamaha drum set, Tama double kick 14 drum set, Roland D-50 keyboard MIDI. **Video Equipment:** (2) Panasonic WVCD 10-A video color camera w/pan tilt zoom. **Other:** (2) HH Electronic V500 MOSFET amp, (2) HH Electronic V200 MOSFET amp, Crown PSA-2 amp, (8) AKG headphones, (5) Beyer DT-100. **Rates:** Given upon request. **Specialization & Credits:** Three independent isolation rooms that can be used at the same time via video cameras and talkback speakers. That is to say, an orchestra can record at the same time a full band is recording in different isolation rooms; they can see and hear the mix room. This feature is offered in few if any studios. It allows all instruments to be put down at the same time via video lock-up cameras. It is beneficial as a time saver and offers producers an unexperienced feature in a recording studio. Nightwing Recording Complex records all formats of music. A Grammy award-winning engineer is on staff. Recording rates given upon request. Discount rates for block time.

[24+] **NIGHTINGALE STUDIO;** 1001 17th Ave. S.; Nashville, TN 37212; (615) 329-4009. **Owner:** Joe Bogan. **Manager:** Steve Tveit.

[24+] **ONMISOUND RECORDING STUDIO;** 1806 Division St.; Nashville, TN 37203; (615) 321-5526. **Owner:** Esprit Sound Inc. **Manager:** Michael Koreiba. **Engineers:** Patrick Kelly, Greg McNeer—Technician. **Dimensions:** Room 1: studio 45x19, control room 13x28, Room 2: studio 10x11, control room 10x19.5. **Mixing Consoles:** Trident A-Range 40x24x24, MCI 528 28x32x36. **Audio Recorders:** Otari MTR-9001 24-track, Studer B-67 2-track 1/4", Studer A800 24-track, Sony 75Es DAT deck. **Cassette Recorders/Duplicators:** Technics

M65 3-head, (2) JVC TD V531BK 3 Head. **Echo, Reverb & Delay Systems:** (2) Lexicon PCM70, Lexicon PCM42, Lawson Echo Plate, Reard SRV-200G, Yamaha SPX90II, Alesis MIDiverb II. **Other Outboard Equipment:** ADR Vocal Stresser, (3) dbx 150 limiter, dbx 161 limiter, (3) LA-2A, (2) Drawmer DS-2D1 gate, (4) Kepex II gate, 1T Sound stereo compressor/limiter/de-esser. **Microphones:** Neumann U67 tube, (2) Neumann U87, (3) Neumann KM84, Neumann U47 FET, (7) Neumann MD-421, (5) Shure SM57, (5) AKG 414, (2) AKG 451, (2) AKG 452, (2) AKG C-12, AKG C-12, (2) B&K 4006, (2) Electro-Voice RE20. **Monitor Amplifiers:** Bryston 4B, McIntosh 2100, Adcom GFA-55. **Monitor Speakers:** Tannoy FSM, Tannoy L3M-12', (4) Yamaha NS-10M, Auratone 5C, Tannoy FBM-8. **Musical Instruments:** Yamaha C7 concert grand w/MIDI. **Rates:** Call for rates.

[24+] **PALM BEACH SOUND & SYNTHESIS INC.;** 3885 Investment Ln., Ste. 1; Riviera Beach, FL 33404; (407) 842-7211. **Owner:** John and Deborah Simsic. **Manager:** Deborah Simsic.



PARC STUDIOS INC.
Altamonte Springs, FL

[24+] **PARC STUDIOS INC.;** also *REMOTE RECORDING*; 658 Douglas Ave.; Altamonte Springs, FL 32714; (407) 292-0021. **Owner:** Patrick J. Armstrong. **Manager:** Andy de Gahrh. **Engineers:** Andy de Gahrh, Dana Cernock, Robert Knox, Mike Justiniane. **Dimensions:** Room 1: studio 30x40, control room 25x26, Room 2: studio 31x18, control room 25x18. **Mixing Consoles:** SSL 6056E w/40 input s/4 stereo modules/Total Recall/bar graphs. **Sound Workshoo Series 34G 32 inputs/16+2 sub/automated.** **Audio Recorders:** Studer A800 24-track, Studer A800II 24-track, (2) Studer A80 2-track (1/4" and 1/2"), Studer A80 4-track 1/2", Panasonic SV-3500 DAT, (2) Sony 601 w/Apogee filters, Otari MX 5050 8-track 1/2", Studer A820 2-track 1/2" and 1/4", Studer A810 2-track 1/2" Cassette Recorders/Duplicators: (3) Nakamichi MR-1B Synchronization Systems: Adams-Smith Zata-3. **Echo, Reverb & Delay Systems:** Lexicon 480L reverb, (2) Lexicon 224XL reverb, (2) Lexicon 20C reverb, Roland 880 reverb, AMS FMX 16 reverb, (2) Yamaha REV5 reverb, (3) Yamaha SPX90II reverb and FX, Alesis MIDiverb II reverb and FX, MICMIX Master Room Super C reverb, (2) AMS 15-80S digital delay, (3) TC Electronic 2290 digital delay, (2) Lexicon PCM42 digital delay, Lexicon 93 Prime Time digital d-lay, Klark:Teknik DN780 reverb. **Other Outboard Equipment:** (2) Drawmer 201 dual gates, Aphex Aural Exciter Type 3, Aphex Compellor, dbx 900 rack w/2-903/3-942/4-905/1-929 modules, (2) BBE 4C1 Sonic Maximizer, BBE 822 Sonic Maximizer, Fockman guitar pre-amp/chorus, (2) UREI LA-4 compressor, (2) Teletronix LA-2A tube compressor, Pultec EQP-1A3 tube EQ, Lang PEC-1 tube EQ, Drawmer 1260 stereo tube compressor. **Microphones:** AKG C-24 stereo tube, (8) AKC 460, (4) AKG 414, (2) B&K 4006/4007, (3) Neumann U47 (2-FET, 1-tube), (4) Neumann U89, (6) Neumann KM84, (7) Sennheiser 42', (5) Shure various models, (2) EV various models, (2) RCA 77-DX, AKG C-12A tube, (2) AKG The Tube Monitor Amplifiers: (7) Hafler (4-DH-500, 3-DH-220), (3) Yamaha 2050. **Monitor Speakers:** (2) Fostex LS-3, (2) UREI 811, (2) Meyer Scand Labs HD-1, (4) Yamaha NS-10, (2) Auratone 5C, (15) Fostex T-20 headphones, (2) JBL 4430, (2) Tannoy PBM-6.5. **Musical Instruments:** Roland JC-120 guitar amp, Marshall 100 guitar amp, Bender Super Champ guitar amp, Yamaha C7 concert grand piano. **Other MIDI Equipment:** (2) Atari 1040ST w/Sonus software. **Video Equipment:** Sony 5850 U-matic 3/4", Sony Beta Hi-Fi VCR, Quasar S-VHS VCR. **Specialization & Credits:** Parc Studios is a full-service audio production facility suitable for album, commercial, jingle, film or demo productions. 48-track, mix-to-video, MIDI and Synclavier services are available upon request. Recent clients include: records—CBS, Capitol, RCA, Epic, Myrrh; TV and film—Walt Disney World, Sea World, The Disney Channel. Our second room provides complete music production service with an extensive MID system and a full complement of instruments and amplifiers. Two client lounges with a pool table and video games are provided. Located in sunny Orlando, Parc offers our clients and their guests many other amenities, including luxury hotels and over

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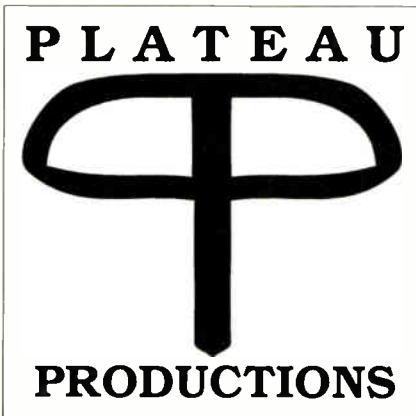


Southeast
24-track studios

—LISTING CONTINUED FROM PREVIOUS PAGE
40 restaurants within minutes of the studios. The Disney theme parks, Sea World and Universal Studios are close by. (Even the beach is less than an hour's drive!) Real-time cassette duplication on-site. Location recording with a 48-track mobile also available. Call for rates.

[24+] "THE PEACH" RECORDING STUDIO; PO Box 150;
Covington, GA 30209; (404) 787-1843; FAX: (404) 786-3366.
Owner: Kerry Livgren.

[24+] PELICAN PICTURES; also REMOTE RECORDING;
10688 Magazine St.; New Orleans, LA 70130; (504) 524-
8097; FAX: (504) 522-4751. Owner: Joe Sanford, Mark
Bingham, Jay Weigel. Manager: Mark Bingham.



PLATEAU PRODUCTIONS
Monteagle, TN

[24+] PLATEAU PRODUCTIONS; also REMOTE RECORD-
ING; 313 Main St.; Monteagle, TN 37356; (615) 924-2070.
Owner: Monteagle. Manager: Peter Keeble. Engineers: Pe-
ter Keeble, Jerry King, various independents. Dimensions:
Room 1: studio 20x30, control room 15x18, 130-seat per-
formance room. Mixing Consoles: Tangent 3216. Audio Re-
corders: MCI JH-114 24/16-track, Studer B67 2-track, Ampex
440B 4/2-track, Scully 280 2-track, Revox A700 2-track
Cassette Recorders/Duplicators: Assorted. Noise Reduc-
tion Equipment: dbx 24-channel, Dolby B67 2-channel, Echo,
Reverb & Delay Systems: Yamaha REV7 digital reverb ste-
reo, AKG BX-10 stereo reverb, DeltaLab DL-1 digital delay
DeltaLab DL-4 digital effects, Eventide H910 Harmonizer,
Eventide DL-91 digital delay. Other Outboard Equipment: LA-
2A tube limiter, LA-3A limiter, (2) dbx 160 compressor/limiter
(2) dbx 161 compressor/limiter, (2) Orban parametric EQ, (2)
ADR sweep EQ, (4) Allison Research gate. Microphones: (3)
Neumann U87, (5) AKG 414, (2) Neumann KM84, Neumann
U47 FET, (3) Sony 33P, (3) Sony 22P, (2) Sennheiser 441, (4)
Sennheiser 421, AKG D-12E, (5) Beyer M201, Beyer M101, (6)
Shure SM57, (2) Shure SM58. Monitor Amplifiers: Bryston 4B,
BGW 150B, BGW 100B, Crown D-60. Monitor Speakers: JBL
4313, JBL 4311, Auratone Sound Cube, MDM-4 time-aligned.
Musical Instruments: Hammond B2W w/percussion organ,
Wurlitzer electric piano, Yamaha DX7 synthesizer, Steinway
1923 grand piano, Pearl drums, Slingerland drums, Yamaha
RX11 drum machine. Other: Stage set up—monitors/mixer/
house. Specialization & Credits: Located on the Cumberland
Plateau at the intersection of U.S. Highway 41, and Interstate
24 in Monteagle, Tennessee, Monteagle Arts occupies a land-
mark at the highest point on the Dixie Highway. Designed and
constructed in 1951, the Monteagle Motel stood as a testament
to the spirited architecture of the era. The buildings have found
new life as the Monteagle Arts complex, which houses 313
Main—a full-service, 130-seat restaurant/performance room;
an informal production space, guest rooms for Plateau Pro-
ductions, its technical areas and offices. The remaining spaces

are occupied or available for other arts-related use. Plateau
Productions is a full-service company emphasizing efficient live
performance recording in conjunction with more fixed studio
amenities. Area attractions include: South Cumberland Recre-
ation Area, Wonder Cave, University of the South, Sewanee
Natural Bridge, historic settlements, and bed & breakfast inns.
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PLATINUM
Post

PLATINUM POST
Winter Park, FL

[24+] PLATINUM POST; also REMOTE RECORDING; 3300
University Blvd.; Winter Park, FL 32792; (407) 671-1111; FAX:
(407) 671-1112. Manager: Tink Abraham. Engineers: Gary
Platt, Bruce Marshall, Mark Mason, Steve Moller, Gene Piliar-
czyk, Don Mockensturm. Mixing Consoles: Neve VR 60 Se-
ries w/Flying Faders and total recall, (2) Neotek Elan 36-input,
Sony 3036 56-input w/hard disk automation, Sphere Eclipse
A w/32 I/O and super graphics, Sphere 16 sidecar mixer,
Yamaha DMP7. Audio Recorders: (2) Otari MTR-100 24-track,
(2) Otari MX-80 24-track, Otari MTR-12 4-track, Otari MTR-12
2-track, (2) Otari MX-55 2-track w/center SMPTE. (2) NED 8-
track digital Direct-to-Disk, NED Synclavier system w/32 poly-
phonic/32 FM voices/32MB RAM, NED Synclavier system w/
48 polyphonic/16 FM voices/16 MB RAM, NED Synclavier
system w/32 polyphonic 12 MB RAM, Panasonic SV-3700
DAT, Technics SVDA-10 DAT, Luxman DAT, Otari MTR-10 2-
track. Cassette Recorders/Duplicators: Nakamichi, Harmon-
Kardon. Synchronization Systems: Adams-Smith Zeta system,
Timeline Lynx. Other Outboard Equipment: Lexicon
480L w/LARC, (3) Lexicon PCM70, Eventide H-3000B Ultra-
Harmonizer, Lexicon 200 Reverb, TC Electronics 2290, (3)
Lexicon LXP-1 multi-effects processor w/remote, Yamaha
REV5, (2) Yamaha SPX1000, (2) Yamaha SPX90 II, BASE
Spatial Expander, (2) Roland SDE-2000 delay line, (3) Roland
SDE-3000 delay line, (2) Roland SRV-2000 reverb, Lexicon
PCM42 delay line, (2) Lexicon PCM41 delay line, ADA STD-2
stereo tapped delay, (2) Aphex Aural Exciter Type B and C, BBE
802 Enhancer, (4) dbx 903 compressor, (3) dbx 904 gate, (4)
dbx 411 noise reducer, (2) dbx 905 equalizer, (3) dbx 902 de-
esser, dbx 929 noise reduction, (8) UREI LA-4 compressor,
Teltronix LA-2 compressor, (4) Aphex 612 expander/gate, (2)
Aphex stereo studio Dominator, Aphex Compellor, (2) Drawmer
dual gate, Roland DEP-5, (9) Sphere graphic equalizer in power
pack, Ecoplate III, Dolby SR/A 2-track. Microphones: Wide
selection including Neumann, AKG, Sennheiser, Shure, Audio-
Technica. Monitor Amplifiers: Hafler, Meyer. Monitor Speak-
ers: Meyer Sound Labs complete sound system, UREI, Tannoy,
Foxtex, Auratone. Musical Instruments: Steinway 9' grand
piano. Other MIDI Equipment: Wide selection of top-of-the-
line equipment. Video Equipment: CMX 330A editor, DSC
Illusion, Ampex Vista switcher, Chyron RCU2, Ampex CVR75
SP Betacam, Ampex CVR507 SP CCD Betacam camera/rec-
order, (2) Sony CCD camera, (4) Ikegami ITC730A, (5) Sony
3/4" U-matic SP deck, 30x35 television studio w/light grid, (3)
Ampex VPR-6 1" deck. Rates: Rates available upon request.
Specialization & Credits: Recent clients include: Allman
Brothers, Blue Wave Productions (Mickey Mouse Club), Bon
Jovi, Al Di Meola, Walt Disney World, Hollywood Records, Mark
Lindsay, MTV, Nitro, The Party, Rhino Records, SBK Records,
Universal Studios, VH-1, Westwood One.

[24+] PRO MEDIA STUDIOS; also REMOTE RECORDING;
2106 NW 67th Pl., Ste. 16; Gainesville, FL 32613; (904) 376-
7200; FAX: (904) 371-3437. Owner: David Smadbeck, Mark
Pinske. Manager: Beth Martin.

