

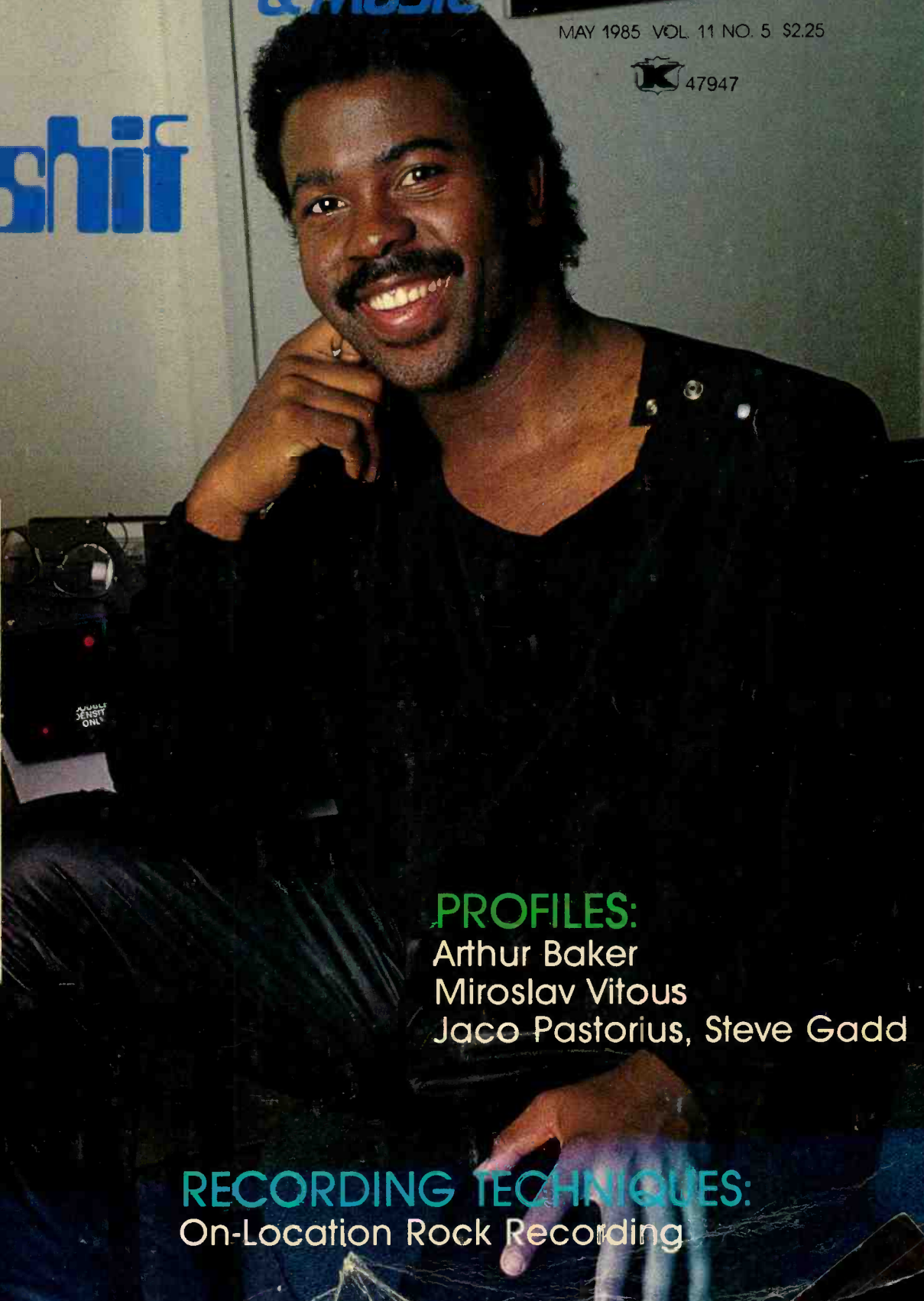
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MODERN RECORDING & MUSIC

MAY 1985 VOL. 11 NO. 5 \$2.25



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PROFILES:
Arthur Baker
Miroslav Vitous
Jaco Pastorius, Steve Gadd

RECORDING TECHNIQUES:
On-Location Rock Recording



Master-quality the Synclavier

Synclavier is the world's most comprehensive digital music system. With its industry-leading new features, it offers the musician sounds of dazzling realism, along with extensive programmable control and wide-ranging facilities for composing, recording, editing, and performing.

Best of all, you don't have to be a technical whiz to use the Synclavier!

Designed for musicians, the system is easy to learn and now includes special features which increase its musicality.

If you're thinking of building or expanding your studio, the Synclavier Digital Music System is a must. The Synclavier has been proven time and time again by top name artists and studios to be a tremendously creative and cost savings piece of equipment. In the best tradition of New England Digital, the following new Synclavier options prove once again why the Synclavier continues to lead in technological development.

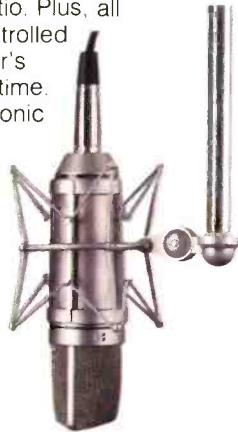
Polyphonic Sampling

(16-Bit/100 kHz)

Concert grand piano, rich string sections sizzling brass and the ultimate drum timbres are just a few of the unbelievable possibilities with the Synclavier's new Polyphonic Sampling Option.



Believe us, these timbres don't sound like you've got cotton in your ears. The full dynamic range rings true. This capability is provided by offering full 16-bit resolution with a user-variable sampling frequency up to 100 kHz. Expandable from 8 to 32 fully polyphonic voices. In addition you can order up to 32 — that's right — 32 megabytes of sound sampling memory (in 1 megabyte boards)! All voices are stereo and offer 96 dB S/N ratio. Plus, all voices can be controlled from the Synclavier's front panel in real time. A library of polyphonic sampled timbres featuring grand piano, strings, brass, and percussion is provided.



Sounds hot! Believe us, and your ears, it is!

Multi-Channel Independent Outputs

Once you have that finished recording in your Synclavier, you can now very easily link the Synclavier recorder to any multi-track recorder using the new independent output option.

The Multi-Channel Output Option allows you to route each track of the Synclavier's 32-track Digital Memory Recorder to a selectable individual output channel. Each output channel can be equalized or processed to produce a 32-track master, as well as a standard stereo composite.

This option may be expanded from 8 to 32 individual outputs as your Synclavier or recording capabilities expand. The option works with the regular FM synthesizer voices as well as the new polyphonic sampling voices.

76-Note Velocity/Pressure Keyboard

Designed for musicians, the Synclavier 76 note programmable velocity/pressure keyboard provides quick and easy access to all the different features of the system, such as: a 32-track Digital

New England Digital Authorized Distributors Atlanta Songbird Studios 404/351-5955 Boston Syntone Inc. 617/267-4137 Dallas Lightning Music & Sound Inc. 214/387-1198 Israel Synt



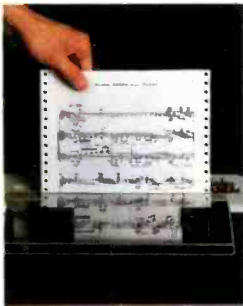
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recordings from Synclavier® studio.

Memory Recorder (which functions similarly to a multi-track tape recorder), plus independent programmable velocity and pressure, over 500 sounds instantly available, programmable split keyboard, pitch and modulation wheels, breath and ribbon controller, 192 different patching capabilities, plus much more!

Automated Music Printing

The first of its kind and still the leader has advanced another step with the refinement of additional software features. Com-



plete scores, individual parts, piano scores and lead sheets are easily reproduced with incredible results.

An editor is included which allows you to perform typing in of lyrics, changes to the actual music, or adding of commands which will produce correctly transcribed triplets, quintuplets, and other irregular rhythmic groupings.

SMPTE

Pop your video monitor on top of your keyboard, lock up your Synclavier and video machine using the new SMPTE reader option and — presto! — compose the score with master-quality sounds and your music product is finished.

The SMPTE option allows you to position the master tape to any point. When the tape starts, the Synclavier will chase to the correct position. This avoids having to start the Synclavier and tape back to zero for each take.

The Option consists of the Reader/Interface Board, and special software. The reader unit handles 24 FPS (Film), 25 FPS (European), 30 FPS (Video), and Drop Frame Mode (Color).

MIDI

Of course we're doing MIDI. MIDI will be available in June as a simple retrofit to any Synclavier system.

Improved "User-Friendly" Software

In order to facilitate the operation of the system, New England Digital's software

engineers have been busy restructuring the software interface to be very user-friendly. In addition, the system will feature a rhythm input page software routine for quick and precise entering of rhythm parts. Plus, an easy-to-follow set of menus which guide the user through any part of the system quickly.

Instructional Video Cassettes

If you're interested in relaxing at home and learning the basics of the Synclavier system, you can now purchase three video cassettes which guide the viewer through its basic features and operations. Send your check for \$175.00 per set (not sold separately) plus postage and handling. Complete printed documentation is also available for \$200 per set.

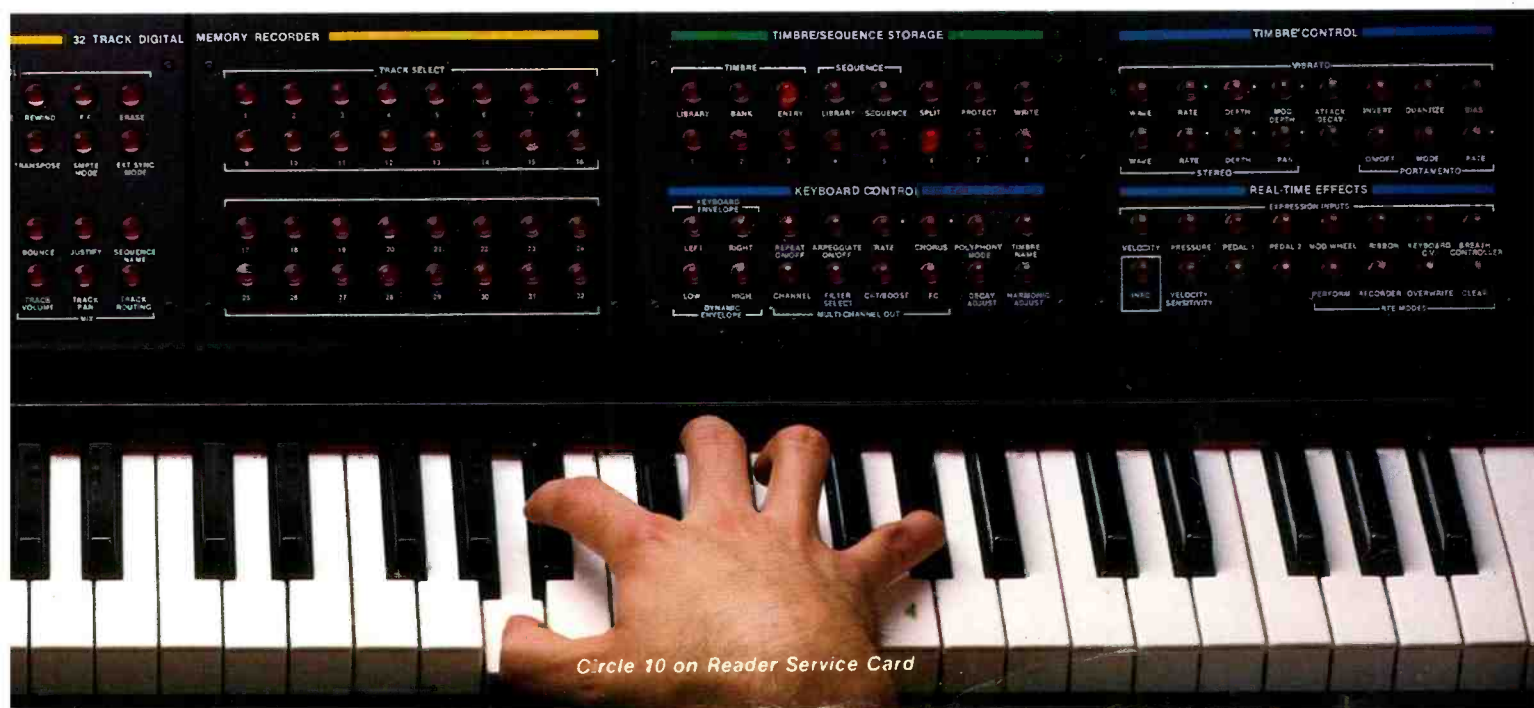


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MODERN RECORDING & MUSIC

MAY 1985
VOL. 11 NO. 5

FEATURES

10 RECORDING TECHNIQUES

by Bruce Bartlett

Would you like a few tips on on-location rock recording? Wouldn't we all! Well, this month Bruce is kind enough to fill us all in on a few small details. Read on for a true story about his own experiences with live sound and get the *real* scoop...

19 PROFILE: MIROSLAV VITOUS: CONTRASTING MUSICAL IMAGES

by Jimmy Guterman

Miroslav Vitous is *one* confident man. And he has every right to be!! Vitous is both a jazz *and* classical bassist and would never slight one in favor of the other. Instead, he respects and recognizes the differences in both approaches. Come along and learn a bit about these two contrasting musical images.

28 KASHIF: FUTURISTIC PRODUCER

by Susan Borey

One wouldn't be lying if they called Kashif an old pro now, only two years after he was named "Newcomer of the Year." In the past two years, he has come away with a Grammy nomination for his first solo album, *Kashif*, and has produced and written hits for such artists as Evelyn King, Melba Moore, and George Benson. He has also done extensive work with the Synclavier II, using it on his second album, *Send Me Your Love*. Now he is in the process of turning his new home into a state-of-the-art 24-track studio called the New Music Group Studio. Always looking towards the future, Kashif talks with us about the computerized aids that are fast becoming the wave of the future in music making.

36 DIRECTORY: COMPRESSOR LIMITERS

44 ARTHUR BAKER: THE SHAKE DOWN ON HIS SOUND

by Bob Grossweiner

Although primarily known as a remixer for 12-inch dance records, Arthur Baker is also an accomplished songwriter and producer. In addition, he is the president of his own dance oriented record company, Streetwise



PHOTO CREDITS

Cover and spread photos (p 28) copyright 1984
Jonathan Sa'adah/Intermedia

The group featured on the cover of our March 1984 issue
was Jack Mack and The Heart Attack

Records, plus the owner of a relatively new recording studio in NY city called Shake Down Sound. Be our guest for a visit during which Baker discusses remixing, writing and producing.

IN SESSION WITH JACO PASTORIUS 52 AND STEVE GADD

by Cheech Iero

How would you like to get a behind the scenes view on a two day video shoot featuring Jaco Pastorius and Steve Gadd? We *knew* you'd want to!! So flip to page 52 and get an in-depth look at these two famous musicians.

ELLIOT EASTON CHANGES GEARS 57

by Susan Borey

Elliot Easton has taken the wheel for his first solo project since he began his eight year trip with the Cars. Here Elliot gives his perspectives on the recording process, his career, and his first solo project.

SOUND IDEAS

SOUND ADVICE

17

by Susan Borey and Mark Oppat

This month our pair of sound advisors go in for another round with New York based engineer, Danny Kapilian. Tune in for all you need to know on successful mixing for amateur shows.

STUDIO NOTEBOOK

24

by Jim Rupert

Jim is back with everything you ever wanted to know about financial planning and management. Have no fears!! He leaves you in the dark on no area of this topic...

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Dear Bruce

Your response to Dave Weatherwax prompted me to write.

I am manager, singer, and musician in a gospel group. Although we play mostly in churches, schools, and auditoriums, we face the same sound requirements and problems as the club performers, especially in view of the fact that most churches were designed with groups and sound reinforcement at the lowest priority if even considered at all.

Naturally we have our share of feedback problems to contend with but we have, thanks to *Modern Recording*, been able to deal with it. Your reference to a device that would detect feedback reminded me of a device which was reviewed in the March 1982 issue of *Modern Recording*, which we purchased as a result of the review. This device is not exactly what you described in your response to Dave but it certainly has been a great asset to our sound as attested by our audiences as well as other groups.

The device is the SE 9 EQ/ANYL by SANSUI but what makes this device special is the fact that it "listens" to its own pink noise generator which it feeds through the system (we use one channel for the monitor system and the other channel for the house system) and *automatically* sets the equalizer to compensate for feedback frequencies. That's right! The sliders move by themselves to obtain a flat response in the room.