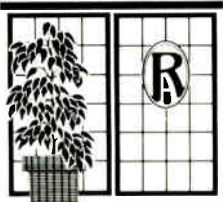
[24+] THE PROCESS RECORDING STUDIOS INC.; 3404-
E West Wendover Ave.; Greensboro, NC 27407; (919) 855-
1941; FAX: (919) 855-0819. Owner: Ronald Schrank. Man-
ager: Adrienne Schrank. Engineers: Ron Schrank, Karen
Greene, Bob Kelly, Sam Bruton. Dimensions: Room 1: studio
40x30, control room 22x22. Room 2: studio 11x11, control
room 16x14. Room 3: control room 16x15. Room 4: control
room 14x12. Mixing Consoles: Quad Eight Virtuoso 76-in-
put/24-bus, 40 channels of parametric EQ, Ramsa WRT-820B
20-input/16-bus, Tascam M-512 12-input/8-bus. Audio Re-
corders: Akai Adam 24-track digital, WaveFrame AudioFrame
—LISTING AND PHOTO/LOGO CONTINUED TOP OF NEXT COLUMN



THE PROCESS RECORDING STUDIOS INC.
Greensboro, NC

8-track 24-bit hard disc 1.5 gigabyte, Tascam MSR-16 16-track, Tascam TSR-8 8-track, Tascam 58 8-track, Otari MTR-12C 2-track w/CB-109, Otari MTR-10C 2-track, Otari MX-55TC 2-track w/Center Track Time Code, Otari 5050B 2-track Mk.III, Tascam BR-20 2-track, Otari 5050B 4-track, (2) Sony PCM-2500 DAT, Panasonic SV-3700 DAT. **Cassette Recorders/Duplicators:** Nakamichi MR-2, (2) Tascam 122, Otari DP-4C50C1 4-track high-speed, Akai GX912. **Noise Reduction Equipment:** (36) dbx Type 1 available on all analog recorders. **Synchronization Systems:** Adams-Smith Zeta-3, Fostex 4G30, Fostex 4035. **Echo, Reverb & Delay Systems:** Yamaha REV7, Yamaha SPX900, Lexicon PCM60, MICMIX XL305, Yamaha SPX90, DeltaLab ADM 64, Lexicon LXP-1, Eventide H3000B Ultra-Harmonizer, (2) dbx 166 limiter, (2) dbx 160X limiter, Aphex Aural Exciter, (2) Roger Mayer RM-50 noise gate, (2) Symetrix SG-200 noise gate, Orban 526A sibilance controller, Valley International rack w/Gain Brain II and 2 DSP sibilance controller, (2) Akai CD22 CD player, Technics SLP-1200 CD player. **Microphones:** Over 30 Neumann, AKG, AKG Tubes, Sennheiser, Electric-Voice, Crown, Beyer, Sony, Shure. **Monitor Amplifiers:** Hafler, Crown, Micro-Tech, UREI. **Monitor Speakers:** (2) JBL 4430, (2) Fostex RM780, (4) Yamaha NS-10M, (2) Auratone, (2) Toa, (2) Tannoy PBM-6.5, (2) JBL Control 1. **Musical Instruments:** WaveFrame AudioFrame 32 voice, 24-meg ram, 1.5 gigabyte hard disc, Soundstore System 8 inx16 cut, (2) stereo sampler, Takamine GTM-6 MIDI guitar, Fender Rhodes Stage, Crumar Performer, Crumar DS-2, Tama Techstar drums, Korg DDD1, Yamaha KX88, Korg. **Video Equipment:** Sony 9850 3/4" SP video editing w/TC module, Sony RM450 editor, Sony 13" color, Panasonic AG6810 VHS Hi fi editing VCR, Sanyo 27" color video monitor, NEC 30" hi-res video monitor, (3) NEC 9" hi-res video monitor, Sony 9800 3/4" SP Video editing recorder w/TC module.

[24+] **PYRAMID RECORDING;** 1208 Lula Lake Rd., Look-out Mountain; Chattanooga, TN 37350; (404) 820-2356; FAX: (404) 820-0539. Owner: R.H. MacLellan. Manager: Jim Stabile.



RECORDING ARTS

RECORDING ARTS
Nashville, TN

[24+] **RECORDING ARTS;** also *REMOTE RECORDING;* Box 121702; Nashville, TN 37212; (615) 321-5479. Owner: Carl Tatz. Manager: Carl Tatz. Engineers: Carl Tatz, Larry Lee, Steve Tillisch. Dimensions: Room 1: studio 16x4, control room 1.3x25. Room 2: studio 14x13. Room 3: studio 10x6. Room 4: studio 15x20. **Mixing Consoles:** Focusrite ISA 110 2x2, Soundcraft TS 12 74x14+ **Audio Recorders:** Mitsubishi X-850 w/Apogee filters available, Otari MTR-90II 24-track, Sony PCM-701ES 2-track digital/Ber: a 2005, Revox A-77 2-track. **Cassette Recorders/Duplicators:** Aiwa 990. **Noise Reduction Equipment:** Dolby SR and Type A available. **Synchronization**

—LISTING CONTINUED ON NEXT PAGE

FACILITY DESIGN & ACOUSTICS

IN THE
AUGUST MIX

**TEC Ballot/Voter's Guide
Understanding & Using
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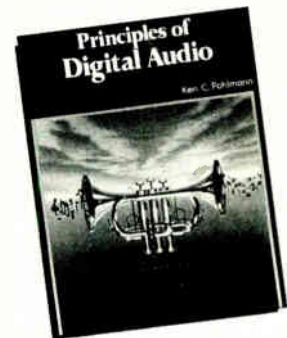
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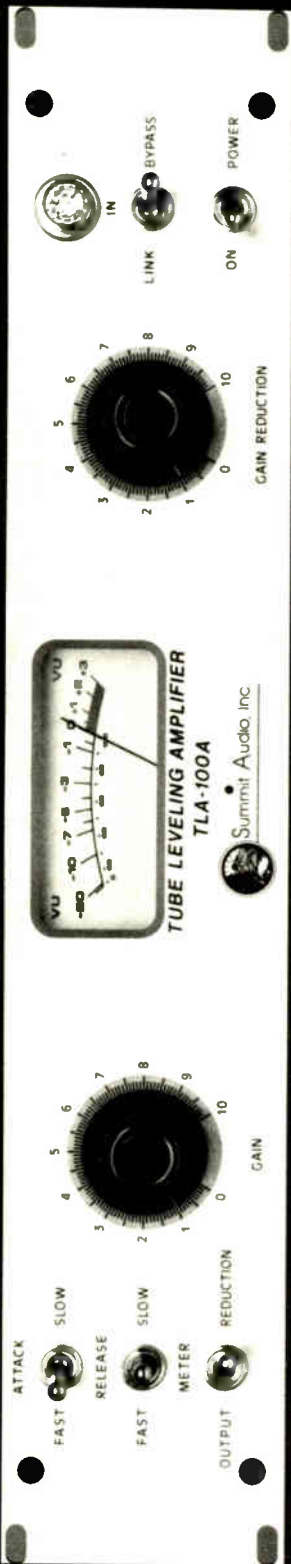
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—LISTING CONTINUED FROM PREVIOUS PAGE

Systems: All types available. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Roland SRV-2000, Roland DEP-5, Yamaha REV7, Lexicon Prime Time, Roland Dimension D, **Master-Room XL-3C5.** **Other Outboard Equipment:** Teletronix LA-2A comp/limiter, UREI 1176 comp/limiter, UREI LA-4 comp/limiter, (2) UREI 545 parametric EQ, Audioarts parametric EQ, Sony CD player, B&O 8000 turntable w/MMC I cartridge, LoTech TS-1 RMX audio test set, (3) Valley International HH2XB bump box. **Microphones:** Neumann U87, (2) AKG 414, AKG 451, EV RE20, (3) Shure SM57, (4) Sennheiser 421, (2) Sennheiser 441, (2) EV RE15, vintage tube mics available. **Monitor Amplifiers:** (2) Bryston 6B, (3) Bryston 4B, Yamaha 2050. **Monitor Speakers:** Yamaha NS-1000, Yamaha NS-10M studio, Visorik David 9000, (2) Auratone 5C. **Musical Instruments:** Name it! **Other MIDI Equipment:** All types available. **Video Equipment:** All types available. **Other:** Juoden impedance-matched headphone boxes, Mogami heavy 10- and 13-gauge oxygen-free copper speaker cables, control room total ASC design (tube traps). **Rates:** Available on request.

[24+] REEL TIME RECORDING INC.; also *REMOTE RECORDING*; 939 Carswell Ave.; Holly Hill, FL 32117; (904) 238-7002. **Owner:** Reel Time Recording Inc. **Manager:** Mark Ignoffo. **Engineers:** Mark Ignoffo, Alan Kolby, independents welcome. **Dimensions:** Room 1: studio 24x23, control room 24x13. Room 2: studio 16x11. **Isolation room:** 8x5. **Mixing Consoles:** TAC Matchless console 36x24x8x2. **Audio Recorders:** Otari MX-70 16-track, Fostex E-16 16-track, Tascam 38 8-track, Otari MX-5050 MkIII 2-track, Panasonic SV-3700 DAT, Sony DTC-M100 DAT. **Cassette Recorders/Duplicators:** Nakamichi MR-1, (3) Nakamichi MR-2, Technics RSB85, Technics RST55R. **Noise Reduction Equipment:** (2) Tascam DX4D 4-channel dbx noise reduction unit. **Synchronization Systems:** Fostex 4030/4035, Yamaha MSS-1 SMPTE-to-MIDI. **Echo, Reverb & Delay Systems:** Lexicon PCM60 reverb, Lexicon LXP-*, Lexicon LXP-5, Yamaha SPX90 multi-effects processor, (3) DigiTech DSP 256, DigiTech IPS 33B Harmonizer, MXR digital delay, Yamaha E101D delay. **Other Outboard Equipment:** Aphex Compellor stereo compressor, Aphex 612 noise gate, (3) dbx 163 compressor, dbx 463 noise gate, dbx 166 compressor/gate, Valley People Dyna-Mite 2-channel stereo limiter/gate/de-esser, (2) Furman QN4 4-channel noise gate, Audio Logic MT66 2-channel compressor/gate, Lexicon MRC MIDI remote controller Ver. 3.0, BBE B22 enhancer. **Microphones:** Neumann U87, Beyer MC740, AKG 451, (3) AKG D12E, EV PL20, (3) Beyer M69, (2) Shure SM81, (6) Shure SM57. **Audio-Technica 2500D.** **Monitor Amplifiers:** (2) Yamaha P2201, Soundcraft LA2502, Rane HC6. **Monitor Speakers:** (2) UREI 809, (2) Tannoy PBM-8, (2) Auratone. **Musical Instruments:** Young Chang piano, Hammond B-3, Roland S-50 sampler w/sound library and sequencer, Yamaha DX5, ARP Odyssey synthesizer, (2) Roland R-8 drum machine, Roland 727 percussion machine. **Video Equipment:** Amiga 2500 computer w/Genlock/Frame Grabber and animation features. **Other:** Tripp Lite voltage regulator. **Rates:** 8-track \$17.50/hr. 1/2" 16-track \$22.50/hr. 1" 16-track \$30/hr. Synchronized 32-track \$45/hr. Block discounts and packages available on all formats. Call for prices on DAT duplication, cassette duplication and packaging.

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[24+] REFLECTION SOUND STUDIOS (SEE ALSO STUDIO B); also *REMOTE RECORDING*; 1018 Central Ave.; Charlotte, NC 28204; (704) 377-4596; FAX: (704) 375-9723. **Owner:** Wayne Jernigan. **Manager:** Kelly Jernigan. **Engineers:** Mark Williams, Tracy Schroeder, Dave Harris, Jamie Hoover, Jim Brock, Mike Edwards, Tech. **Dimensions:** Studio A: 44x32, control room 19x24. Studio B: MIDI ste. Studio C: 18x24, control room 18x14. **Mixing Consoles:** Sony MXP-3036 36-input hard disk-automated, Sony MXP-3036 32-input. **Audio Recorders:** Sony APR-5002H 2-track 1/2", Sony PCM-3202 digital (DASH format), (2) Sony/MCI JH-24 24-track, Otari MX-5050 2-track 1/4", Sony/MCI JH-24 8-track 1", (2) Sony PCM-2500 DAT 2-track, (2) Sony APR-5003 3-track (SMPTE) 1/4". **Cassette Recorders/Duplicators:** Otari cassette duplication (ask for rates), Otari open-reel duplication (ask for rates). **Noise Reduction Equipment:** Dolby M16, (2) Dolby 361 (4) dbx 155 8-channel **Echo, Reverb & Delay Systems:** Lexicon 224XL, EMT 140 ST, (2) Lexicon PCM70, (4) DeltaLab DDL, TC 2290 sampler/effects, AKG BX-20, ART Multiverb III, LOFT 440, ask for complete outboard equipment list. **Other Outboard Equipment:** (4) UREI 1176LN, UREI 1178, Tube-Tech CL-1A, (2) dbx 900 Series w/de-esser/gate/limiter, (2) dbx 160X compressor, dbx 165 super fast limiter, dbx 162 stereo limiter/compressor, (2) Valley People 440, Valley People autogate 2-channel, Valley People Dyna-Mite 2-channel, Drawmer DS201 2-channel gate, Fostex 4010 SMPTE reader/generator, ask for complete list of outboard equipment. **Microphones:** (8) Neumann tube—U47, U64, U67, (10) Neumann solid state—U47, TLM170, KM86, KM88, (15) AKG C-414TL, C-414P48, C-452, C-460, D-224, D-202, the "tube," (5) Sennheiser MKH40, MD421, MD441. Also EV, Sony, RCA, Shure and others. Ask for complete list. **Monitor Amplifiers:** AB Systems, BGW, Hafler, White Instruments passive EQ. **Monitor Speakers:** TAD daul 15" system, JBL, various, others on request. **Musical Instruments:** Yamaha C7 7'4" grand piano, Hammond B-3 w/Leslie 122, Sonor 7-piece Deep Shell trap set, Sonor 5-piece deep shell trap set, Kawai 7'4" grand piano, various keyboards, guitars, percussion, Studio "B" MIDI ste, now open—ask for details and rates. **Rates:** Rates and other information on request, ask for Kelly or Mark.

[24+] THE REFLECTIONS STUDIOS; 2741 Larmor Dr.; Nashville, TN 37204; (615) 269-0828. **Owner:** Gene Lawson. **Manager:** Joe Weber.

[24+] RM AUDIO; also *REMOTE RECORDING*; 3586 Pierce Dr.; Atlanta, GA 30341; (404) 458-6000. **Manager:** John Tyler.

[24+] ROCKY TOP PRODUCTIONS; *REMOTE RECORDING* only; 8002 Middle Valley Rd.; Hixton, TN 37343; (615) 843-0717. **Owner:** Grover Dunn. **Manager:** Doyle Harper.

[24+] SCRUGGS SOUND STUDIO; 2828 Azalea Pl.; Nashville, TN 37204; (615) 383-7994. **Owner:** Randy Scruggs. **Manager:** Sloan Edwards.