Aside from the functional capabilities of the unit, it has several niceties which I either enjoy in sound reinforcement or in my recording set-up. Among these are the tape 1 and tape 2 stereo outputs and inputs for recording which utilize the analyzed curve, or may be bypassed. In addition to the curve presently on the EQ settings there are four programmed settings which the company call menus. These are described in the literature as being most desirable for: 1. Rock 2. Disco 3. Cassette 4. Classical. Other switches allow for tape 1-2 dubbing, tape 2-1 dubbing, source dubbing, tape 1 monitor, tape 2 monitor, and source monitoring.

I would go on but this is beginning to sound like a review itself. Needless to say we are pleased with the unit. It is not a cure-all but it sure helps.

Incidentally, I have been a subscriber of *Modern Recording* since the very first issue. I have every copy and even two copies of some issues. It's the greatest magazine in the world for us sound nuts. Through the knowledge gained from this and other sources I've been able to, with God's help, put together my own 8 track studio as well as help to make my group the best in our area.

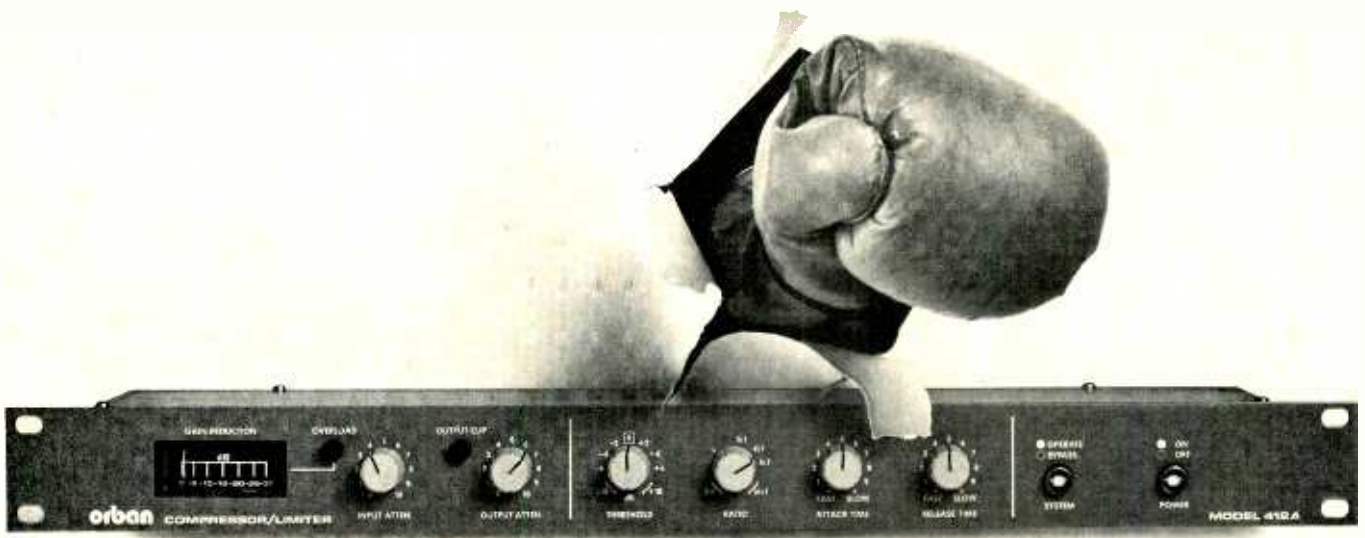
Let me take this opportunity to thank James Rupert for the contest. I enjoyed it very much, and also learned from it. Also thanks for the honorable mention on my ideas in the contest.

And to Dave Miller, your article was just what I needed to bridge a gap in my road to recording Utopia.

Well, that's all from me this time; maybe I'll send an article later, James, after I cross a few more bridges.

—Fred Burgess
Broadway, NC

Thanks for all of those lavish compliments Fred. We're thrilled that you have been so loyal to us from the start. We also passed your kind words on to Bruce, Jim and Dave. Good luck with your career and studio and keep on reading!!



It delivers the punch without the bruise.

When you want to increase sonic punch, compressor/limiters are indispensable. Orban's 412A (Mono)/414A (Dual-Channel/Stereo) Compressor/Limiter is uniquely versatile—it can serve as a gentle “soft-knee” compressor to smooth out level variations, or as a tight peak limiter to protect other equipment from overload distortion.

Most importantly, the 412A always delivers its punch with finesse. Instead of the usual pumping and squashing, what you get is amazingly natural sound: the dynamic “feel” of the program material is preserved even when substantial gain reduction occurs. Like a true champion, the 412A works hard but makes it look easy.

In the studio, use the 412A's INPUT ATTENUATOR control to adjust the amount of gain reduction without significantly changing the output level. Or, in sound reinforcement, adjust G/R with the THRESHOLD control to avoid feedback-producing below-threshold gain changes. The feature-packed 412A also has front-panel ATTACK and RELEASE controls, and an OUTPUT ATTENUATOR.

Instead of a handful of low-resolution flashing lights, it has an easily readable, illuminated gain reduction *meter*. Inside, intelligent circuitry automatically readjusts the threshold as you vary other controls to keep the peak output level constant—you don't have to keep fiddling with the OUTPUT ATTENUATOR to avoid overloading downstream equipment.

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Two Questions For TEAC

I have two questions to ask and I'm hoping you can help!

1) How can I modify a TEAC A-3440 to run 30 ips? After looking into my machine's circuit I noticed it has a speed control board which has trim pots, one for 15 ips and 7½ ips. Can I modify this circuit to get 30 ips?

2) I have a TEAC 3 Mixer Effector ADM 256 modified to 1024 and a hot springs reverb. I have to run the two into the submixer for RCV and use two channels on the mixer for sends.

I have to use the pan on the submix to control the amount of effect I want to use. Is there a better way of doing this? Also, I have a TEAC 2 A mixer. Can this be used so I can have better control?

—Ed Auzins
Napoleon, Ohio

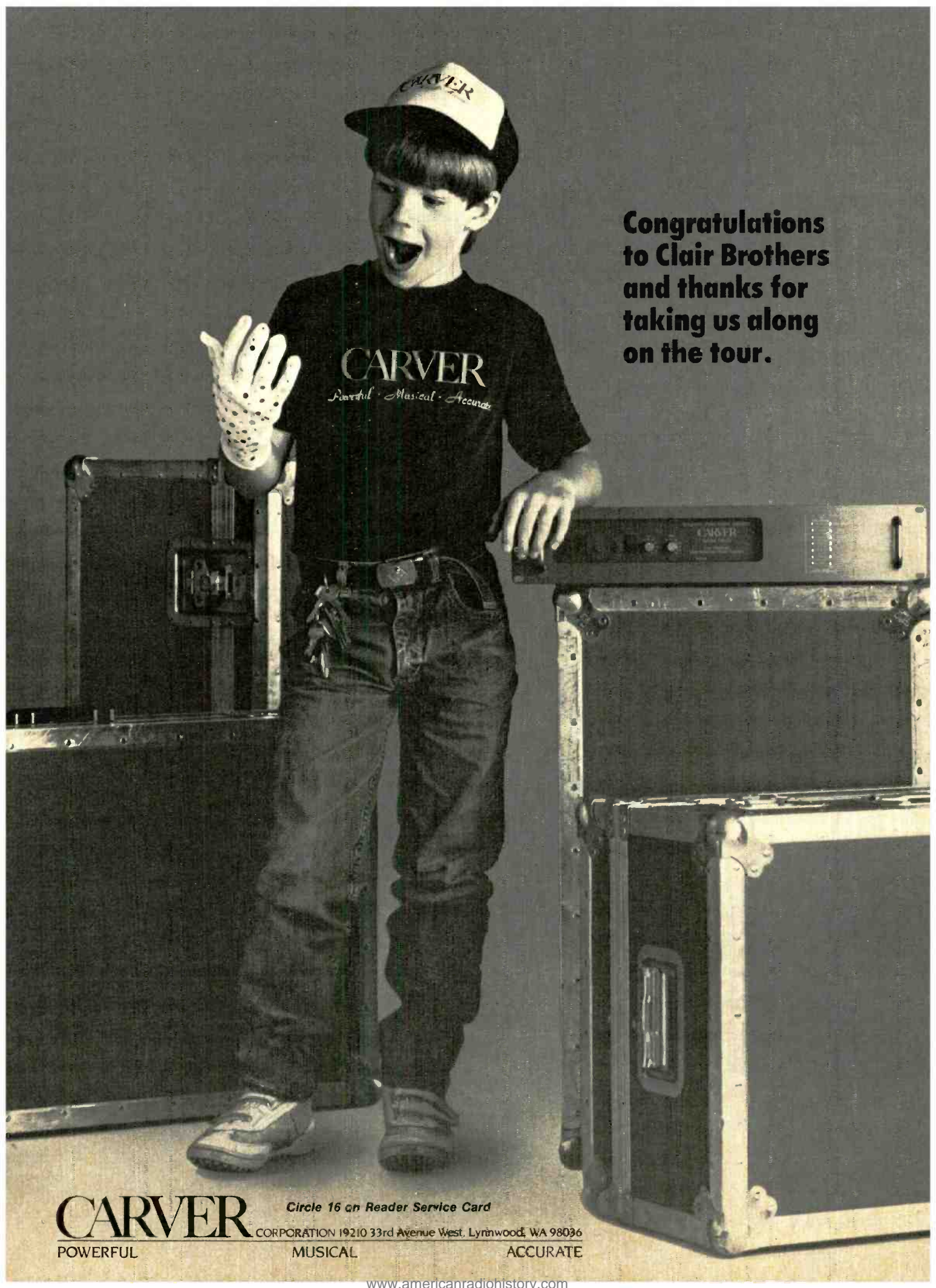
Mr. Merlyn Morgan, Assistant National Service Manager for TEAC, supplied us with the following reply:

In response to your letter of February 14 regarding TEAC/TASCAM equipment, we offer the following.

1. It may be possible to modify a TEAC A 3440 to operate at 30 ips by changing the values in the speed control board as your reader indicates. The reproduce and record amplifiers would also have to be modified to conform with equalization requirements for this speed.

The A 3440's design and components are such as to maximize performance at the specified speeds. Any alteration of such a configuration may result in adversely affecting the performance as well as the durability and should be done, if at all, by a knowledgeable engineer.

2. The TEAC 2 A mixer is an ideal



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choice for an effects mixer because of the four buss feature. Also, it allows panning and equalization of the processed signals. Therefore, one possible connection would be to connect the cue out (if pre-fader send is desired) or direct out (if post fader send is desired) from six of the input channels of the Model 3 to the six line inputs on the Model 2 A. This will probably give you enough sends because it is unlikely that all eight channels will be sent to the delay and/or reverb (for example, bass guitar or bass drum usually are not

processed with either of these effects). The line out on the Model 2 A from whichever buss you choose, for example 1 and 2 would be connected to the inputs of the effects devices, then the output of the effects devices connected to the inputs on any two of the submix inputs on the individual input modules, *NOT* the Sub Mix In Left and Right. This patch provides panning of each processed signal within the stereo spectrum which is essential in building up the stereo image. Also, the equalization on the 2 A can fine tune the processed sound.

Note also that the Sub Mix Out would connect to the busses being used for basic recording (or tracking) with effects, or for mixdown.

Dear Craig

Recently while reading a review written by you regarding Synchronous Technologies "SMPL" system, you made mention of the fact that in an earlier issue you described how to build a punch in/out footswitch for a Teac A-3340S. Unfortunately I missed this issue although I've often entertained the thought of what a useful feature this would be (and have been kind of jealous of the fact that the newer machines incorporated this idea).

Would you please be so kind as to forward a copy of this article to me at your earliest convenience? I would also appreciate any other articles you may have written pertaining to this machine either in the way of user convenience or other interesting ideas.

Also, you wouldn't happen to know of any way of possibly incorporating a pitch control into this unit would you? Either an internal or external device that achieved the same results would suffice.

Thanks so much for your time and courtesy. I've been enjoying your ideas in articles and books now for quite a few years but every now and then one or two slip by without me noticing. Thanks again. Keep up the good work.

—Bob Stack
JHD Productions Ltd.
Deer Park, NY

We received the following reply from Craig Anderton:

Bob—the article you describe was carried in the July 1980 issue of *MR&M*. Contact the magazine for pricing and availability of back issues, or visit a library that carries *MR&M*. Please note that this footswitch is only guaranteed to work in conjunction with the A-3340S.

As far as adding a pitch control, I do not believe this is possible due to the motor design. However, this is an assumption so if you want the definitive answer, contact TASCAM and ask whether any kind of variable speed retrofit is available for the A-3340S.

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Recording Techniques

On-Location Rock Recording: A True Story

We pulled up to the Headquarters Disco and walked in, toting mic stands, speakers, a mixing console, and bags full of cable. Our assignment was to make a live recording of a prominent local band, Dash Riprock. As the night progressed, we learned from our mistakes, wound up with a great recording, and had a good time, too.

A week earlier, Steve Mills (a microphone technician from Crown Inter.) and I planned to mix the

recording live to 2-track since the recording wasn't critical: the band just wanted to hear how they sounded, and we wanted to try out some new microphones.

The instrumentation included four vocals, bass, drums, timbales, and three electric guitars.

Pre-production

We planned our microphone assignments and snake-connector assignments in advance:

1-4. **Vocals:** Cardioid dynamic microphones with foam windscreens, split to feed the P.A. snake and the recording snake.

5. **Bass:** Direct (a high-Z to low-Z transformer and a Y-cord).

6. **Kick drum:** A miniature omni condenser mic, hung two inches from the center of the beater head.

7. **Drum set:** A mini omni condenser clipped to the snare-drum rim, positioned in the middle of the set.

8. **Timbales:** A cardioid dynamic taped to the P.A. microphone, in between the two drums.

9. **Lead guitar left:** A mini omni condenser taped to the grille cloth at the center of one of the speaker cones.

10. **Lead guitar right:** Same as 9.

11. **Rhythm guitar:** Same as 9.

Next we gathered and checked out all the necessary equipment:

Microphones;
Direct box;
Mic cables;
Mic splitters;
Snake (Twelve 100-foot mic cables lashed together with cable ties);
Phantom power supply (The mixer didn't have built-in phantom powering);
Mixer (Yamaha 1602, 16 in, 2 out);
Tape recorder (Revox A77);
Tape (Maxell 35-90B);
Reverb unit (Biamp MR/140);
Headphones (Koss Pro-4AA);
Monitor system (EPI-100 loudspeakers, Crown PL-2 amplifier);
Equipment cables;
Outlet strip; and Duct tape, masking tape, pen, flashlight, repair kit.

Set-up

The gig was scheduled to start at 10 PM, with customers arriving around 9. We arrived at the club