SIXTEENTH AVENUE SOUND
Nashville, TN

[24+] SIXTEENTH AVENUE SOUND; 1217 16th Ave. S.; Nashville, TN 37212; (615) 327-8787; FAX: (615) 321-0928. **Owner:** Services Mgmt. Inc. **Manager:** Barry Sanders. **Engineers:** Graham Lewis, John David Parker, Scott Baggett, Melanie Jones, Giles Reaves, Jack Howell, Brian Hardin. **Dimensions:** Room 1: studio 24x40, control room 28x24. Room 2: studio room 1 29x15, studio room 2 16x13. Studio D: control room only: 13x13. **Mixing Consoles:** Solid State Logic 4056E 48x32 w/Total Recall and G Series computer (studio A), Neotek Elan 28x24 w/MIDI direct mute automation (studio B), Soundcraft 400B 20x16 (studio D). **Audio Recorders:** Mitsubishi X-850 32-track digital w/Apogee filters, Studer A820 24-track analog, Studer A80 MkIII 24-track analog, Studer A820 2-track analog 1/2" or 1/4" headstack, Tascam 8516B 16-track analog 1" w/dbx noise reduction, Tascam 48 8-track analog 1/2" w/dbx noise reduction, (2) Panasonic SV-3500 DAT, Tascam 2-track analog, Nakamichi DMP-100 F1-type processor, DigiDesign Sound Tools 2-track digital recording/editing system. **Cassette Recorders/Duplicators:** (4) Tascam 122 MkII. **Synchronization Systems:** Adams-Smith Zeta-3 w/

cables for all popular machines, SSL/Sony 3324/3348 custom interface box. **Echo, Reverb & Delay Systems:** AMS RMX 16 digital reverb, AMS DMX 15 digital delay w/stereo harmonizer, Lexicon 480L digital effects processor, Lexicon 224XL digital reverb, (2) Lexicon PCM70 digital effects processor, Lexicon PCM42 digital delay, (2) Lexicon PCM41 digital delay, (2) Yamaha REV7 digital reverb, (2) Yamaha SPX90 digital effects processor, (2) Alesis MIDVerb II, (2) Eventide 1024 digital delay, (2) ADA one-second digital delay. **Other Outboard Equipment:** Drawmer 1960 Tube compressor/limiter, (2) dbx 165 Over Easy compressor, (5) Valley Audio Kepex gate, Valley Audio Gain Brain, (3) Valley Audio 440 dynamics processor, (4) Valley Audio Leveller, Valley Audio Dyna-Mite, Valley Audio GateX 4-channel, (2) dbx 160 compressor/limiter, (2) White Instruments 440 graphic EQ, Symetrix 544 quad gate, (2) Meyer CP-10 parametric EQ, Tube-Tech CL1-A tube compressor. **Monitor Amplifiers:** Crown Macro reference, (3) Yamaha P2250C, Hafler 6000, Hafler 550, Hafler 220, (3) Perreux 5150B, Meyer Sound Labs MS1000A. **Monitor Speakers:** UREI 813C, (2) Meyer Sound Labs 833, (2) Meyer Sound Labs 834 subwoofer, (2) Meyer Sound Labs HD-1 near-field (self-powered), Yamaha NS-10M near-field, (4) EV Sentry 100, (2) Tannoy SRM-12" (dual concentric), Tannoy F5M-U, Auratone Sound Cubes. **Video Equipment:** Hitachi VHS VCR, Zenith Beta VCR. **Specialization & Credits:** Extra-large control room with skylights. Spacious studio featuring variable acoustics. Comfortable lounge with pool/ping pong table and kitchen facilities. Full-time maintenance engineer on staff. Dreamhire, a major equipment rental company, is located in our building, allowing easy access to any additional gear needed at very competitive rates. In association with Dreamhire, we have just opened Studio D, a digital editing/programming suite featuring the SoundTools package by DigiDesign. Sixteenth Avenue Sound offers the best in digital and analog recording in a relaxed environment that encourages creative expression. Our specialty is personalized attention and service. Come and enjoy the difference! Recent clients include Ziggy Marley, Johnny Van Zant, Peter Wolf, Dolly Parton, Kenny Rogers, Michael W. Smith, Margaret Becker, Jill Soule, Foster and Lloyd, and Judson Spence.

[24+] **THE SOUND BARRIER;** 4605 Gallatin Rd.; Nashville, TN 37216; (615) 228-6565. Owner: Trey Smith. Manager: Trey Smith.

[24+] **SOUND CHECK STUDIOS INC.;** also REMOTE RECORDING; 1629 Jackson St.; Fort Myers, FL 33901; (813) 334-4994; FAX: (813) 482-7025. Owner: James Becker, William Ernest Waites. Manager: James Becker.

[24+] **SOUND EMPORIUM RECORDING STUDIOS; 3102 Belmont Blvd.;** Nashville, TN 37212; (615) 383-1982. Owner: Roy Clark. Manager: Gary Laney, Susan Dey. Engineers: Gary Laney, Dave Sinko, Linell. **Dimensions:** Room 1: studio 60x40 w/20' ceilings, control room 20x22. Room 2: studio 20x23, control room 15x20. **Mixing Consoles:** Neve 8128, Trident 80B. **Audio Recorders:** Sony 2500 DAT, Otari MTR-90II, Sony/MCI JH-24, (2) Studer A80 2-track, (2) Studer B67 2-track, Mitsubishi 850. **Synchronization Systems:** Adams-Smith 2600. **Echo, Reverb & Delay Systems:** Quantec Room Simulator, Lexicon 224XL, (2) EMT 140 stereo plate, (2) live chamber, Prime Time, Prime Time II, AMS DMX 15-80S, 969 Harmonizer, (2) 910 Harmonizer, AMS RMX 16, (2) PCM70, (2) SPX90. **Other Outboard Equipment:** Neve stereo compressor, (2) Trident stereo compressor, (4) LA-2A, (2) Pultec EQP-1A, (2) Tube-Tech PE1-B, (4) Drawmer gate, (4) Kepex II, SF-1 cycloscopic panner, (2) LA-3A, Vocal Stresser, Audiocarts 4200 parametric EQ, (4) Jensen Boulder preamp, (2) Trident 1178, (4) dbx 165A. **Microphones:** (12) U87, (2) U47 FET, (4) U84, U67, M49, (2) RCA 77-DX, (8) Shure SM57, (6) Sennheiser 421, (6) AKG 414 EBP48, (2) Sanken CU41, (4) Shure 81, Shure SM7, Sennheiser 441, Sony 37P, Sony ECM-22P, (2) EV RE20, (3) Sony ECM-50, (5) Studer SKM5, (2) PZM plate, (2) AKG tube, AKG D-112, (4) KM84. **Monitor Amplifiers:** Perreux, Crown D-150, (2) Tannoy 840, Hafler 500, (4) BGW 750, (4) BGW 500, (2) BGW 250. **Monitor Speakers:** Westlake BSSB-10, Westlake BSSB-5, Tannoy LGM-15, Yamaha NS-10M.

[24+] **SOUND LAB INC.;** also REMOTE RECORDING; 2319 Fernwood Dr.; Greensboro, NC 27408; (919) 288-0185. Owner: Sound Lab Inc. Manager: Mary Schenck.

[24+] **SOUND OF BIRMINGHAM RECORDING STUDIO;** also REMOTE RECORDING; 3625 5th Ave. S.; Birmingham, AL 35222; (205) 595-8497. Owner: Don Mosley. Manager: Betty Mosley.

[24+] **SOUND SHOP RECORDING STUDIOS INC.;** 1307 Division St.; Nashville, TN 37203; (615) 244-4149; FAX: (615) 242-8759. Owner: Buddy Killen. Manager: Mike Bradley.

[24+] **SOUND STAGE STUDIO;** 10 Music Circle South; Nashville, TN 37203; (615) 256-2676; FAX: (615) 254-7030. Owner: Ron Kerr. Manager: Ron Treat. **Dimensions:** Room 1: studio 26x50, control room 34x29. Room 2: studio 15x16, control room 20x20. **Mixing Consoles:** (2) modified SSL 4000E w/48 modules and G Series mix computer. **Audio Recorders:** (2) Mitsubishi X-850 32-track digital w/Apogee filters, Studer A827 24-track analog, (2) Studer A80 2-track, Otari MX55 center 2-track stripe, (2) Panasonic 3500 R-DAT. **Cassette Recorders/Duplicators:** (3) Studer A710. **Synchronization Systems:** Adams-Smith Zeta-3 lock unit. **Echo, Reverb &**

Delay Systems: (2) AMS DMX 15-80S, (2) dbx 165A limiter/compressor, (2) dbx 160 limiter/compressor, Aphex Compellor, (2) Publison Infernal Machin 90, (2) Publison Fullmost de-esser, (2) Valley People Kepex II, (2) Drawmer DS-201 gate, (2) Valley People 815 DSP de-esser, (2) Valley People Gain Brain II, (2) Lexicon PCM70 reverb, (2) Quantec QRS room simulator, (2) Sony MUR201 digital reverb, (2) Yamaha SPX92 digital reverb, (2) Eventide H3000SE Ultra-Harmonizer, (2) Eventide 949 Harmonizer, (2) Sontec MEP-250C parametric equalizer, (2) Sontec DRC-202 compressor, (2) Teletronix LA2A limiter/compressor, (4) Lexicon 224XL digital reverb, (2) Lexicon 480L digital reverb, (2) Lexicon 300 digital reverb, (2) EMT 250 digital reverb, AMS RMX 16 digital reverb, TC Electronic 2290 effects unit, (2) Lydkraft PE1 Tube-Tech equalizer, (2) Lydkraft CL1B Tube-Tech compressor, Lydkraft MP1A Tube-Tech pre amp. **Microphones:** (2) AKG 414 EB ULS TL, (3) AKG AKG 414 EB, (6) AKG C452EB, (2) AKG D-12, (2) Electro-Voice RE 20, (3) Neumann KM84, Neumann KM86 1, (2) Neumann U47 FET, Neumann U87, Sanken CU41, (7) Sennheiser MD-421, (2) Sennheiser MD-441, (2) Shure Beta 57, (2) Shure SM57, (2) Shure SM58, Sony ECM-15P, (3) Sony ECM-33P, (2) Stephen Paul U87 modified, Studer (Scheeps) SKM501 U (stereo), (3) Studer (Scheeps) SKM5U. **Monitor Amplifiers:** (4) FM Acoustic 1000 watt, FM Acoustic 800 watt, Yamaha P2200. **Monitor Speakers:** (4) Hidley Kinoshita monitor system, (2) Yamaha NS-10M, (4) Auratone 5CV. **Musical Instruments:** Wendel Jr. drum sampler w/sound library, (2) Forat F-16 drum sampler w/sound library, Pearl acoustic drum kit, Noble & Cooley 8" rosewood snare, (2) Yamaha C-7 piano. **Video Equipment:** JVC CR850U video deck. **Other:** (25) Formula Sound 8-channel active cue mixers.

[24+] **SOUTHERN TRACKS RECORDING; 3051 Clairmont Rd. NE Studio Complex;** Atlanta, GA 30329; (404) 329-0147; FAX: (404) 329-0162. Owner: Bill Lowery. Manager: Mike Clark. Engineers: Russ Fowler, Tag George. **Dimensions:** Studio 20x40, control room 24x26. Iso room 1: 15x18. Iso room 2: 16x20. Iso room 3: 8x10. Dead alcove: 12x12. **Mixing Consoles:** SSL 4040E 40x32 w/G Series EQ and Computer, 8 modules w/242 EQ. **Audio Recorders:** (2) Sony JH-24, Studer A80 2-track 1/2", Sony 2500 R-DAT, Tascam ATR 1/4" w/center track, (2) Tascam D 30 R-DAT. **Cassette Recorders/Duplicators:** (2) Tascam 122, (3) JVC 531. **Noise Reduction Equipment:** Dolby A 26 channels. **Synchronization Systems:** Adams-Smith Zeta-3. **Echo, Reverb & Delay Systems:** EMT 140, Lexicon 224XL, Lexicon 224, Lexicon LXP-1, Lexicon PCM70. **Other Outboard Equipment:** TC Electronic 2290, (2) Neve 1079 EQ & mic pres, (2) Neve 1066 EQ & mic pres, (2) API EQ 4-band, Massenburg stereo EQ, (2) Sphere 4-band EQ, Tube-Tech EQ, Summit Stereo EQ, (2) UREI 527A graphic, (2) dbx 160 compressor, dbx 165 compressor, UREI 1178 compressor, Lexicon Super Prime Time, (2) Drawmer dual gate, (4) Kepex gate, Eventide H3000 Harmonizer, Eventide Harmonizer, Yamaha REV5, LT Sound compressor/de-esser, Eventide flanger, MIDVerb. **Microphones:** AKG Tube, Neumann 49 tube, (3) Neumann 87, Neumann 47, (2) Neumann KM88, (2) Neumann KM84, (2) Neumann KM86, (2) AKG 452, (3) AKG 414, AKG D-12E, (2) Sennheiser 441, (5) Sennheiser 421, (3) Wright, EV RE20, Crown SASS, (6) Shure SM57, (2) AKG C-1000. **Monitor Amplifiers:** (2) Crest, (2) Hafler, BGW, Crown, (2) AB Systems. **Monitor Speakers:** (2) George Augspurger custom system, (4) Yamaha NS-10. **Musical Instruments:** Yamaha grand piano, Tama drums. **Rates:** Upon request, block rates available.

[24+] **SOUTHLAKE RECORDING STUDIOS;** also REMOTE RECORDING; 3229 8th St.; Metairie, LA 70002; (504) 833-7926; FAX: (504) 833-2850. Owner: Paul DeCorte. Manager: Steve Himefart.

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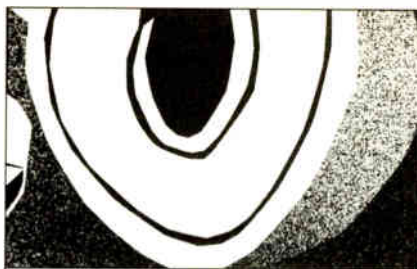
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West Columbia, SC**

[24+] STRAWBERRY SKYS RECORDING STUDIOS; also REMOTE RECORDING; 1706 Platt Springs Rd.; West Columbia, SC 29169; (803) 794-9300. Owner: Gary Bolton. Manager: Mike Smith.

[24+] STUDIO 7; 2074 17th St.; Sarasota, FL 33580; (813) 365-0337. Owner: Rick Moulton. Manager: James Fairs.

[24+] STUDIO 19; also REMOTE RECORDING; 821 19th Ave. S.; Nashville, TN 37203; (615) 327-4927. Owner: Larry Rogers. Manager: John Kelton.



**STUDIO CENTER
Miami, FL**

[24+] STUDIO CENTER; 6157 NW 167th St., Ste. F-4; Miami, FL 33015; (305) 828-7231; FAX: (305) 826-8615. Owner: Studio Center Inc. Manager: Craig Powell. Dimensions: Room 1: studio 22x15, control room 16x19. Room 2: studio 30x25, control room 16x14. Mixing Consoles: SSL 6056E. G-Series computer w/Total Recall, MCI JH-24 24-track, Sony PCM-3324A 24-track, (3) MCI JH-24 24-track, Sony PCM-3402 2-track, Otari MTR-12 1/2" 2-track, (2) Sony APR-5002 2-track, (3) MCI JH-110 2-track, Sony PCM-2500 R-DAT. Cassette Recorders/Duplicators: (2) Nakamichi MR-1. Noise Reduction Equipment: Dolby A/SR available on request. Synchronization Systems: (2) Adams-Smith 2600 synchronizer.

Echo, Reverb & Delay Systems: Lexicon 480L digital effects processor, Lexicon 224XL digital reverb, Lexicon 200 digital reverb, Lexicon 97 Super Prime Time digital delay, Lexicon PCM70 digital effects processor, (2) Lexicon PCM42 digital delay, Lexicon PCM41 digital delay, Eventide H3000 Ultra-Harmonizer, Eventide H949 Harmonizer, (2) Yamaha REV7, (2) Yamaha SPX90. **Other Outboard Equipment:** (12) API 550A parametric equalizer, Teletronix LA-2A limiter, UREI 1176 limiter, (2) UREI LA-4A compressor/limiter, (4) dbx 160 compressor, (2) dbx 165 compressor. **Microphones:** (4) Neumann U87, (2) Neumann U47, (4) AKG 414, (2) AKG 460, AKG 451, AKG D-12, AKG The Tube, (4) Sennheiser HD-441, (3) Sennheiser HD-421. **Monitor Amplifiers:** (2) Meyer Sound Labs MS-1000, (2) Macintosh 2300, (4) BGW 250, UREI 6300, Yamaha P2200. **Monitor Speakers:** Meyer Sound Labs 833/834, (3) Yamaha NS-10M, Auratone Super Sound Cube. **Musical Instruments:** Akai S1000 sampler, Casio FZ-1 sampler, Roland D-70, Roland R-8, Roland R-5, E-mu II, E-mu SP-12, E-mu Systems Proteus, Oberheim Matrix-1000, Korg M3R, Kawai K4, Roland MKS-80 Super Jupiter, Steinway 1935 5'9" grand piano, Morgan & Sons 5'9" grand piano. **Other MIDI Equipment:** Macintosh II computer system, Opcode Vision Sequencing software, Opcode Galaxy Librarian software, Opcode Studio 3 SMPTE/Midi interface, Kawai Q-80 sequencer, J. L. Cooper MIDI patch bay. **Video Equipment:** (3) Sony VO-5800/5850, Sony RM-450 video editor. **Specialization & Credits:** At Studio Center, our warm, relaxed atmosphere and courteous, efficient staff, combined with the latest technology, provides a comfortable, creative environment for your recording project. We offer a fully equipped MIDI production suite as well as post-production facilities for film and video. Give us a call to discuss your next project. You'll be glad you did!

[24+] STUDIO IN THE COUNTRY; Hwy. 436; Bogalusa, LA 70427; (504) 735-8224. Owner: Eugene Foster. Engineers: Eugene Foster, Jim Odom. **Dimensions:** Studio 60x70, control room 26x26. **Mixing Consoles:** Neve V Series 56x48 w/ Necam 96 moving faders automation. **Audio Recorders:** Studer A820 24-track w/Dolby A/SR, Studer A80 24-track, (2) Studer A80 2-track, (3) Studer A721 cassette. **Noise Reduction Equipment:** Dolby A/SR 24-channel, Dolby A/SR 2-channel. **Synchronization Systems:** Adams-Smith 2600, Studer TLS-4000. **Echo, Reverb & Delay Systems:** AMS RMX 16 dig. reverb, Lexicon 200, Lexicon PCM60, (2) Yamaha SPX90II, EMT 140 stereo plate, live echo chamber, Lexicon 93 delay, Eventide 949 delay, Eventide 910 delay, DeltaLab CE-1700 delay, Lexicon 480L. **Other Outboard Equipment:** (2) Teletronix LA-2A tube lm, (2) Teletronix LA-3 lm/comp, (2) UREI LA-4 lm/comp, (6) UREI 1176LNI/comp, (2) Orban 424A lm/comp, (2) Spectra Sonics 610 comp/lm, Eventide Omnipressor, (2) dbx 162 stereo lm/comp, (2) dbx 166 lm/comp, (4) Valley People Dyna-Mite, (2) Valley People 415 dynamic filters, Pultec EQP-1A, Pultec MEQ-5, Orange County VS-1 vocal stresser, (2) Orban 672 EQ, (2) J.L. Cooper Time Cube, UREI Little Dipper, Eventide flanger. **Microphones:** (6) Neumann U87, (5) Neumann U47 tube, Neumann U67 tube, Neumann 49 tube, AKG C-24 stereo tube, (2) AKG C-12 tube, (5) EV RE20, Sony C-500, (3) Sony C-38P, Neumann KM84, (3) Neumann SM69 stereo, (3) Beyers M160, (3) Beyers M88, (3) Beyers M500, (2) Studer, Sennheiser MD-409, (7) Sennheiser 441, (4) Sennheiser 421, (3) Sennheiser ProfiPower, (6) AKG C-451, (2) AKG RE-15, (2) AKG RE-16, (2) Shure SM81, (2) PZM, (6) AKG 414EB, Neumann KM254, (12) Shure SM57, (10) Shure SM58. **Monitor Amplifiers:** (10) Crown DC-300. **Monitor Speakers:** (6) Westlake TM-1, JBL 4333 etc., Yamaha NS-10.

[24+] STUDIO SOUTH RECORDING; also REMOTE RECORDING; 2510 Peach Orchard Rd.; Augusta, GA 30906; (404) 793-7800; FAX: (404) 793-9547. Owner: Howard Lovett. Manager: Howard Lovett. Engineers: Howard Lovett, Doran Tauss, Lindy Lovett. Dimensions: Studio 30x30, control room 25x30, MIDI studio 10x12. Mixing Consoles: Sony MCI MXP-3000 w/SMPTE-based fader automation, Studiomaster 16x2 remote. Audio Recorders: Studer A80 24-track, Studer AB20 2-track master w/center track time code, Ampex ATR-800, Ampex AG-440B, Revox PR-99, Revox A-77, (2) Tascam 42 (and 42B), Panasonic SV-3500 DAT, Tascam 112 cassette, (2) Nakamichi BX-100 cassette. Telex stereo high-speed duplicator. Noise Reduction Equipment: Dolby SR/XP Series 24-track, Dolby SR 361 Series w/CAT 280s. Echo, Reverb & Delay Systems: AKG ADR 68K digital reverb, Yamaha SPX90 digital, MXR01 digital reverb, Lexicon PCM41, Eventide 949 Harmonizer, Aphex Aural Exciter. Other Outboard Equipment: George Massenburg 8200 parametric EQ, Simmons Trigger to MIDI interface, Valley People GateX, Valley People leveler, Valley People Dyna-Mite compressors, Aphex Studio Dominator, dbx 166 compressor, dbx 162 compressor, Symetrix CL-100, Omni Craft quad gate. Microphones: Neumann U87, ASC studio condenser, AKG C-414EB, AKG C-414, AKG 452, Shure SM5, EV RE20, Sennheiser 421, (5) Shure SM57, Fostex M88RP ribbon. Monitor Amplifiers: Yamaha M4, Crown D-150, Crown Micro-Tech 600, White Series 4000. Monitor Speakers: (2) JBL 4430, (2) Tannoy PBM-8, (2) Yamaha NS-10. Musical Instruments: Yamaha 7' grand piano, Ovation acoustic guitar, Ibanez electric guitar, Kramer electric bass guitar, Ludwig 5-piece drum set. Other MIDI Equipment: Roland W-30 digital sampling keyboard workstation w/S-550 disc library, Roland U-220 module, Roland D-110 module, Korg M3R module, Yamaha DX7, Korg DVP-1 voice synth, Korg EX-800 analog synth. Video Equipment: Sony BVU-900, Hitachi 26" video monitor, Adams-Smith Zeta-3 synchronizer. Rates: \$85 per hour studio time.

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[24+] **STUDIO B PRODUCTIONS (SEE ALSO REFLECTIONSOUND STUDIOS);** 1018 Central Ave., Charlotte, NC 28204; (704) 372-9661. **Owner:** Studio B Productions. **Manager:** Dave Harris. **Engineers:** Dave Harris. **Dimensions:** Studio 8x10, control room 17x10. **Mixing Consoles:** D&R Series 4000 44 input console w/384 point patch bay. **Audio Recorders:** Fostex E2 1/4" 3-track w/SMPTE time code, Sony PCM-2500 R-DAT. **Synchronization Systems:** Adams-Smith Zeta-3 w/remote control. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Lexicon LXP-1 w/MRC remote, TC Electronic 2290. **Other Outboard Equipment:** Numerous gates and compressors. **Microphones:** A large variety of microphones available. **Musical Instruments:** Akai S1000 HD 16 bit stereo sampler w/20 meg RAM (2 minutes stereo), Korg M1Rex, Roland D-550, E-mu Proteus 1 XR, Alesis HR16 drum machine, Alesis HR16B drum machine, Oberheim Matrix 1000 analog synthesizer, Yamaha TX7, Yamaha TX81Z, Yamaha KX88 Master MIDI keyboard, Roland Octapad II MIDI drum pad. **Other MIDI Equipment:** Mark of the Unicorn MIDI Time Piece, Mark of the Unicorn MIDI patch bay, Macintosh IIcx w/8 meg RAM, Macintosh SE w/4 meg RAM, Mark of the Unicorn Performer sequencing software, Opcode editor/librarian software for many synths. **Video Equipment:** Sony BVU 9800 3/4" VTR, Mark of the Unicorn Video Time Piece with VITC capabilities. **Other:** J. L. Cooper CS-1 control station for Sound Tools, Digidesign Sound Tools digital audio workstation with over 80 minutes of CD quality stereo hard disk space available, Jensen/Mogami audio tie lines into Reflection's two 24-track studios. **Rates:** Call for rates.

[24+] **STUDIO EAST;** also REMOTE RECORDING; 5457 Monroe Rd., Charlotte, NC 28212; (704) 536-0424; FAX: (704) 536-8098. **Owner:** Tim Eaton. **Manager:** Nancy Sharp.

[24+] **SUITE 2000;** also REMOTE RECORDING; PO Box 21272; Nashville, TN 37221; (615) 646-4900; FAX: (615) 646-4900. **Owner:** Richard Adler. **Manager:** Richard Adler.

[24+] **SYNCO SOUND STUDIO;** 1030 16th Ave. S.; Nashville, TN 37212; (615) 242-2455; FAX: (615) 242-2455. **Owner:** Randy Wachtler. **Manager:** Terri Shirley. **Engineers:** John Wiles, Bob Campbell Smith, Penn Singleton. **Mixing Consoles:** Sound Workshop 34C console w/Arms II automation. **Audio Recorders:** Otari MTR-90 II 24-track w/remote and auto locator, Studer B67 1/4" 2-track w/remote, Pioneer RT 701 1/4" 2-track, Technics DAT. **Cassette Recorders/Duplicators:** (2) TEAC R-425. **Synchronization Systems:** Adams-Smith Zeta-3 synchronizer. **Echo, Reverb & Delay Systems:** Lawson Echo Plate, Lexicon PCM70, Lexicon Model 93 Prime Time, Yamaha REV7. **Other Outboard Equipment:** dbx 900 Frame w/limiters and gates, Paradora stereo limiter, Omni Craft GT-4 quad noise gate. **Microphones:** Assorted: Neumann, AKG, Shure, Sennheiser, Electro-Voice. **Monitor Amplifiers:** Crest 3000, (2) BGW 2500, Yamaha P2050. **Monitor Speakers:** (2) Tannoy SGM 10B, (2) Yamaha NS-10M, (2) Auratone 5C. **Musical Instruments:** Kawai KG-Gc grand piano. **Video Equipment:** Sony VO-5800 3/4" VCR, NEC PM 2571A video monitor.



TMI
Tibro Music, Inc.

TMI STUDIOS
Clearwater, FL

[24+] **TMI STUDIOS;** also REMOTE RECORDING; 2382 Congress Ave., Ste. B; Clearwater, FL 34623; (813) 787-7052; FAX: (813) 784-8211. **Owner:** Tibro Music Inc. **Manager:** Tim Brownell. **Engineers:** Tim Brownell, Mark Brownell, Joel Johnson, Daryl Wicker. **Dimensions:** Room 1: studio 13x15, control room 15x18. Room 2: studio 10x12. **Mixing Consoles:** M320 B console, Alesis 1622 mixer. **Audio Recorders:** Tascam 38 8-track, Tascam 32 2-track. **Cassette Recorders/Duplicators:** Tascam 234 4-track, Tascam 1122-track, Tascam real time doubler. **Noise Reduction Equipment:** (2) dbx DX-4D, dbx 150X. **Synchronization Systems:** Tascam MTS-30 MIDI tape synchronizer. **Echo, Reverb & Delay Systems:** (2) Roland SDE-3000 digital delay, Korg SDD-3000 digital delay, (2) Yamaha SPX90, (2) Alesis Quad reverb, Alesis MIDlverb II, Lexicon PCM60 reverb, Lexicon PCM70 reverb/delay, Roland SRV-2000 reverb. **Other Outboard Equipment:** Korg DVP-1 harmonizer/vocoder, (2) MXR dou-

bler/fanger, dbx 166 compressor/limiter, Aphex Aural Exciter Type C, BBE Maximizer 402, dbx 263X de-esser, Furman parametric EQ, (2) Biamp 290 29-band EQ, Rane RE14 real-time analyzer EQ. **Microphones:** AKG 414 Buls, AKG D-12E, PL 20, (2) PL 10, (3) Sennheiser 421, Sennheiser 441, Electro-Voice 15, Tascam P250, (2) PVM 38, Shure SM94 condenser, (2) Shure SM81, (2) Shure SM58, (2) Shure SM57, Shure SM53. **Monitor Amplifiers:** Peavey Decca 500, Peavey Decca 1200, CS 1200, Rane HC6 headset amplifier. **Monitor Speakers:** UA 300 Series, Yamaha NS-10M, Fostex powered auratones, Rane HC6 headset amplifier, (6) AKG 240 headset, (2) Sennheiser open ear. **Musical Instruments:** Yamaha ten-piece power tour drums, Gibson Les Paul, Ovation acoustic w/hot dots, Roland JC-120 chorus amp, Randal 80 watt combo, D-550 keyboard rack-mount, GM-70 MIDI guitar interface, GS-6 preamp, EPS sampler/workstation—fully loaded 2,000 sound library. **Other MIDI Equipment:** Macintosh Plus 2.5 meg, Atari 1040 St, Alchemy sample editing software, Mastertracks Pro 4, Opcode Studio 3 interface, Encore Music Notation software passport. **Other:** For the 24-track info; TMI studios work, engineer and produce through the Charico Studios. See Charico and then ask for Tim Brownell, studio manager.

[24+] **TRANSMEDIA PRODUCTIONS;** also REMOTE RECORDING; 561-F Thomson Rd., Lithia Springs, GA 30057; (404) 948-4813. **Owner:** Transmedia Productions Inc. **Manager:** Hugh Harrer.

[24+] **TREASURE ISLE RECORDERS;** 2808 Azalea Pl.; Nashville, TN 37204; (615) 297-0700; FAX: (615) 297-1413. **Owner:** Treasure Isle Recorders Inc. **Manager:** Fred Vail, Dave Shipley. **Specialization & Credits:** The first Nashville studio to convert to multitrack digital (1983), Treasure Isle has remained on the forefront for 11 years. Grammy Award winning producer George Massenburg stated: "Treasure Isle is simply the BEST 'live' tracking room in Nashville!" The two-studio complex is within 15 minutes of Nashville's International Airport and only ten minutes from world famous "Music Row." Designed by partners Fred Vail and Dave Shipley, the studio offers a wide assortment of outboard gear, microphones, digital keyboards, a "live" echo chamber, and is noted for having the best drum sound of any studio in the Southeast. **Credits include:** Slaughter (*Stick It Live*), Dolly Parton (*White Limozeen*), Ricky Skaggs (last three albums), Highway 101 (last four albums), James Taylor, The Beach Boys, Linda Ronstadt, Emmylou Harris, B.B. King, Isaac Hayes, The Byrds (reunion album), Pam Tillis, Randy Travis, Desert Rose Band, Hardcore, Billy Preston, Chet Atkins.

[24+] **TRICLOPS SOUND STUDIO;** 120 Interstate North Pkwy. E., Ste. 116; Atlanta, GA 30339; (404) 955-3550; FAX: (404) 955-3803. **Owner:** Rick Meyer, Mark Richardson. **Manager:** Rick Meyer. **Engineers:** Mark Richardson—chief engineer and producer. **Dimensions:** Room 1: studio 40x50, control room 19x22. Iso. 1: 12x12. Iso. 2: 12x14. **Mixing Consoles:** Neve 8068 Mk II/Necam. **Audio Recorders:** (2) Ampex ATR-102 2-track 1/2" and 1/4", Studer A800 Mk III 24-track, Ampex AG440 2-track, Studer A80RC 2-track, Tascam DA 30 DAT. **Cassette Recorders/Duplicators:** Tascam 122 Mk II. **Echo, Reverb & Delay Systems:** EMT 140 tube stereo plate rev./echo, EMT 250 digital reverb, EMT 251 digital reverb, Publison DHM 89B2 delay/harmonizer, Roland RE-501 chorus, Alesis processor. **Other Outboard Equipment:** (2) Neve 32264 compressor/limiter, (4) dbx 160, (2) UREI 1176, (2) Quad 8, (2) Allison Research Kexep noise gate, (2) Allison Research Gain Brain, Pultec EQ P-1 tube EQ, Altec 436C tube compressor. **Microphones:** Sony C-37A tube, Sennheiser MD-211, (3) Shure SM57, Beyer M69N, Neumann U47 tube, (2) Neumann KM84, (2) Neumann U47 FET, (4) Sennheiser MD 421, (2) Sennheiser MD-441, (2) Sennheiser MD-409, AKG D-112, (2) AKG C-451. **Monitor Amplifiers:** (3) Macintosh 2300, (2) Macintosh 2105, Yamaha P2200. **Monitor Speakers:** UREI 813, UREI 811B, (2) KEF C55, Auratone. **Musical Instruments:** Stein-way 1959 Concert D 9' grand piano, Mellotron, Oberheim OBX-A, Korg T3, Korg M1, Korg D55-1, Roland D-50, Roland Juno-106, Akai MPC60 w/library, Les Paul Gold Top w/59 humbuckers, '62 Strat, '65 Precision bass, Ludwig drum kit w/assorted snares, Marshall amps w/4x12 cabinets, Ampeg SVT Rig, Ampeg V9 Fig. **Other MIDI Equipment:** Atari Mega-2 ST w/sequencing software/SMPTE trac, J.L. Cooper MIDI patch bays. **Rates:** Hourly, day and block rates available upon request.