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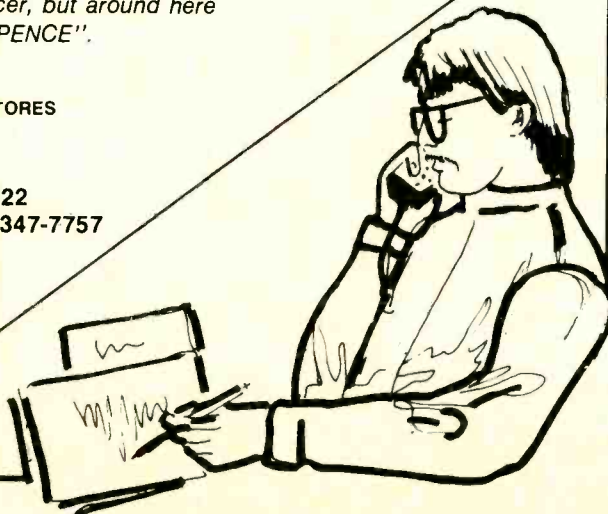
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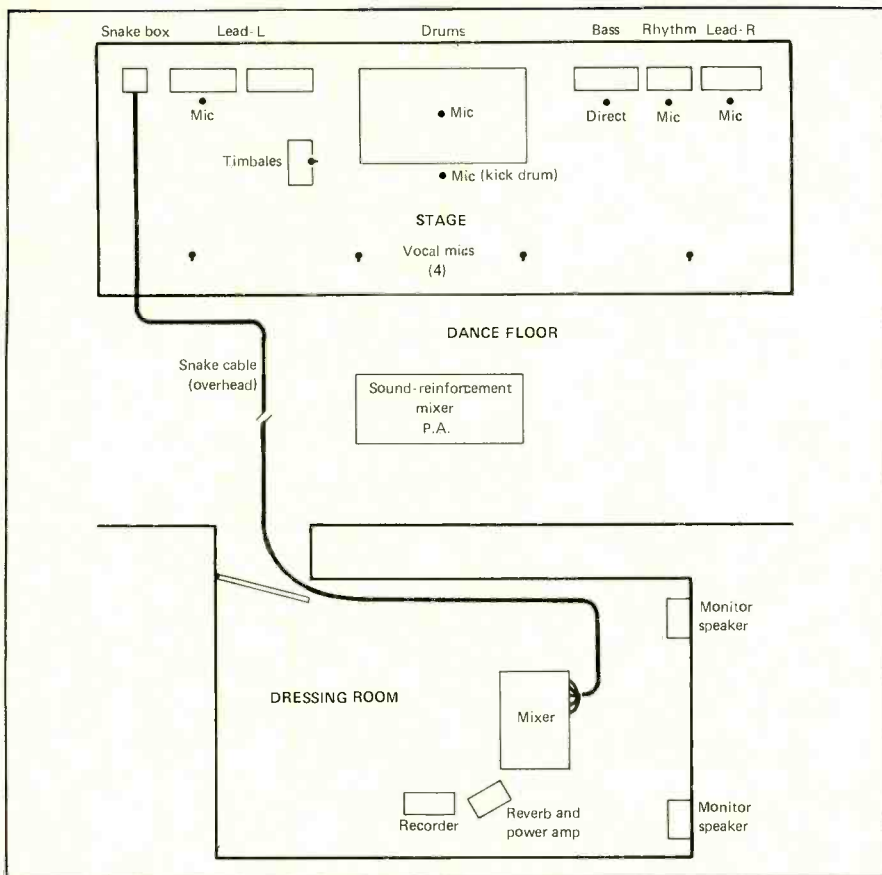


Figure 1. Equipment layout.

with our equipment at 7 PM, which gave us plenty of time to set up and debug any problems.

First we placed our snake box on stage next to the P.A. snake box. We hung our snake cable overhead on nails. After hanging the cable, of course, we noticed that the stage-lighting cables ran along the same track. The snake cable was re-routed away from the lighting cables to reduce buzz pickup.

The recording mixer was placed on a table in a dressing room opposite the stage. We set up the monitor speakers, reverb unit, and recorder; and connected all the cables. Thus a "control room" was formed. The equipment layout is shown in *Figure 1*.

To avoid using double vocal microphones for recording and sound reinforcement, we split or divided the signal from the vocal mics to feed both the P.A. mixer and the recording mixer. The splitting system was a simple Y-adaptor (*Figure 2*) that paralalled pins 1, 2 and 3 of the female XLR with the corresponding pins of the two male XLRs. Four Y-cords were used: one for each vocal microphone.

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With the help of the band's sound-mixer, Dan, we found and unplugged the vocal-microphone inputs on the P.A. snake. Next we plugged the cable connector from each vocal mic into a Y-adaptor. Finally we plugged one output of the Y-adaptor into the P.A. snake, and plugged the other output of the Y-adaptor into the recording snake.

Such a connection can create ground loops and hum. The recording mixer and P.A. mixer may be at different ground potentials. Connecting their chassis together may cause a hum-frequency current to flow between the two consoles. This problem was prevented by powering both mixers from the same AC power outlet. Specifically, we found the outlet the P.A. mixer was plugged into, and ran a heavy extension cord from that outlet back to the recording mixer.

In the control room we plugged an outlet strip into the extension cord, and plugged in all the recording equipment. Special "12 dB pad" cables were used between the console and recorder (Figure 3). These cables reduced the +4 dBm level from the console to the -10 dBV level required by the recorder.

We turned up the faders and—no hum! We breathed a sigh of relief. The band's sound-mixer verified that he also had clean audio.

Next the microphones were placed as noted before, and were plugged into the recording snake. We carried a list indicating which mic was to be connected to which numbered input.

Back in the control room, we turned up each microphone fader to listen for room noise. Amazingly, all the mic channels worked! It pays to check all equipment ahead of time—especially cables.

The right lead guitar input had a buzz, which turned out to be the guitar amp itself. We also heard some buzzing from one of the vocal microphones. The mic was positioned near a house P.A. speaker, which was playing a static-ridden FM broadcast. It helps to check whether buzzes are generated acoustically, rather than electronically.

Finally we connected the bass direct box. When the ground-lift switch was lifted, we heard yet another buzz from the recording monitors. A flip of the ground-lift switch, and the audio was clean.

The mixing console was zeroed: all input attenuation out, EQ flat, echo sends off, echo return about 1/2 up, and

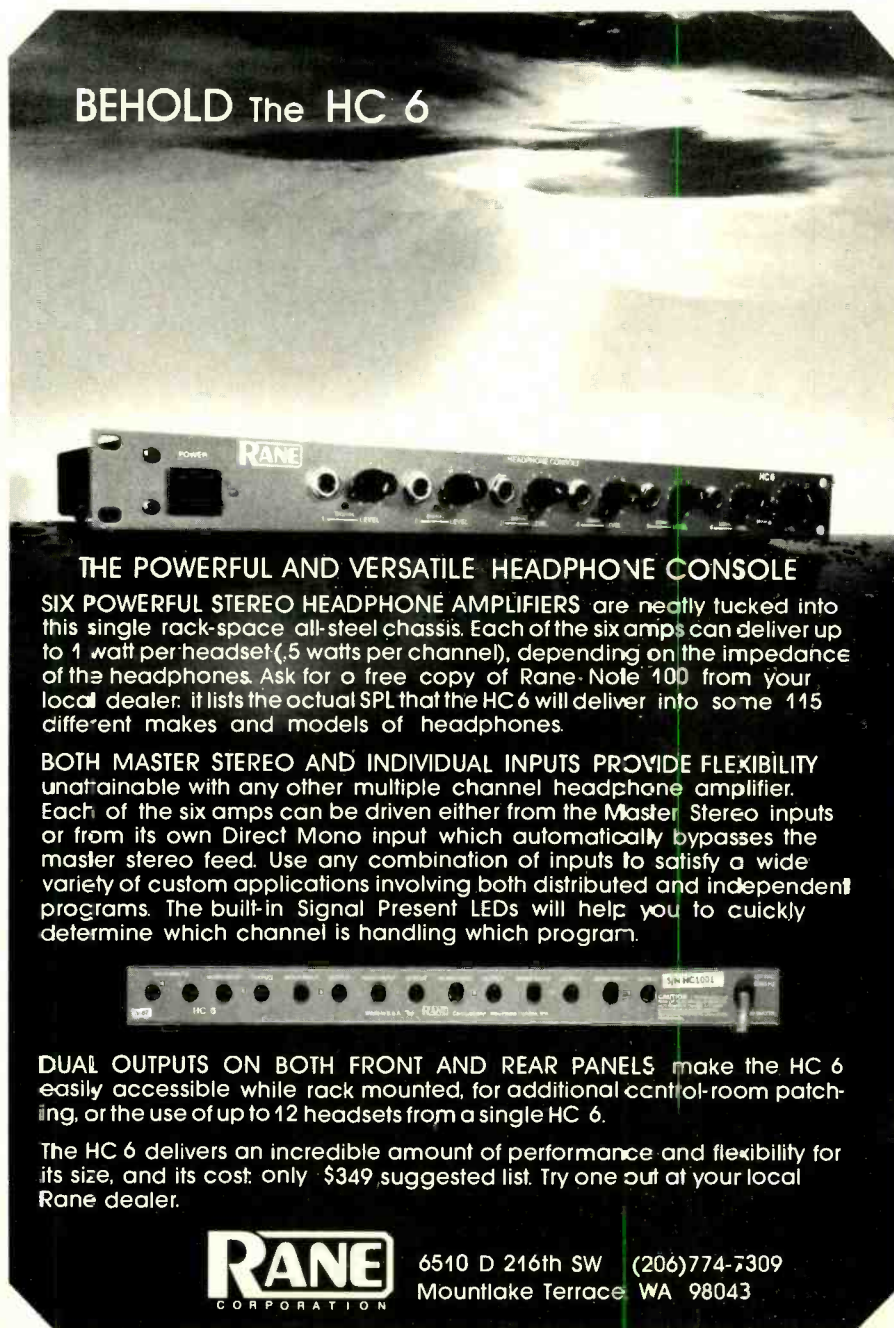
master faders about 3/4 up. The record-level controls were set so that a "0 VU" tone on the console meters read "0 VU" on the recorder meters.