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[24+] **TURTLE POINT RECORDING;** also REMOTE RECORDING; PO Box 7472; St. Thomas, U.S. Virgin Islands 00801; (809) 776-2104. **Owner:** John Johnston. **Manager:** John Johnston.

[24+] **TWELVE OAKS RECORDING STUDIOS;** 3830 S. Cobb Dr.; Smyrna, GA 30080; (404) 435-2220; FAX: (404) 436-2243. **Owner:** Sonny Lallerstedt, Randy Bugg. **Manager:** Randy Bugg.

[24+] **TWENTY-FIVE SIXTY INC. RECORDING STUDIO;** 2560 Niskey Lk. Rd. S.W.; Atlanta, GA 30331; (404) 349-7511. **Manager:** Ted Bland.



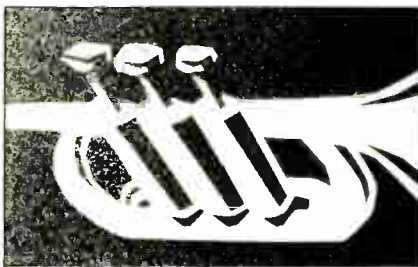
ULTRASONIC STUDIOS
New Orleans, LA

[24+] **ULTRASONIC STUDIOS;** also REMOTE RECORDING; 7210 Washington Ave.; New Orleans, LA 70125; (504) 486-4873. **Owner:** Jay Gallagher. **Manager:** Jerry Embree. **Engineers:** David Farrell, Jay Gallagher, Scott Goudeau, Steve Reynolds. **Dimensions:** Studio 50x50, control room 25x16. **MIDI suite:** 12x15. **Mixing Consoles:** MCI 652 52x48 w/automation. **Studiomaster 16x4x8. Audio Recorders:** MCI JH-24 24-track, (2) Panasonic DAT 3700, Sony DAT-1000. **Digidesign Sound Tools** digital disk-based recorder/editor. **Sony 5003 2-track w/center time code, Akai 1214 12-track, Sony PCM-F1 2-track digital, MCI JH-110 4-track, Otari 5050 2-track. Synchronization Systems:** Audio Kinetics Pacer, Yamaha MSS-1 MIDI-SMPTE. **Echo, Reverb & Delay Systems:** Lexicon 300, (3) Yamaha REV7, (2) Yamaha SPX90, Lexicon PCM70, Lexicon PCM41, Alesis MIDlverb II, Roland DEP-5, EXR Exciter, Gemini Easy Rider, Roland SDE-2000. **Other Outboard Equipment:** (2) dbx 160XT, (4) UREI 1176LN limiter, (4) Allison Research Kexep noise gate, (4) Allison Research Gain Brain limiter, UREI 565 filter. **Microphones:** Neumann U87, Neumann KM84, Neumann SM69, AKG C-414EB, AKG C-451, AKG C-33, AKG D-160, AKG D-112, Shure SM57, Shure SM81, Beyer 201, Beyer 101, Sennheiser 421, Sennheiser 441. **Monitor Amplifiers:** BGW 250B, BGW 100, Halfer Pro 5000. **Monitor Speakers:** Tannoy SGM-10B, JBL 4331A, JBL 4401, Yamaha NS-10, JBL Cabaret, Auratone, EPI 100, JBL L-100. **Musical Instruments:** Kawai grand, Ludwig drums w/Zildjian cymbals, Kurzweil 1000PX synthesizer, Roland D-550 synthesizer, (2) Akai S900 sampler, Korg sampling grand, Hammond B-3 w/Leslies, Roland MKS-80 synth, Roland MKS-20 synth, Yamaha TX802 synth, Korg EX-8000 synth, Moog MIDlmoog, Alesis HR-16 drum machine, Roland Octapad controller, LinnDrum, Latin percussion congs. **Other MIDI Equipment:** Yamaha KX88 controller, Macintosh w/Performer and Visions software, WX7 wind controller. **Video Equipment:** Sony 5800 3/4" U-matic. **Rates:** Available on request. **Specialization & Credits:** Ultrasonic's recently renovated recording room features a spacious new room with four separate isolation areas. Our engineering staff has six Grammy nominations as well as a Best Traditional Blues Album of the Year to their credit. We are the only studio in New Orleans to offer automated mixing and digital editing. And, of course, New Orleans offers the best food, musicians and nightlife in the world. Ultrasonic also has a complete audio/video MIDI suite and resident composer specifically for film scoring and commercial music beds. **Credits:** Linda Ronstadt, Robbie Robertson, Bruce Hornsby, Dolly Parton's *Down in New Orleans* TV special (Emmy Award—sound mixing), Paul Shaffer, Todd Rundgren, Fats Domino, Aaron Neville, Dirty Dozen. **Advertising:** Miller Lite Beer, Fischer-Price Toys, Mazola, Busch Beer, Oldsmobile, Barq's Root Beer. **Clients:** HBO/Cinemax, Epic/Sony, CBS, Elektra, ABC, Saatchi & Saatchi, DDB Needham Worldwide, Rounder, Windham Hill, Black Top, Capitol. Creole and Cajun catering available.

[24+] **VIRGINIA ARTS RECORDING;** also REMOTE RECORDING; 512 Stewart St.; Charlottesville, VA 22901; (804) 971-1411. **Owner:** R. Paul Brier. **Manager:** R. Paul Brier.

[24+] **WAREHOUSE RECORDING;** also REMOTE RECORDING; Rt. 6, Box 605; Galax, VA 24333; (703) 236-9611. **Owner:** Jimmy Edmonds, Allen Conner. **Engineers:** Allen Conner, Jimmy Edmonds. **Dimensions:** Room 1: studio 45x25, control room 15x15. **Rates:** Call for rates.

—LISTING CONTINUED ON NEXT PAGE



Southeast 24-track studios

—LISTING CONTINUED FROM PREVIOUS PAGE

Control room 16x16. Piano room, drum room, (2) iso booths. **Mixing Consoles:** Sony MXP 3036. **Audio Recorders:** Otari MX 5050 II, Sony JH-24, Sony APR 5002 30 ips, Tascam DA 30 digital DAT. **Cassette Recorders/Duplicators:** NAD 6300, Pioneer CT 980W JVC dual cass. **Noise Reduction Equipment:** dbx 150X. **Echo, Reverb & Delay Systems:** Lexicon PCM70, Ecoplate 2, DigiTech DSP 128, Yamaha REV7, Alesis Quadverb, Alesis Microverb III, (2) Alesis MIDverb II, Eventide H3000 Ultra-Harmonizer, Roland DEP-5, Lexicon PCM41 digital delay, Lexicon Prime Time, DeltaLab Effectron II. **Other Outboard Equipment:** (2) UREI 1176LN limiter, dbx 166 stereo compressor, dbx 900 rack 4-903 compressor/4-904 gate/1-902 de-esser, Symetrix CL150 compressor, Valley Leveler, Valley People Dyna Mite, Aphex 612 noise gate, (3) Ashly Audio SC33 stereo gate, Rocktron 300A compressor w/Hush II gate, Barcus-Berry 802 Exciter, Rocktron FX10 exciter, Fairchild 664 EO-663 limiter. **Microphones:** AKG The Tube, Neumann U87, Neumann U89, (2) AKG C-414 B-ULS, (2) Neumann KM84, (2) Sennheiser MD-421, (2) Beyer 201, (3) Shure SM81, Electro-Voice N/D 257-308-408, AKG D-112E, AKG D-12E, Yamaha MZ205, Yamaha 205, various other mics. **Monitor Amplifiers:** QSC, Crest, Pioneer. **Monitor Speakers:** Tannoy SGM-158, Tannoy NFM-8, Bose 301, Realistic Minimu S-7. **Musical Instruments:** Yamaha C5 6'6" conser-

vatory grand piano, Korg DSS-1 keyboard, Tama Art Star II drums, Roland R-8 drum machine w/Octapad, various snare drums and acoustic instruments, Korg M1 keyboard. **Other:** Innovative Audio Tube Direct Box, (6) various direct box, Conn Strobe tuner, (11) individual stereo headphone box, (15) various headphones.

[24+] WAREHOUSE STUDIO SALES; also REMOTE RECORDING: 2071-20 Emerson St.; Jacksonville, FL 32207; (904) 399-0424; FAX: (904) 398-9683. Owner: Tom Markham. Manager: Bart Stone.

[24+] WESTEND RECORDING; also REMOTE RECORDING: 5410 Mariner Dr.; Tampa, FL 33609; (813) 289-7756; FAX: (813) 289-6450.



WINDMARK RECORDING
Virginia Beach, VA

[24+] WINDMARK RECORDING: 4924 Shell Rd.; Virginia Beach, VA 23455; (804) 464-4924; FAX: (804) 464-1773. Owner: Michael Marquart. Manager: Colleen Marquart. Engineers: Dave Runstedler, Michael Marquart. Dimensions: Room 1: studio 30x18, control room 25x20. Room 2: studio

20x15, control room 20x15. **Mixing Consoles:** SSL 4040E G-Series, Tascam M600. **Audio Recorders:** Studer 827, Studer A80, Sony 2500 2-track digital, Sony 5002 1/4-track, Tascam ATR-60. **Cassette Recorders/Duplicators:** Nakamichi Dragon, Yamaha KX8000, Yamaha KX800U. **Noise Reduction Equipment:** Dolby SR. **Synchronization Systems:** Studer locking system. **Echo, Reverb & Delay Systems:** Lexicon 480L w/SME card, Lexicon PCM60/70, Lexicon 224XL, Lexicon 200, Aphex 250III, Alesis MIDverb II/III, (2) Yamaha REV7, Lexicon Super Prime Time, Eventide H3000, Aphex Type C, Yamaha SPX90 II, Roland SDE-1000, Eventide Harmonizer H949. **Other Outboard Equipment:** dbx 160X/166, Valley International 430 stereo compressor/noise gates, Aphex Aural Exciter, Drawmer vacuum tube 1960, SSL G384 stereo compressor, API 550B, Bi amp parametric EQ, Summit vacuum tube EQ F100. **Microphones:** Numerous Neumann, Schoeps, Sennheiser, AKG, Shure, Beyer, B&K, Electro-Voice. **Monitor Amplifiers:** QSC 1400, QSC 1500, UREI 6290, Crown Micro-Tech 1000 power amp, Belles 450. **Monitor Speakers:** Tannoy PBM 6.5, Tannoy FSMU, Tannoy NF 8, Yamaha NS-10, Auratone, Custom design with TAD and JBL. **Musical Instruments:** Baldwin 8' grand piano, Mesa/Boogie Mark III, Korg T3 workstation, Kurzweil K-1000, Roland D50 synth, Rockman sustainer CD-01102, Rockman chorus/delay CD-1307, Rockman X100, Dynacord Add-One, E-mu SP-1200, E-mu SP-12, Sonor 5-piece drum kit. **Other:** Studer Dyaxis w/1 1/2 hours of sample time at 48k, Sony SDP-1000. Full audio production and sound EFX libraries, Macintosh IIx/IIcx. **Rates:** Reasonable—by the hr., day or project. Call for quotes and color brochure. **Specialization & Credits:** Windmark Recording Inc. is a world class facility located in a unique resort atmosphere. Near many recreational activities and only minutes from the beaches of the Chesapeake Bay and Atlantic Ocean. Windmark also offers accommodations in a large five bedroom colonial mansion with pool near studio. Studio amenities include wide-screen cable TV, video games, basketball hoop, kitchenette and outdoor patio with barbeque. Windmark's combination of quality equipment, experienced staff and relaxed atmosphere allows clients to express and capture the very best of their talent and creativity.

[24+] WOLF'S HEAD PRODUCTIONS: 658 Douglas Ave., Ste. 1112; Altamonte Springs, FL 32714; (407) 682-6669. Owner: Dana W. Cornock. Manager: Dana W. Cornock.

[24+] YRS MULTIMEDIA; also REMOTE RECORDING: 182 Oxford Rd.; Fern Park, FL 32730; (407) 331-4588; FAX: (407) 331-8239. Owner: Jerry Wisham. Manager: George P. York.

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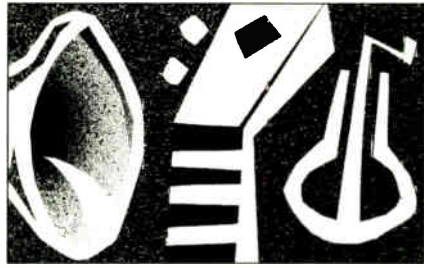
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[16] **AUDIORICH**; also *REMOTE RECORDING*; PO Box 383; Centreville, VA 22020-0383; (703) 830-9744. Owner: Rich Reppier. Manager: Rich Reppier.

[16] **AURAL CANVAS**; 1407 Allen Ave.; Murfreesboro, TN 37129; (615) 890-1521. Owner: Forrest York. Manager: Forrest York.

[16] **BAYOU BREEZE PRODUCTION**; also *REMOTE RECORDING*; PO Box 66124; Baton Rouge, LA 70896; (504) 928-5289. Owner: Buster J. Fresina. Manager: Robert Vaughn.

[16] **M.A. BENINGTON CO.**; 2459 Cuchura Dr.; Birmingham, AL 35244; (205) 988-0707. Owner: Mike Benington. Manager: Mike Benington.



BLUESMOKE STUDIO/MIAMI-DADE COMM. COLLEGE-S. CAMPUS
Miami, FL

[16] **BLUESMOKE STUDIO/MIAMI-DADE COMM. COLLEGE-S. CAMPUS**; also *REMOTE RECORDING*; 11011 SW 104 St.; Miami, FL 33176; (305) 347-2120. Owner: Harold Harms. Manager: Chris Pogue. Dimensions: Room 1: studio 20x30, control room 12x20. Room 2: studio 15x15. Mixing Consoles: Tascam M-520 20-channel console, Tascam 208 mixer. Audio Recorders: Tascam MS-16 16-track, MCI 110 2-track, Tascam 32 2-track. Cassette Recorders/Duplicators: Tascam 122 MkII. Noise Reduction Equipment: (1) dbx 8-DS. Echo, Reverb & Delay Systems: Yamaha SPX90 II, Alesis Quadraverb II, Alesis MIDVerb II, Alesis MIDVerb III, Acousticcomputer DL-2c, dbx 160, dbx 166, Gatex 4-channel gate expander, Yamaha Q2031 expander, DOD R-83DB dual channel equalizer. Other Outboard Equipment: Aphex Aural Exciter 103c, Fostex 2016 line mixer. Microphones: Neumann U87, (2) Electro-Voice PL77aa, (2) Electro-Voice DS35, (2) Electro-Voice RE11, Electro-Voice RE18, Electro-Voice RE20, Electro-Voice RE55, (2) Electro-Voice 667a, (2) Shure SM81, (2) Shure SM77, (6) Shure SM57, (2) Shure SM55, (2) Shure 300 ribbon microphone, (6) Sennheiser MD-421, (3) Yamaha 105BE, Yamaha 104, (4) Crown PCC-160. Monitor Amplifiers: Yamaha 2075, (2) Crown D150a II, AB Systems 600a, Yamaha P2250. Monitor Speakers: Yamaha NS-10M, Cambridge satellite speaker system, B&W Matrix 1 digital monitors, Electro-Voice Sentry 100a monitors, (2) JEL 4311 monitors. Musical Instruments: Yamaha TX812 FM tone-generator, Yamaha TX802 FM tone generator, Yamaha SPX900 digital multieffects processor, Roland S-330 digital sampler, Roland U-220 sample playback module, Roland D-550 synthesizer module, Alesis HR-16 drum machine, Korg M1 keyboard, VFX-SD keyboard, Ensoniq SQ-80 keyboard,

Yamaha baby grand piano, Fender Rhodes keyboard. Other MIDI Equipment: Macintosh SE computer running Performer, Atar 1040ST computer running Master Tracks Pro. Other: Leslie amplified speaker. Specialization & Credits: The Sound Engineering program at Miami-Dade Community College, South Campus offers a variety of courses in Audio Engineering. It also provides students with many opportunities to gain a "hands-on" experience with audio equipment. Courses in Mixing Techniques, Electronic Engineering, Music Business, MID Technology, Sound Reinforcement and On-Location Recording are a major part of the curriculum. The Sound Engineering Program is strongly supported by the Jaguar Audio Group, an on-campus club, as well as the following staff of student Recording Engineers: Mike Blaty, Billy Clark, Rick Clark, Henry Friedberg, Anthony Larkins, Mark Maack, Caprice Martin, Jose Menendez, Joel Numa, Coque Rose, Greg Schwabe, Ron Sherman, Rita Suarez, Phil Thomas, Flo Villamor, Gus Villoria, Ron Young.