At 9 PM, just two hours after we started, we were all set up, checked out, and ready to record. The band's lighting technician provided us with a song list. For each song, he helpfully noted who was going to sing the lead vocal and who was going to play the guitar solos, so we could mix accordingly.

The Recording

As soon as the first song started, I checked the mixer's input-overload LEDs. On those channels with flashing LEDs, I reduced the gain (increased the input attenuation) until the lights went out.

Next I quickly listened to each microphone alone to check the sound and set a rough EQ. I didn't spend much time with EQ at this stage, because the EQ that sounds right for individual instruments seldom sounds



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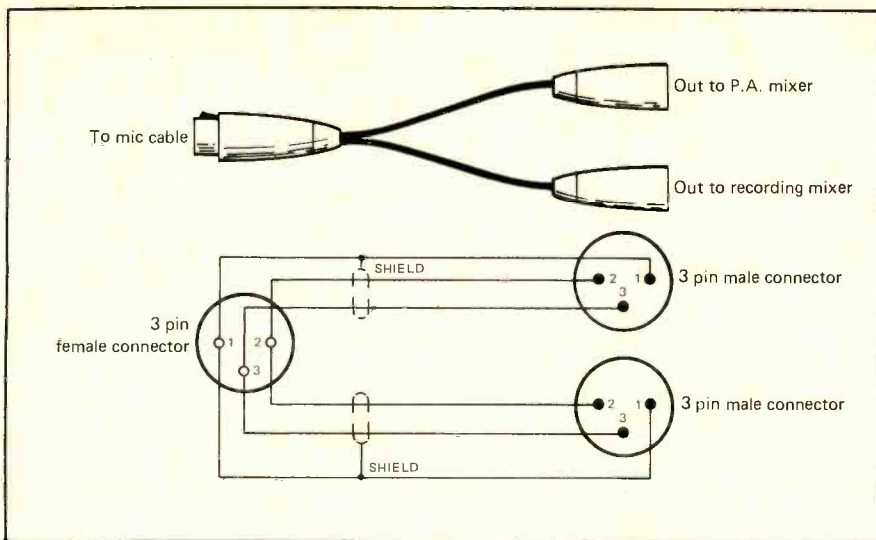


Figure 2. A Y-adaptor for splitting microphone signals.

right when all the instruments are mixed together.

Starting with the bass guitar peaking around -5 VU, I added kick drum, then drums, all panned to center. Next I brought in the guitars, balanced in level and panned far left and right. Last I brought up the four vocal mics equally, and set the overall recording level to peak at +3 VU maximum.

The EQ was tweaked up. The vocal

mics required a bass rolloff to compensate for *proximity effect*: the bass boost of close-placed single-D cardioid microphones. I boosted the upper midrange of the bass guitar about 5 dB for definition. The guitars needed some high-end rolloff to reduce guitar amp buzz, and to prevent them from masking the vocals. This rolloff also reduced cymbal leakage. Drums required just a little boost on the high and low ends.

All the vocals and instruments received some artificial reverberation, except the kick drum and bass guitar (reverb muddies these instruments).

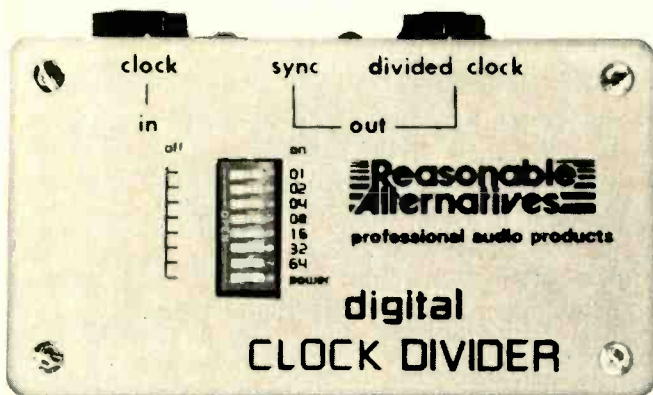
I began to mix. Live mixing is intense. It's akin to playing a video arcade game, or piloting an airplane. Your attention scans the inputs, briefly listening to each instrument in turn, and to the mix as a whole.

The general procedure is this: If you hear something you don't like, fix it. Are the vocals too tubby? Roll off the bass. Is the kick drum too quiet? Turn it up. Is the lead-guitar solo too dead? Turn up its echo send. All these adjustments must be done subtly so that the listener won't notice the changes.

When everything is in place, you can leave the mix alone—for a while anyway. Ideally the mix sounds like a record, or like a live band.

On the second song, we started to roll tape. A quick check of the playback (while the tape was in motion) verified that we were getting signal on tape.

I mixed using headphones, then took them off and turned up the monitor speakers. The mix and tonal balance were much the same on headphones and speakers, so we did the rest of the mix over the speakers. Luckily, the control room was acoustically isolated from the dance floor, so we could hear what we were mixing.



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Problems

Everything was going great except that the vocals occasionally blared out or got lost in the mix. The reason: vocal dynamic range is greater than instrumental dynamic range. Also, stage vocalists can't be expected to keep a constant distance from their microphones. We wished we had a compressor for the vocals—an indispensable item.

Otherwise, all was going well until the sixth song, when we lost the left lead guitar. We heard a weak, distant guitar sound on the left-guitar input. Steve made haste to the stage, where he discovered that the lead-guitar player had switched to a different amp that we hadn't mic'ed! There's always something! Just goes to show that we needed to find out these things in advance. You can't assume a single guitar player uses a single amp.

Back in the control room, I kept increasing the gain on the left guitar input until the mix was adequate. Actually the guitar amp was being

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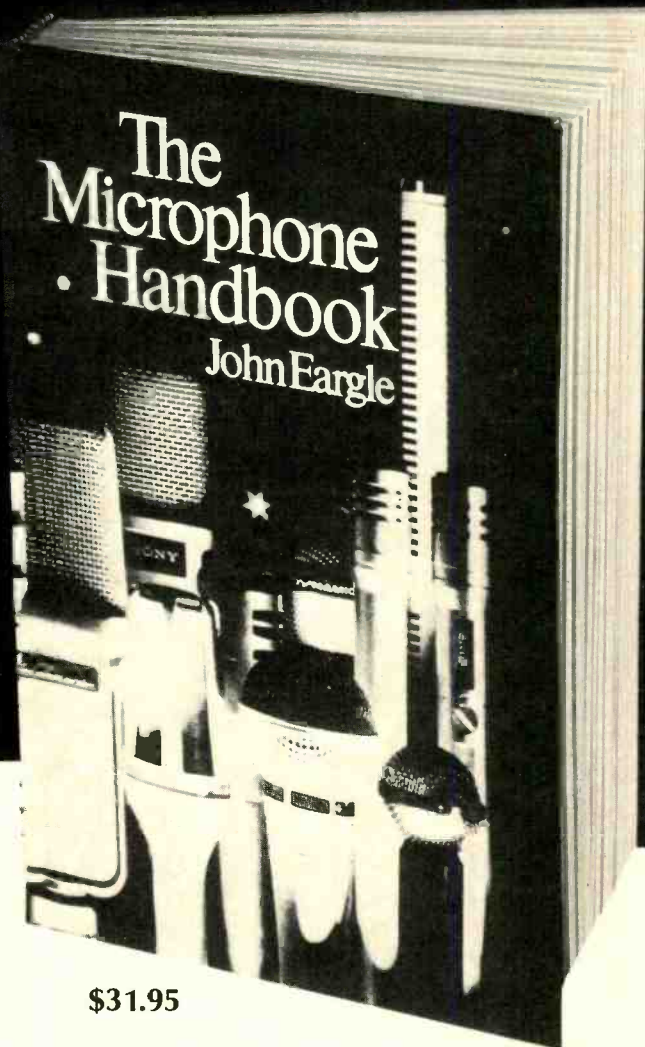
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JOHN EARGLE, noted author, lecturer and audio expert, is vice-president, market planning for James B. Lansing Sound. He has also served as chief engineer with Mercury Records, and is a member of SMPTE, IEEE and AES, for which he served as president in 1974-75. Listed in *Engineers of Distinction*, he has over 30 published articles and record reviews to his credit, and is the author of another important book, *Sound Recording*.



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Sound Advice

Mixing For Amateur Shows: How To Wing It Without Crashing

This month we spoke again with Danny Kapilian, a New York-based audio engineer, concert producer and tour manager. One of Danny's recent gigs has been as the house soundman for the historic Apollo Theater, where he served as audio engineer for the weekly Amateur Nights which have been a tradition for over forty years.

Each week Danny had to work with many acts he had never heard or seen before in a fast-paced format fraught with unpredictability. It's the kind of situation that, if one's nerves can take it, will strengthen a soundperson's skills and sharpen his or her ability to make correct decisions under maximum pressure.

Modern Recording & Music: What was the format of the weekly talent night show?

Danny Kapilian: It was designed to be an evening of 25 acts, each performing one song. People would audition, and those selected from a large group would return the night before the show to work out their act on the stage. I did not have to be present for those warm up sessions.

There was a soundcheck for the house band, which plays back-up for almost all the performers. There were usually no more than two or three other bands performing, and everyone else used pre-recorded tapes.

MR&M: How did you cover all the possible needs for inputs to the board with so little time between acts to change things around?

DK: We had a 32 by 8 board, a

Yamaha PM2000, and we had a system down which pretty much took care of everything. There was someone running the stage, setting up mics, and cueing the performers.

We had arrangements for the

house band. Starting with the drums, we'd mic kick, snare, rack, and floor toms. Usually I like to put a lot more mics on drums, but there was a limited amount of inputs.

Since we were consolidating inputs



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it was much more critical to use the right mics. We made fairly heavy use of PZM's—for drums in particular. We could use one over a pair of rack toms and one over a pair of floor toms and sometimes, instead of a Shure SM57, we'd use a PZM to cover a snare and a high hat.

We'd have one input each for guitar and bass which ran direct. We had a pair of PZM's in the piano and another pair, usually Sennheiser 421's, on the Leslie for the Hammond organ.

We'd have another basic set-up for any other configuration of musicians we'd have to deal with. Six mics for a drumkit in the guest band—mic'ing kick, snare, high hat, rack toms, floor toms and, for the overhead, we had these lifesaving custom built PZM plexiglass dishes. The contact of a PZM was glued into the base of a 6-in. deep, 12-in. diameter plexiglass dish that screwed into a mic stand. They'd also work wonderfully over a choir, a horn section, or a percussion section. Those mics were very sensitive in the low and especially the high end, and they tended to squeal. They were very mid to high mid-range sensitive.

Then we would have another direct box for the guest bass player, mics for two guitar amps, and we'd usually set aside three inputs for keyboards and miscellaneous instruments. We'd have six vocal mics, with five across the front, and the sixth on an electronic siren that sounded when an act was booed off the stage. I then used two inputs for digital delay and reverb and two inputs for the cassette decks. That's 32 inputs.

MR&M: Did you know the order of the acts before each show?

DK: I would be provided with a list on the night of the show which had the names of the performers and what they'd be doing. I would set basic levels for the house band and occasionally soundcheck the guest bands. Ideally I'd receive the necessary back-up tapes in the order I'd have to play them, cued up to the exact spot where the song started. Everything and everyone was supposed to be ready to go in the order on the list, but that's hardly ever how it went. It caused a lot of comical, yet problematic situations. Sometimes I had to take care of too many things to make sure that, for example, a tape was properly cued at the right moment. All too often, I wouldn't even be handed a tape until the artist walked out on stage. The audience

would begin to boo and I'd be on the headset mic shouting "Where is this person's #\$\$&! tape?" The MC would come out and say "Hey, Mr. Soundman, let's get that tape going!" Usually some friend of the performer had the tape in his pocket and he'd run from backstage to the board and then, of course, it wouldn't be cued. Finally we'd get it together, but before I'd have time to recover from this, the song would be over and I had to have the next tape cued, or set levels, or something.

MR&M: Was there ever a problem with the quality of the cassettes?

DK: Yes. My ideal would be for people to have a dub of the original studio master minus the vocal track. Most of the tapes, however, were made by taping from the radio or a record with an inexpensive recorder. The quality would often be just terrible and I'd have to do what I could by pumping up the bass, smoothing out the mids and clarifying the highs.

MR&M: People would sing over a backing tape that already had a lead vocal?

DK: Sometimes. I would then try to bury the vocal track as much as I could by messing with the equalization. If it was a soprano voice, for example, I'd cut back on the treble of the cassette send to the PA and then I'd bring up the singer's mic. When that happened, the audience would feel the music of the cassette more than hear it.

MR&M: What other problems arose from working with non-professionals?

DK: A lot of them had not learned proper mic techniques. They'd hold the mic a foot or two away from their mouths, or they'd sing very softly, or both. People would shout "Turn up the mic!". What could I do but turn it up until I knew it would feed back, but usually it still wouldn't be loud enough.

MR&M: Would you advocate giving spot training to amateurs?

DK: Absolutely. As a matter of fact, I would do it as much as I could. I'd get on the headset to backstage and remind them to open their mouths when they sing, sing loud, and hold the microphone close to their mouths.

MR&M: Did other problems arise from having so many vocalists?

DK: We'd usually run five vocal mics across the front of the stage and every night there was a running

battle to keep the mics in the right order across the stage. We'd try to label the mics but they'd constantly get put back in the wrong spot. The pace of the show was such that my assistant backstage didn't have a chance to fix the order, and it would really throw me off because there was a lot of ambient sound onstage. I had to re-EQ the lead vocal mics for each singer, but first I'd have to figure out which mic was which.

MR&M: Do you have basic guidelines for EQ-ing voices?

DK: It varies so much, but with a low male voice, for example, I tend to keep the low and low mid flat, maybe boosting the high mid and high. The opposite would basically hold true for a high-pitched female voice. But there were many instances where I'd have to do just the opposite.

MR&M: How did your equipment suit the situation?

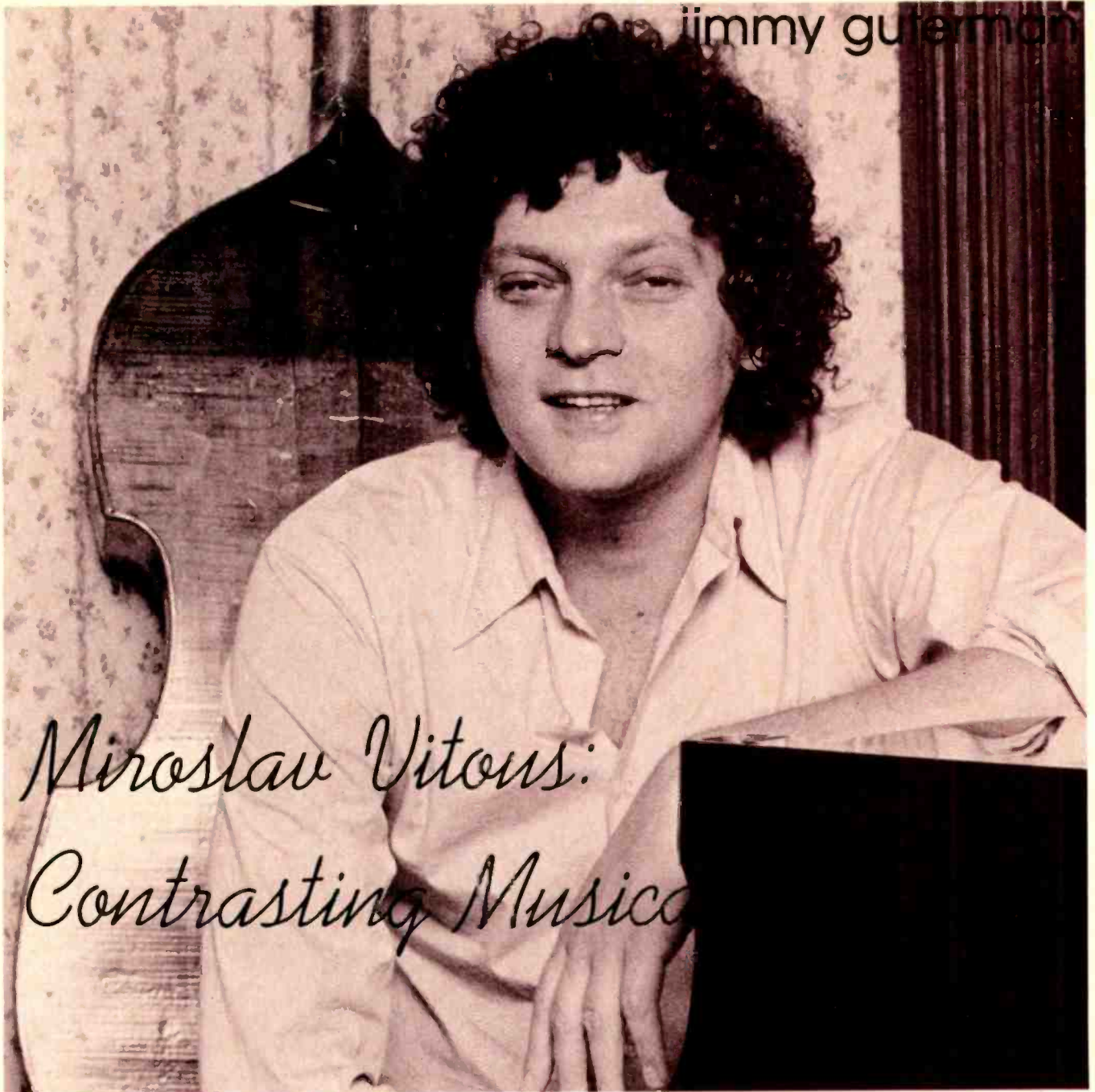
DK: Overall, the performance of the Yamaha PM2000 was excellent, but its EQ was not as flexible as I would have liked. The high and low end on the board are 2-position shelving and the low-mid and high-mid were sweepable. I could have used the sweepable in the low and high ends as well. I could have used a graphic EQ patched between the inputs of the snake of the vocal inputs and the board, but that would have been pretty nuts with five vocalists.