[16] **CHERRY GROVE STUDIO**; also *REMOTE RECORDING*; 404 7th Ave. N.; Myrtle Beach, SC 29577; (803) 626-3415; FAX: (803) 626-6613. Owner: Ron Thompson. Manager: Tim Bode. Engineers: Ron Thompson, Tim Bode, Steve Senr. Dimensions: Studio: 12x24, control room 12x14. Mixing Consoles: Stud omaster Series II 40x8x2 mixing console, Roland M160 in-line mixer 16x2. Audio Recorders: Fostex B-16D 16-track, Pana-ionic DAT 3700, Technics 1500 1/2-track, Sony 501ES digital. Cassette Recorders/Duplicators: Nikko, Tascam 234. Akai. Noise Reduction Equipment: Drawmer stereo DF32C noise reduction system. Synchronization Systems: Fostex 4030, Fostex 4035, Fostex 4011. Echo, Reverb & Delay Systems: (2) Lexicon LXP-1, (2) Lexicon LXP-5, Lexicon 200X, (3) Alesis MIDVerb II, Alesis MIDVerb III, Alesis Quadraverb, Alesis Microverb II, ART Multiverb II, ADA 2.56 digital delay, TC Electronic 2290, Eventide Harmonizer, Korg 330P. Other Outboard Equipment: (5) Alesis Microlimiter, (4) Alesis Microgate, (2) Alesis Microenhancer, Alesis Microcue, BBE 602 enhancer, BBE 401 Sonic Maximizer, BBE Stinger enhancer, (2) dbx 155 limiter, dbx 263 de-esser, (4) UREI LA-3 compressor/limiter, (6) UREI LA-4 compressor/limiter, (2) UREI LA-2 compressor/limiter, Scamp CAD poly-8 limiter/gate 8-channel, Symatrix CLIC limiter, Symatrix 201 preamp mic, Audioarts parametric stereo EQ, (2) Boss CL50 limiter/gate, Boss NS50 noise reduction, J.L. Cooper MIDI patch system MSE+ 8-channel, Casio S-B1 MIDI thru, J.L. Cooper synapse MID patch system. (10) Tascam PB-32 patch bay. Microphones: (2) Etcite condenser, (2) AKG 414BULS, Electro-Voice RE20, Neumann U67, (2) AKG D-1000, (2) AKG D-112, (4) Shure SM57. Monitor Amplifiers: AMP 8000 power amplifier. Monitor Speakers: Fostex 1000, Fostex 800, Auratone. Musical Instruments: Roland S-770 sampler, Kawai K4 synth, Korg S-3 drum machine, Casio CZ-1, Alesis SR-16 drum machine, (2) Gibson Les Paul electric guitar, Gibson Dove acoustic guitar, Atar 104f computer w/Master Track Pro software, 360 Systems MIDI Bass, Korg M1R synth, Fender Strat electric guitar.

[16] **WALLY CLEAVER'S RECORDING**; also *REMOTE RECORDING*; 1518 Princess Anne St.; Fredericksburg, VA 22404; (703) 373-6511. Owner: Peter L. Bonta. Manager: Chris Ippolito. Engineers: Peter Bonta, Lin Arroyo, Pete Fields, Don Holcombe, Dave Hobbits. Dimensions: Studio 20x22, control room 14x12. Mixing Consoles: Sound Workshop Series 30 22x16x2. Audio Recorders: Tascam 85-16B 16-track, Otari 5050 2-track, Scully 280B 2-track, Revox A77 2-track, Panasonic SV-350R D-DAT. Cassette Recorders/Duplicators: (2) Tascam C 3RX. Noise Reduction Equipment: dbx 150 stereo, Tascam D-16B 16-channel. Echo, Reverb & Delay Systems: Lexicon PCM60 digital reverb, Yamaha REV7 digital reverb, Alesis: QuadraVerb, Alesis MIDVerb II, Lexicon PCM41 digital delay, DeltaLab 1024 Effectron delay, DeltaLab DL-1 delay, Master Room stereo reverb, AKG BX-10, Art Mach II. Other Outboard Equipment: (2) UREI 1176 limiter, (2) UREI LA-4 limiter, Symatrix 522 stereo limiter/gate, Valley

People Dyna-Mite stereo limiter/gate, Audio + Design Gemini stereo limiter, dbx 160 limiter, Aphex Type B Aural Exciter, DOD Electronics 15x2 equalizer, Audioarts stereo 4-band parametric EQ, Eventide 910 Harmonizer. Microphones: Neumann U87, Neumann U47 FET, (4) Neumann KM84, (2) AKG C-414, (4) AKG C-451EB, AKG D-12E, (2) EV RE20, (2) Sennheiser MD-441, Sennheiser MD-421, (2) Sennheiser MD-409, RCA 44-A, RCA 77-DX, RCA BK-5B, Shure SM56, Shure SM57, Shure SM54, Goldline 4-channel active DI box, (2) Beyer custom DI. Monitor Amplifiers: Crown DC-300A, Dyna ST-70. Monitor Speakers: (2) UREI 809, Tannoy PBM6.5. Musical Instruments: Yamaha 6' grand piano, Yamaha DX7, Ensoniq Mirage sampler, Alesis HR-16 drum computer, Korg SG-1 sampling grand amp, Fender Super amp, Fender Princeton 1965, Epiphone Triumph amp, Rogers 6-pc. drum set, Fender Precision bass, Martin D-18 guitar, (3) Fender electric guitar, Gibson 335 guitar. Other MIDI Equipment: Alesis MMT-8 sequencer, Commodore 64 computer w/Sonus 64 sequencer, 2,000+ voice DX7 library, 250+ voice Mirage sample library, Akai ME35T audio/MIDI trigger. Rates: \$38.50/hr. Call for block rates.

[16] **EARWORKS AUDIO INC.**; also *REMOTE RECORDING*; 5245 Cleveland St., Ste. 210; Virginia Beach, VA 23462; (804) 490-9322; FAX: (804) 499-6178. Owner: Robert C. Smith. Manager: Robert C. Smith.

[16] **FERNANDEZ CREATIVE SERVICES**; 200 Commerce, Ste. B; Jackson, MS 39201; (601) 353-0266. Owner: Sergio Fernandez. Manager: Luke Warm.

[16] **GARY MUSICK PRODUCTIONS INC.**; also *REMOTE RECORDING*; PO Box 121075; Nashville, TN 37212; (615) 297-5314; FAX: (615) 383-0855. Owner: Gary Musick. Manager: Tom McBryde.

[16] **GOLDREEL STUDIOS**; also *REMOTE RECORDING*; 3611 Centreville Rd.; Chantilly, VA 22021; (703) 803-3799. Owner: Golder O'Neill. Manager: Golder O'Neill.

[16] **MARK HAFFNER MUSIC, INC.**; 1701 Church St., Ste. 102; Nashville, TN 37203; (615) 327-3224. Owner: Mark Haffner. Manager: Carolyn Hafner.

[16] **HOLBROOK MEDIA PRODUCTIONS**; also *REMOTE RECORDING*; 108 Exchange Place, Ste. 1; Lafayette, LA 70503; (318) 234-3768; (318) 234-3769; FAX: (318) 237-6708. Owner: Bob Holbrook. Manager: Bob Holbrook.

[16] **IMAGE RECORDING STUDIO**; also *REMOTE RECORDING*; 211 Salem Rd.; Seneca, SC 29678; (803) 882-2711. Owner: Chevis Crenshaw, Jane Crenshaw. Manager: Mike Crenshaw.

[12] **THE MIDI TWIN RECORDING STUDIO**; also *REMOTE RECORDING*; 4002 Ridge Rd.; Smyrna, GA 30080; (404) 436-5834. Owner: Steve and John Binglevich. Manager: Steve and John Binglevich.

[16] **MILEDGE RECORDING STUDIO**; also *REMOTE RECORDING*; 5281 Lochinvar; Memphis, TN 38116; (901) 346-8818. Owner: Michael Elledge. Manager: Michael Elledge.

[16] **MR. O AUDIO**; also *REMOTE RECORDING*; 2080 Phillips St.; Columbus, GA 31903; (404) 687-6221. Owner: Maurice R. Owens. Manager: Maurice R. Owens.

[16] **MUSCADINE RECORDING STUDIOS**; 3078 Vineville Ave.; Macon, GA 31204; (912) 745-2401. Owner: Paul Hornsby. Manager: Paul Hornsby. Specialization & Credits: Muscadine Recording Studios is owned and operated by Paul Hornsby, producer of gold and platinum albums for groups including Charlie Daniels, Marshall Tucker Band, Wet Willie and others. We offer complete record production, recording masters, demos, and jingles.

[16] **MUSIFEX INC.**; also *REMOTE RECORDING*; 2701-C Wilson Blvd.; Arlington, VA 22201; (703) 525-6476; FAX: (703) 525-0949. Owner: various. Manager: Gwen Meyer.

[16] **NEW HORIZON RECORDING STUDIO**; 1490 Union Cross Rd.; Kemsersville, NC 27284; (919) 996-2633. Owner: Mitch Hensdale, S.H. Hensdale. Manager: Mitch Hensdale.

[16] **PARADISE RECORDING STUDIO**; also *REMOTE RECORDING*; 208 Princess St.; Wilmington, NC 28401; (919) 251-9345. Owner: Jon Guttman, Ron Johnson. Manager: Ron Johnson, Jon Guttman.

[16] **PINE GROVE STUDIO**; 10985 SW 172 Terrace; Miami, FL 33157; (305) 255-1495. Owner: Newton Simmons. Manager: Newton Simmons.

[16] **RCS PRODUCTIONS**; *REMOTE RECORDING only*; 1008 49th Ave. E.; Bradenton, FL 34203; (813) 758-4002. Owner: Risha Ann Gravelin. Manager: Ted Lear.

[16] **REDWOOD RECORDING**; 628 Elaine Drive; Nashville, TN 37211; (615) 331-0533. Owner: Rich Henry. Manager: Rich Henry.

[16] **ROCKINGCHAIR STUDIOS**; also *REMOTE RECORDING*; 165 S. Holmes; Memphis, TN 38111; (901) 458-8564. Owner: Ruth H. Thomson. Manager: Mark Yoshida.

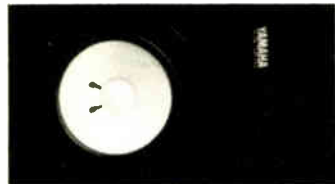
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[16] **RON ROSE PRODUCTIONS INC.**; 3409 W. Lemon St.; Tampa, FL 33609; (813) 873-7700; FAX: (813) 875-8633. Owner: Ron Rose, President. Manager: Judy Irvin.

[16] **SOUNDTRACS RECORDING STUDIO**; 214 1/2 7th Ave., PO Box 8679; South Charleston, WV 25303; (304) 744-5164. Manager: Patrick Arnold.

[12] **SOUND GALLERY**; also *REMOTE RECORDING*; 644 Boulevard Ave.; Athens, GA 30601; (404) 549-3849; FAX: (404) 543-1738. Owner: Scott Stuckey.

[16] **SOUTHEASTERN SOUND STUDIO**; also *REMOTE RECORDING*; 4880 Earle E. Morris Jr. Hwy.; Easley, SC 29642; (803) 269-2540. Owner: Buddy Strong, Paul Waring. Manager: Buddy Strong.

[16] **STARLIGHT STUDIOS**; 2859 W. Hillsboro St.; Lake City, FL 32055; (904) 752-9459; (904) 752-9326. Owner: Donald K. Johns. Manager: William J. Roberts.

[16] **THE STUDIO**; also *REMOTE RECORDING*; 7716 Leak Lane; Chapel Hill, NC 27514; (919) 967-8470. Owner: John Santa. Manager: Mac Monroe. Specialization & Credits: The Studio provides location sound services for film and video and specializes in sound design and scoring in our SMPTE-based facility. We are proud to have received national and regional awards recognizing our participation in Public Television and Corporation for Public Broadcasting projects. Our staff includes synthesizer/computer programmer Allen Burden, chief engineer Ray St. Clair and assistant engineer Jenny Levine, as well as Rich Robinson for (vary) remote field recording [in Philadelphia please call (215) 482-4992]. We also provide location scouting and can assemble crews for film and video projects for out-of-state clients wishing to shoot in beautiful North Carolina. Please call if we can assist you.

[16] **STUDIO 4 - THE WWL-TV AUDIO CENTER**; 1024 N. Rampart St.; New Orleans, LA 70116; (504) 529-6428; FAX: (504) 529-6400. Owner: WWL-TV. Manager: Robert L. Dunn. Engineers: Robert L. Dunn. Dimensions: Studio 20x27, control room 20x20. Mixing Consoles: Sony/MCI JH600 24-channel. Audio Recorders: Otari MX-552-track reel-to-reel w/ SMPTE time code, Sony JH-24 16-track 2" reel-to-reel, Sony/MCI JH-110A 2- or 4-track reel-to-reel, Sony/MCI JH-110A 2-track reel-to-reel, Spotmaster 2100 tape cart recorder/player. Cassette Recorders/Duplicators: Nakamichi MR-1. Noise Reduction Equipment: dbx 904 noise gate, dbx 140 Type II noise reduction unit. Echo, Reverb & Delay Systems: Orban 424A stereo compressor/limiter/de-esser, UREI 1176N peak limiter, (2) UREI LA-4 compressor/limiter, dbx 902 de-esser, (2) dbx 903 compressor/limiter, Aphex Type B stereo Aural Exciter, Orban 662B parametric equalizer, Eventide H910 Harmonizer, Urso Major "Space Station". Microphones: (2) Neumann U87, (3) AKG C-414, (2) Sennheiser 421. Monitor Amplifiers: BGW Model 250B, (3) BGW Model 100, OSC 3350. Monitor Speakers: (2) JBL 4331A, (2) JBL 4311, (2) Auratone 5C Super Sound cube monitor speakers. Musical Instruments: Steinway grand piano. Video Equipment: Sony BVW-800 3/4". Other: Technics SP-10 MkII turntable, Technics SL-P1200X CD player, Hybrid telephone patch, Firstcom CD production music library, Chappell CD production music library, Music House CD production music library, Sound Ideas CD sound effects library, Digifects CD sound effects library, BBC sound effects library, Valentino sound effects library, Elektra sound effects library, CBS sound effects library.

[16] **STUDIO 6/PERSUASIVE MEDIA**; also *REMOTE RECORDING*; 6 South 55th Pl.; Birmingham, AL 35212; (205) 591-0804; FAX: (205) 591-7931. Owner: Persuasive Media. Manager: Frank Pigott.

[16] **SYNERGEN ENTERPRISES—THE GARDEN STUDIOS**; also *REMOTE RECORDING*; Rt. 2, Box 205; Big Meadow, Castle Rock Rd.; Pittsboro, NC 27312; (919) 542-5463. Owner: Synergen Enterprises. Manager: Charles E. Jones.

[16] **TCC PRODUCTIONS**; 6331 Bahama Shores Dr. S.; St. Petersburg, FL 33705; (813) 867-8546; FAX: (813) 867-8330. Owner: Paul Hayes. Manager: Michael Battle.

[16] **TONY ASH RECORDING STUDIO (T.A.R.S.)**; also *REMOTE RECORDING*; PO Box 6104; St. Thomas, U.S. Virgin Islands 00804; (809) 775-5510; FAX: (809) 775-5510. Owner: Arthur S. Newton. Manager: Tony Ash.

[16] **UNDERGROUND SOUND**; PO Box 6871; Athens, GA 30604; (404) 549-3117. Owner: Robbie Collins. Manager: Robbie Collins.

[16] **UNITY GAIN RECORDING STUDIO**; 2976-F Cleveland Ave.; Fort Myers, FL 33901; (813) 332-4246. Owner: Anthony Iannucci. Manager: Patricia Frangello. Engineers: Anthony Iannucci. Dimensions: Room 1: studio 25x17, control room 2x16. Mixing Consoles: Soundtracs PC MIDI Series 24x16x2 48 return. Audio Recorders: Tascam MSR-16 16-track, Tascam 38 8-track, Tascam 32 2-track open reel. Cassette Recorders/Duplicators: (2) Tascam 122-MkII 2-track. Noise Reduction Equipment: (2) dbx Type 1 DX4d, dbx Type 1 DX2D. Synchronization Systems: SMPTE-enhanced direct time lock via MOTU MTP. Echo, Reverb & Delay Systems: Eventide H910 harmonizer, Korg DRV-3000, Lexicon PCM70, Lexicon PCM42, Lexicon LXP-1, Korg A-3. Other Outboard Equipment: Lexicon MFC, B&B EQF-2, (6) B&B Audio CX-1, dbx 166. Microphones: AKG D-12E, AKG C-451EB, (2) AKG C-414B ULS, (2) Neumann KM85i, (5) Sennheiser 421, Electro-Voice PL20. Monitor Amplifiers: Crown Micro-Tech 1200, Crown D-75. Monitor Speakers: UREI Time Align 809-A, Yamaha NS-10. Musical Instruments: Yamaha 5-piece Tour Series kit w/Zildjian cymbals, Roland D-50 linear synth. Other MIDI Equipment: Macintosh Apple SE 20 meg, Mark of the Unicorn Professional Performer, Mark of the Unicorn MIDI Time Piece, Akai S950 Professional sampler, Passport Transport. Other: (3) ADC Bantam patch bay, Yamaha O2Q31-A 31-band graphic EQ, Custom Vocal Booth 7x4x4, (6) AKG 141 headphones, (2) Pro-Co DB-1 direct box.

[16] **UNIVERSITY OF NORTH ALABAMA**; Box 5040; Florence, AL 35632-0001; (205) 760-4361. Owner: James K. Simpson.

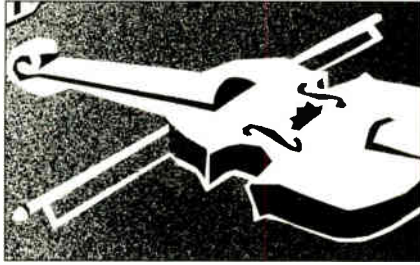
[16] **WHITEWATER RECORDING STUDIOS/CASSETTE DUPLICATION SERVICES**; also *REMOTE RECORDING*; 1152 Sweeten Creek Rd.; Asheville, NC 28803; (704) 274-0956. Owner: Adam Greenberg. Manager: Adam Greenberg. Engineers: Gary Gam, Adam Greenberg. Dimensions: Room 1: studio 25x18. Room 2: 8x6.5 iso booth. Room 3: 4x6 iso booth. Room 4: studio 27x15, control room 17x16. Mixing Consoles: Allen and Heath Saber Series 44-input, TEAC Model 5 8x4. Audio Recorders: Tascam MS-16 1" 16-track w/dbx and AQ-65 autolocator, Otari MX-5050-8SD 8-track 1/2", Fostex Model 20 1/2-track, Panasonic SV-3700 R-DAT, Tascam 32 1/2-track. Cassette Recorders/Duplicators: (30) Onkyo TA-201 duplicator (real-time), Akai 6X-R88, TEAC 124 syncaset, Telex high-speed mono duplicator. Noise Reduction Equipment: dbx 24-channel, Dolby B and C. Synchronization Systems: FSK. Echo, Reverb & Delay Systems: Korg DRV-3000 multieffects processor, Yamaha SPX90II processor, Alesis MIDiverb II, Alesis Microverb, DigiTech RDS 1900 delay, VestaFire 411B delay. Other Outboard Equipment: Neptune graphic EQ, Moog 3-band parametric EQ, BBE 402 sonic maximizer, dbx 160X compressor/limiter, (2) Symetrix 501 compressor/limiter, Symetrix 522 expander/compressor/gate/ducker/limiter, Audio Logic MT-44 quad noise gate. Microphones: (2) Neumann KM84, AKG C-414-BULS, Beyer M88, Beyer M69, (8) Shure SM57, Shure SM58, Sony ECM-55, Electro-Voice 1777 condenser, Audio-Technica ATM63, Sennheiser ME-80 shotgun. Monitor Amplifiers: Hafler, Crown. Monitor Speakers: JBL. Musical Instruments: 1963 Hagstrum Corvette 6-string guitar, Charvel Model 1-A electric guitar, 1965 Gibson S6 electric guitar, Alvarez 6-string acoustic, Ibanez 12-string guitar, Casio C2-1000 synth, Yamaha DX100, Yamaha CS15 mono analog synth, Roland TR-707 drum machine, Ampeg V-4 guitar stack, Peavey backstage amp, Miller upright piano, Tama Swingstar drum kit and various percussion. Other MIDI Equipment: Yamaha QX21 sequencer. Video Equipment: Complete 1/2", S-VHS, and 3/4" video production services available. Other: Musicians' lounge and rehearsal area, complete real-time cassette duplication. Rates: Rates as low as \$30/hr.

[16] **WOODHOUSE RECORDING**; 2900 Brittany Way; Chesapeake, VA 23321; (804) 483-6212. Owner: Larry K. Carr. Manager: Larry K. Carr. Engineers: Larry Carr. Dimensions: Studio 20x20, control room 9x9. Mixing Consoles: Tascam M520, Tascam M35. Audio Recorders: Tascam MS-16 w/remote and autolocator, Tascam 38, Tascam 32. Cassette Recorders/Duplicators: Technics RS-T80R, Tascam 122, Technics RS-T8555. Noise Reduction Equipment: dbx Type I on all open-reel tracks, Rockman Hush IIC. Echo, Reverb & Delay Systems: (2) Ibanez SDR-1000 turbo, (2) Lexicon LXP-1, Yamaha SPX90, Yamaha SPX900, Ibanez DMD-2000 delay. Other Outboard Equipment: (2) Yamaha GC-2020B comp/limiter, Valley GateX, BBE 822 Sonic maximizer. Microphones: AKG, Beyer, Shure, Audio-Technica, Tascam, various D.I. Monitor Amplifiers: AMR 2000, Carver 175, Rane HC6 headphone amp. Monitor Speakers: AMR 312, AMR 308, (4) AKG 141 headphone, (2) Sony MDR-V6 headphone, Auratone 5CS.

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[8] **BRANTLEY SOUND ASSOCIATES INC.**; REMOTE RECORDING only; 204 Third Ave. S.; Nashville, TN 37201; (615) 256-6260; FAX: (615) 255-9369. Owner: Leland P. Brantley. Manager: Bobby Brantley.

[8] **DIRECT BOX STUDIOS & REHEARSAL HALLS**; 1719 Toledano; New Orleans, LA 70115; (504) 895-ECHO. Owner: Corporate ownership. Manager: Kent E. Birke/Harold Ray Brown.

[2] **DUKE RECORDING STUDIOS**; also REMOTE RECORDING; 0044 Bryan Center; Durham, NC 27706; (919) 684-3460; FAX: (919) 684-3200. Manager: Scott Wells. Engineers: Jeff Brown, Frank Konhaus, Jeff Soo. Dimensions: Room 1: (shared) studio 40x24, audio control room 12x16, video control room 16x16. Mixing Consoles: Neotek Series II board 20x16, Soundcraft 200 BVE board, Interface Electronics Series 200 remote board. Audio Recorders: Otari MTR-12 2-track, Otari MX-5050 2-channel, MCI 1" 8-track, Panasonic SV-3700 R-DAT, Panasonic SV-255 R-DAT, Denon DTR-2000 R-DAT, Nagra Series IV-S Cassette Recorders/Duplicators: #5 Nakamichi ZX-7, Nakamichi BX-300, Nakamichi cassette deck Z. (2) Sony TC-WR810. Noise Reduction Equipment: #2 Dolby Type-A model 361. Echo, Reverb & Delay Systems: Orban 674A stereo equalizer, dbx 166 compressor, dbx 900 w/902, 903, 904 and 907 modules, (2) dbx 160 compressor/limiter, Lexicon LXP-5, Lexicon LXP-1, Lexicon MFCV3.0 MIDI remote controller, (2) Neumann U89, (3) Sennheiser 420, (2) AKG C-451, AKG C-414, AKG short shotgun, (4) Shure SM57, Electro-Voice RE20, Crown PCC-160, (2) Beyér ribbon mics. Monitor Amplifiers: NAD 1020B preamp, HH Electronic V800 MOSFET power amp. Monitor Speakers: (2) Dunte-h Black Knight, (2) Sentry Model V studio, (2) JBL 4312A control room. Video Equipment: Echolab DV-5 switcher, Paltex Elan edit controller, Chyron ACG character generator, Sony BVW-65 Betacam player, Sony BVW-70 Betacam recorder, Sony BVW-75 Betacam recorder, Sony VO-9800 3/4" SP recorder, Sony BVP-7 camera (3 chip), Sony BVV-5 dockable Betacam SP recorder, (2) Sony DXC-3000A camera, JVC KM-1200C switcher/rack-mounted w/CCU's, Sony BVM-136 HR monitor, Sony PVM-2030 monitor, Sony PVM-2530 monitor, (4) Sony PVM-1340 monitor, (4) JVC BR-5711U SVHS duplicator decks, (3) Hedco TWS Series audio/video distribution. Other: Sony CDP-970 CD player, Refel RCD-855 CD player, Technics SL-1200 MKZ direct drive turntable.

[8] **FRANKLIN INSTITUTE OF RECORDING SOUND TECHNOLOGY (F.I.R.S.T.)**; also REMOTE RECORDING; PO Box 1121; Franklin, TN 37064; (615) 794-3660. Owner: Danny M. Hilley. Manager: Danny M. Hilley.

[8] **FULL SKY RECORDING STUDIO**; PO Box 261072; Tampa, FL 33685; (813) 886-8147. Owner: Michael Normandean.

[8] **JUST IN PRODUCTIONS**; 301 Floral Dr.; Tampa, FL 33613; (813) 962-6175. Owner: Daniel Smith. Manager: Daniel Smith.

[8] **MARK C. GUTHRIE & ASSOC.**; 417 Lakeview Dr.; Oldsmar, FL 34677; (813) 855-5642. Owner: Mark C. Guthrie. Manager: Joy Katzen. Engineers: Joy Katzen, Mark Guthrie. Dimensions: Room 1: studio 17x24, control room 10x9 5. Mixing Consoles: Audionics 110A. Audio Recorders: MCI 110C-8 8-track 1", MCI 110C-2 2-track 1/2", MCI 1" OC-2 2-track 1/4". Cassette Recorders/Duplicators: Tascam 122 MkII. Echo, Reverb & Delay Systems: Eventide H3000S, Roland GP-8, DigiTech DSP 128, Lexicon PCM70, Alesis MIDVerb III, Aphex Compeller. Other Outboard Equipment: Ganes Audio LM-85. Microphones: (2) AKG 414 ULS, Neumann U87, (2) Sennheiser MD-421. Monitor Amplifiers: Audire. Monitor Speakers: ADS 520. Musical Instruments: Korg DSS-1. Other: (2) PS Audio CD-1A CD players, Macintosh Plus w/40MB hard drive. Rates: \$35.00 an hour. Demo packages available.

[8] **MOOKIEVILLE STUDIOS**; 38 Forest Cove; Hilton Head, SC 29928; (803) 686-6144. Owner: Alan Horenstein. Manager: Alan Horenstein.

[2] **NEW MOON PRODUCTIONS**; also REMOTE RECORDING; 5235-H Fox Hunt Dr.; Greensboro, NC 27407; (919) 292-1642. Owner: Frank A. Bruno. Manager: Frank A. Bruno.

[8] **JOSH NOLAND MUSIC STUDIO**; also REMOTE RECORDING; 760 W. Sample Rd.; Pompano Beach, FL 33064; (305) 943-9865; FAX: (305) 943-9865. Owner: Josh Noland. Manager: Josh Noland.

[8] **OFFBEAT STUDIO**; 965 Old U.S. 1 South; Southern Pines, NC 28387; (919) 281-5822. Owner: Bob Hensley. Manager: Bob Hensley.

[8] **POLYMUSIC STUDIOS INC.**; 2717 19th St. S.; Birmingham, AL 35209; (205) 871-8442. Owner: D. Whiteside, R. Hunter, M. Dulin. Manager: Daniel Whiteside. Engineers: Dan Whiteside, Randy Hunter. Dimensions: Room 1: studio 22x35, control room 21x16. Room 2: studio 10x20, control room 21x12. Mixing Consoles: Tascam M-3700 40x8 automated console, Yamaha DMP8 8x2 digital mixer. Audio Recorders: New England Digital Pro 8-track digital, Ampex ATR-102 1/2 track, Tascam 688 8-track, Panasonic DAT. Cassette Recorders/Duplicators: Tascam 1C3. Echo, Reverb & Delay Systems: Roland SRV-2000, Alesis MIDVerb II, Microverb II, ART 01, Lexicon PCM42, Drawmer DL-241 comp/limit. Other Outboard Equipment: JMK audio mic preamps. Microphones: Neumann, AKG, Sennheiser, Beyer, EV, Shure. Monitor Speakers: JBL 4311, Yamaha NS-10, Visonik 6000. Musical Instruments: New England Digital Synclavier II, (2) Roland D-550 synth, Roland MKS-20 piano mod, E-mu Proteus II, E-mu Proteus II, Roland P-330 piano mod, Roland FD-200 piano, Rhodes 760 keyboard, Alesis SR-16 drum machine, Akai ASQ10 sequencer, Hammond B-3 organ, Gibson Les Paul custom guitar, Ovation 6-string guitar, Steinway 7' concert grand. Other MIDI Equipment: Yamaha KX88 controller, Drum kat drum pads, New England Digital MIDNet MIDI Network, Macintosh Apple CX.

[4] **PROJECT 70 AUDIO SERVICES INC.**; also REMOTE RECORDING; 777 Lambert Dr. NE; Atlanta, GA 30324; (404) 875-7000; FAX: (404) 875-7007. Owner: Jerry L. Connell. Manager: Jessica T. Acams.

[8] **PUBLIC DISPLAY OF AFFECTION PRODUCTIONS**; 3050 Fermanagh Dr.; Tallahassee, FL 32308; (904) 847-6104. Owner: Billy Gabor and Phreddie Thomas. Manager: Billy Gabor and Phreddie Thomas.

[8] **RADIO ACTIVE PRODUCTIONS RECORDING**; also REMOTE RECORDING; PO Box 2523; Marathon Shores, FL 33052; (305) 743-4248. Owner: John Bartus. Manager: John Bartus.

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[8] **R.W. RECORDING STUDIO**; also REMOTE RECORDING; 5385 Five Forks Trickum Rd.; Stone Mtn., GA 30087; (404) 925-1898. Owner: Rick Ware. Manager: Rick Ware.

[8] **SOUND PLUS**; Rte. 4, Box 41; Leesburg, VA 22075; (703) 777-7176. Owner: Phillip W. Goshorn. Manager: Bob Gaskill.

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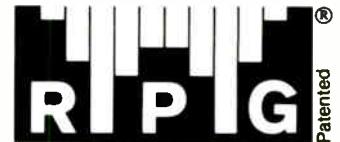
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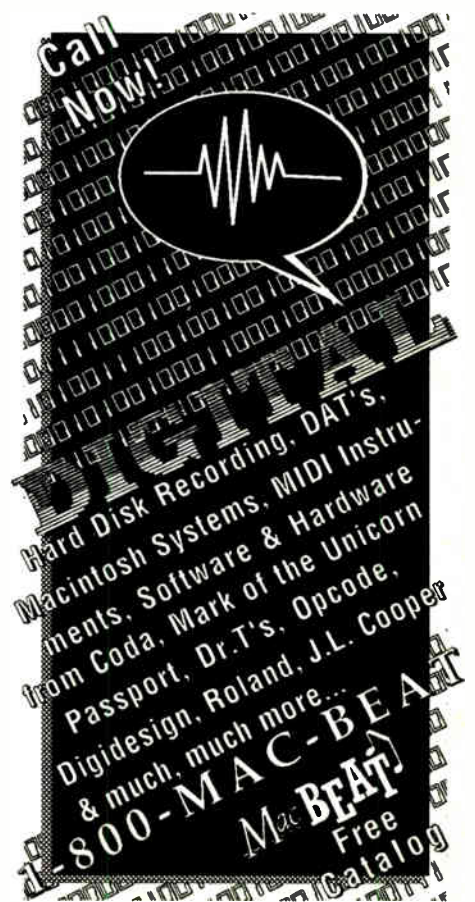
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Reference Monitoring: Some Acoustical Considerations

In any studio, the placement of the monitor speakers is as critical as the acoustical nature of the room. A loudspeaker system that exhibits "perfect" sonic performance in the confines of an anechoic (reflection-free) test chamber will sound completely different in a real-life environment. As a simple test, try making some A/B listening comparisons of two identical speakers, with one placed in a corner at floor level, and the other at chair height, yet at least three feet from any wall surfaces. The differences between the two should be quite apparent: The interaction between the floor speaker and the adjacent wall and floor surfaces will emphasize low-frequency response, while the chair speaker will appear brighter, with markedly less bass.

This elementary example pales in comparison to the complex acoustical realities of what's happening in the listening environment. The listener first perceives the direct sound from the speakers, and then hears those sounds that are reflected off the room's walls, floor, ceiling, furniture, equipment, etc. If the sound being listened to is a single click, there would be no problem. We'd first hear the direct click, followed by the reflections of the room (reverberation). However, the situation becomes infinitely more complex with music listening, as the listener's brain attempts to sort out the differences between the actual

direct sound and the continual barrage of reflections. This uncontrolled splattering of reflected and direct sounds creates two things: a difficult situation for critical listening, and a lot of jobs for highly paid acousticians and studio designers.

Fortunately, the laws of physics help provide a sensible alternative. With all other things being equal, the ratio of direct to reflected sound varies proportionally with the distance of the listener to the source, in this case a speaker. Basically, this means that when you are up close, you mainly hear the direct sound, and as you move farther from the speaker, the amount of reflected sound you hear increases dramatically. When listening to speakers in this near- or close-field (approximately one meter away), the effects of the room acoustics are greatly reduced.

Unfortunately, not all studio monitors are suitable for near-field reference applications. Since listening must be done at close quarters, it is important that the combined image of drivers be coherent at close distances. Therefore, systems designed for such applications have closely spaced drivers or employ a coaxial-type design, where the high-frequency drivers are located on the same axis as the woofers.

While the application of close-field reference speakers is a major factor in reducing the effects of the listening space, it is always important to be aware of how the speaker placement can affect monitor performance, even in the near-field. A proper close-moni-

toring arrangement requires the speakers to be placed with their high-frequency elements at ear level, usually with each monitor aimed slightly inward toward the listener. This creates a "sweet spot," where the listener is precisely on-axis with the monitor, providing the most accurate perception of the sound. The sonic character of many speakers changes dramatically when heard off-axis (a phenomenon known as "off-axis coloration"), and precise placement greatly reduces such anomalies.

The effects of off-axis coloration can be demonstrated by listening to a monitor while facing it, and comparing that to the sound heard when listening to that same speaker after taking a step to either side, or above or below the monitor. Typical symptoms of off-axis coloration are a loss of high-frequency information, or a change in the mid-range characteristics; low-frequency information is largely non-directional in nature—therefore, bass response is generally unaffected by off-axis listening.

It is important that the listener be aware of the width of the sweet spot and try to remain in this area when making level and balancing decisions. Problems sometimes arise when trying to make sonic changes when you're out of the sweet spot—say, adjusting an outboard equalizer in a rack that's located off to one side. —GP

—FROM PAGE 90, REFERENCE MONITORS

erence when working in different studios. JBL/UREI makes the Model 6210, a compact power amp that can easily be mounted on the back of most monitors.

On the monitor's face, removable front grilles are a plus. While the grille "cloth" may be said to be acoustically transparent (and may come close to this ideal), other problems stem from diffraction effects and edge reflections caused when sound from the high- and mid-frequency drivers reflect off the wood or plastic frame that holds the grille cloth.

With computer and video monitors

becoming a regular fixture in studios today, many reference speakers incorporate internal magnetic shielding to cut down or eliminate the picture distortion that occurs whenever a large magnetic structure is placed near a video display. Even though a speaker may be said to have magnetic shielding, the degree of protection offered varies widely. With some models, this means within three to six inches without picture degradation, while others could be placed alongside a video or computer monitor without ill effects.

A final point to consider is mounting accessories. Some manufacturers

offer optional mounting brackets for their speakers, while third-party suppliers (such as OmniMount Systems of North Hollywood, Calif.) provide a wide range of versatile, high-quality mounting systems. If you plan to place your reference monitors on top of your mixing board, first be sure that the board's meter bridge can handle the weight, and second, see that the speakers can be safely balanced. Simple, secure mounts can be fashioned from a few plywood pieces and a little ingenuity. Another alternative is to make floor stands to hold the speakers at a convenient listening height. ■

—FROM PAGE 115, RIAA REPORT

the singles configurations may narrow somewhat in 1991, however, if MCA's cassette single list price of \$3.49, adopted in February, is emulated by its peers.

Prices in general rose some 6.5% in 1990, bringing the average album to \$9.47 and the average single to \$3.08. Most formats rose \$.20 to \$.40, though LPs, in apparent contradiction to the laws of supply and demand, went up almost a dollar. The only configuration to fall in price was the CD, which listed for an average of \$12.05, \$1.11 less than in 1989.

Despite the price reduction, the value of CD shipments shot up \$864 million over 1989. This combination of moderately declining price and vigorous growth in value is familiar from years past. Based on this experience, one might think that a significant cut in CD prices now, with player prices already quite reasonable, would finally encourage a real broadening of the CD market. But the labels, perhaps fearing that a drop in CD prices would force lower cassette prices as well, haven't made any noises about trimming price tags. So it looks as if expansion of player penetration will continue to be gradual for some time to come.

One other note about the RIAA report: For the first time the group has included music video in year-end sales figures (though those numbers were not included in the totals reported above). The music video market, at \$172 million, came to only 2.3% of that for audio-only configurations. But its growth of about 50% over 1989 is impressive, especially at a time when much is being made over the convergence of audio and video technologies in the home. The trend adds support to the possibility that someday, as the fidelity/capacity limitations of digital audio-video carriers are improved, audio-only carriers may lose their standing as the norm for music industry product distribution. ■

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

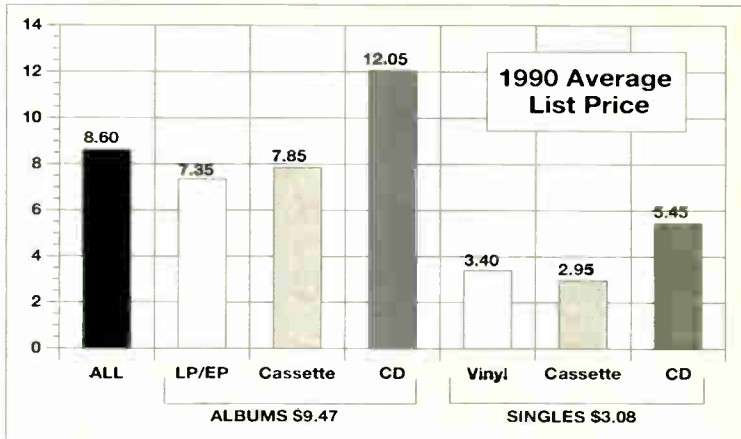


Fig. 5

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10. Equipment Retail/Rental
11. Contractor/Installer
12. Facility Design/Acoustics
13. Educational
14. Institutional/Other (please specify)

2 Please check the ONE category that best describes your job title or position:

15. Management-President, owner, other manager, etc.
16. Technical & Engineering-Engineer, editor, design engineer, etc.
17. Production & Direction-Producer, director, etc.
18. Sales & Administration-Sales representative, account executive, etc.
19. Artist/Performer-Recording artist, musician, composer, and other creative functions
20. Other (please specify)

3 Please check the statement below that best describes your role in the purchasing of audio, video and musical equipment, supplies and/or services:

21. Recommend the purchasing of a product or service
22. Specify makes, models or services to be purchased
23. Make the final decision or give approval for purchase
24. Have no involvement in purchasing decisions

4 What is your company's annual budget for equipment, supplies and services? (check one)

25. Less than \$50,000
26. \$50,000-\$149,999
27. \$150,000-\$249,999
28. \$250,000-\$499,999
29. \$500,000 or more

5 This inquiry is for: (check one)

30. Immediate purchase
31. Files/future purchase

6 Where did you get this copy of Mix?

32. Personal subscription
33. Recording studio/Production facility
34. Audio/Video retailer
35. Newsstand
36. From a friend or associate

7 In which of the following locations does your audio/video production take place? (check all that apply)

37. Commercial (Public) Production Facility
38. Private (Personal) Production Facility
39. Corporate or Institutional Facility

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003 033 063 093 123 153 183 213 243 273
004 034 064 094 124 154 184 214 244 274
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012 042 072 102 132 162 192 222 252 282
013 043 073 103 133 163 193 223 253 283
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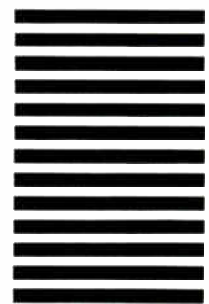
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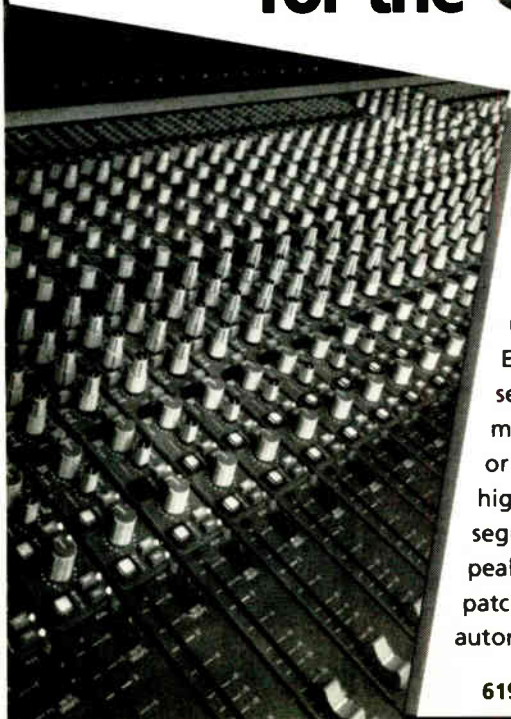
—FROM PAGE 113, TAPE & DISC NEWS

vided a client listening room and expects to add the CEDAR audio restoration system for removal of noises from masters...In London, **Transformation Mastering** opened for CD, lacquer and tape preparation. Equipment includes the Sony DAE-3000 and a DFX 2400 sampling rate converter...**Prosonus** (North Hollywood, CA) has been keeping its NoNoise division busy with hiss, pop and click removal on the *Top 100 Country Gold Hits*, which is being reissued on CD by Metacom...**American Helix** installed a custom color resin system at its Lancaster, PA, plant that allows colored CDs to be made with a variety of special visual effects. The process may be used in conjunction with Helix's five-color Picture Disc printing...**Optical Disc & Memory Engineering** officially opened new premises in Veldhoven, Netherlands. The CD replication-gear maker has also introduced several new products, including a direct-read-after-write CD master cutting

machine, a new electroforming station for mothers and stampers, and new packaging gear for automated disc loading...**Disc Manufacturing Inc.** (Anaheim, CA) introduced an optical disc analyzer for evaluating the quality of manufactured CDs. Controlled by a PC, the machine measures, displays and reports on user-selectable performance parameters. Developed for in-house use, the units are now available for sale starting around \$12,000...Also in the QC field, **CD Associates** of Irvine, CA, developed Quick Test, a 1/6-real-time disc and stamper analyzer. The system uses six CD players and a PC with the company's software to evaluate discs for conformity with Red Book specifications...**Digital House** reports that it handled replication and duplication for a recent album by country artist Debra Dudley. The company also expanded its midtown Manhattan offices...**Ampex Recording Media** introduced a 30-minute DAT (R-30) available in bulk or DATpak configurations. The company is also changing its 45-

minute DAT to a 46-minute length...Lyrec of Skovlunde, Denmark announced five recent international installations of its P-4400 loop-bin master, which runs a 3 3/4 ips master at 80:1. The systems, with varying numbers of slaves added, have gone to Sound 2000 (Israel), Kapco International (India), the Rostov Plant (USSR), ITP Komuna (Bulgaria) and ICC (UK)...**Pro-image Duplication** upgraded its video mastering gear to allow duplication for a variety of master formats. In addition to 1-inch Type-C, the Australian company now handles S-VHS, Three Format U-matic and Betacam SP...**Exact Duplicating** (Tarzana, CA) added 90 JVC BR-7030 three-transport, single-rack-space VHS duplication decks. The expansion brings the company's capacity to 50,000 monthly...A micro-to-standard cassette duplicator is now available from **Telex** of Minneapolis, MN. The 16x-real-time machine, with one micro and one standard well, may be expanded with the addition of existing Telex copy units. ■

Get in Gear for the 90's

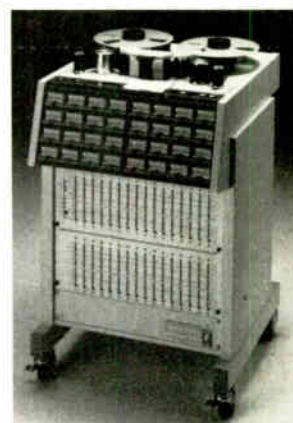


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MIX

FEEDBACK

PD or Not PD

In Bob Clearmountain's article "Mixing Without a Net," in the March issue (page 33), he recommends avoiding PD-format digital recorders for locking to videotape. As he has no direct experience with Otari's DTR-900 Series PD machines, I can understand why he has such a low opinion of "PD" machines' ability to lock to an external video sync reference.

It is not widely known that all of the Mitsubishi digital multitrack transports are, in fact, Otari machines. When we saw the way they had been implemented, we knew there was much room for improvement. We immediately replaced the autolocator CPU and its software to speed up the day-to-day operations, and we were the first to develop a chase synchronizer to plug directly into the DTR-900. At this time we uncovered the external lock issues as you described them, which we measured between eight and 15 minutes. From August of 1986 until June of 1987, the DTR-900 had this same external video lock performance. In June of 1987, however, we issued a simple field modification to all DTR-900 owners that improved the lock time to less than three minutes and added a visual indication of this lock status for user-confidence.

In March of this year, we shipped the first DTR-900 Series II machine, which is a completely new design from Otari. The DTR-900-II will now lock in less than 15 seconds to an external video sync reference, and includes a visual indication of the lock, as before, for user-confidence. John Carey
Otari Corporation
Foster City, CA

Contextual Philander

Ouch. With horror, I read in the March issue of *Mix* ("Toy Matinee:

Producer Patrick Leonard Has a New Playground") the reckless, misinformed comments of a man claiming to be Kevin Gilbert, lead singer for Toy Matinee.

This "charlatan" said a few things that I would like to clear up. First of all, I'm not on a one-man crusade against dynamic microphones!!!! Me and my SM-57s are the closest of friends. Occasionally, they look on with a smidge of jealousy while I embark on a brief vocal liaison with a tube mic, but aside from that the relationship is very solid. I also get along famously with my Panasonic DAT recorder, and rumors abound that I've been seen actually *renting* a Mitsubishi X-850 for certain projects. I do not think digital audio *per se* is a "major step backward." I do think that the analog format is still markedly superior for some applications—like the *Toy Matinee* record.

Ultimately, the decisions on how to record *Toy Matinee* were not mine nor Patrick Leonard's. The producer and engineer for the record was Bill Bottrell, who followed his own instincts and experiences, without any contest from Patrick or I, to record what many consider one of the finest-sounding recordings of 1990! Kevin Gilbert
Los Angeles

A-OK, 10-4, etc.

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