MR&M: When a group walks out onstage and you've never seen or heard them, what are your priorities as far as approaching the mix cold?

DK: I pump up the rhythm nice and loud and get the vocals way out front. Volume and clarity are essential for vocals. More often than not, a song will start with an instrumental pickup, even if it's just one bar, so I've usually got at least that moment at the beginning to get an instant level on the rhythm section. Then I concentrate on the melody instruments, making them blend in naturally. I try to use this as a formula for mixing in general.

I have to say that, for all the fouls, mishaps and mis-cues, it was the greatest education I could have as an audio engineer. Show after show presented endless challenges. It was two and a half hours of winging it in a whirlwind of split second decisions.

Please send your questions, ideas and experiences in the realm of audio engineering to us at Sound Advice, c/o MR&M, 1120 Old Country Road, Plainview, NY 11803.



Miroslav Vitous: Contrasting Musician

It's an unnerving juxtaposition. A dozen floors below this small office, the traffic on Fifth Avenue blares so loud it's surprising no one has to raise his or her voice to be heard. In the next room, a publicist's phone rings at thirty-second intervals, jarring all on the other side of an open door. It's an out-of-towner's caricature of a typical Friday afternoon in a press agent's office in midtown Manhattan. Through all this, Miroslav Vitous, jazz and classical bassist extraordinaire, is discussing the foundations of his beautiful, soothing music. In such surroundings, he has little need to justify it. Lounging comfortably on a sofa in a dimly lit room, Vitous appears oblivious to all the commotion about him. His every word and action are those of a confident man unconcerned with outside bothers.

Vitous has travelled a long distance, physically and otherwise, to reach this point. Born in Czechoslovakia in 1947, Vitous was irrevocably committed to music at an early age. "My father got me started on violin when I was six years old," Vitous remembers. "Since then I loved it. I didn't need any convincing. I was destined to be a musician in this life."

Although Vitous was initially interested in the violin, he soon branched out and added piano and bass to his portfolio by the age of thirteen. As with many young musicians developing in an Eastern Bloc nation, Vitous' initial training was in the classical area. However, Radio Free Europe insured that he would also hear a different kind of music. Willie Conover on *Voice of America* broadcasts all facets of jazz, from Louis Armstrong's wild Dixieland to Duke Ellington's sophisticated stylings. By his fifteenth birthday, Vitous was handling bass both in a Dixieland group and in a trio featuring Vitous, his brother Alan on drums, and Jan Hammer, another Czech who would one day go West and become a pivotal fusion figure on piano.

At the same time, Vitous was enrolled in the Prague Conservatory. While there, he studied under Frantisek Posta, whose name Vitous invokes with near-reverence. "That instruction made you a master," Vitous recalls.

It also drilled a feeling of the unity of disparate forms of music in Vitous. Though proficient in both the jazz and classical fields, Vitous refuses to slight one in favor of the other but recognizes the differences in the two approaches.

"Classical musicians look for the notes. They read every note. In a jazz recording, you read changes or play a standard tune or melody. It leaves a lot of room open for improvisation. In a jazz recording, you have some room to express yourself. In a classical recording, you only have to express what is written. There's a great difference between recording jazz and classical."

"When recording classic music, you have to capture the spirit of when it was written. You have to figure out how it was felt when it was written. Such a task is extremely difficult for classical musicians who have never had any experience expressing themselves. How can you express someone else's feelings if you have not expressed your own? It can take up to ten years for a classical musician to play a concerto."

"This does not happen with a jazz performer. It's a different quality, a different kind of knowledge, a different kind of education. I happen to be in the middle of whatever controversies there are between the jazz and classical musician, because I'm in both. Classical musicians feel quite

frustrated because jazz musicians are able to express themselves. Jazz musicians, on the other hand, feel very frustrated because the classical musicians can read the sheet music out of a concerto. This is something the typical jazz musician cannot do."

"I can tell you all that because I can do both. I can see the different angles. But it's all music. Which drawer would you like to put me into? Jazz, classical, rock?" When he mentions rock, a disdainful look erases his smile. "Well, certainly not rock. But it's all music. Don't separate."

Armed with extensive training in both jazz and classical discipline, Vitous defected to the United States and in 1966 entered the Berklee College of Music in Boston—first prize in an international contest he entered in Vienna. Dissatisfied with Berklee, Vitous traveled to New York City. There the story quickens.

A mere listing of Vitous' accomplishments in the following two years provides an impressive resume. Chick Corea, Miles Davis (for about a week), Herbie Mann, and Stan Getz all presented Vitous' talents. In 1970, Vitous worked with David again. It was an equally lengthy collaboration; Vitous soon received his walking papers. It was a fortuitous firing, because it allowed Vitous to hook up with Wayne Shorter. Together they formed Weather Report, perhaps fusion's most popular group. Vitous spent three years with Weather Report, until the inevitable 'artistic differences' sent Vitous on his own.

Vitous' recent work, both with such artists as Roy Haynes and Chick Corea and leading his own band, have been extremely well-received. Such critical praise often makes an artist edgy and apprehensive. Vitous claims he has escaped the can-you-top-this syndrome.

"I don't feel that much pressure. I haven't made an album of my own in over two years. I'm not going to do one until the summer, when I know I'll be ready. I don't have that much pressure because I'm on ECM. I don't have a contract which says that every seven months I have to come up with an album. That kind of contract can be a tremendous burden. When I'm ready to do something, then I'll do it."

"But there is a certain standard that I force myself to maintain. That's pressure."

Vitous' major commitment at this time is his position as faculty head at the jazz department of the New

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"Classical musicians look for the notes. They read every note. In a jazz recording, you read changes or play a standard tune or melody. It leaves a lot of room for improvisation. In a jazz recording, you have some room to express yourself."

England Conservatory of Music, but he is still recording.

"My next album will be a bass solo album. Nothing but my bass. Most likely, all the songs will be my compositions."

"It will be played on the acoustic bass, not the electric bass. An acoustic bass is a big, beautiful piece of wood. It has beautiful vibrations and overtones, and I can *feel* the instrument while I'm playing it. I can feel it in my gut. I can feel it right next to my

body. It's really gorgeous. If I don't play the acoustic bass for say, three weeks, my stomach starts to get sick. Then I go to the bass and everything is fine. I've played so long that I'm almost physically dependent on it."

Although the recording is months away and the material is only beginning to take shape, Vitous is already set on where and how he'll do it. I'll be recording the next album in Stuttgart at ECM studios. It'll be digitally recorded. I'm quite excited

about that, because it will be the first time I record digital."

The microphone setup is simple, but complete. "Two set microphones, one microphone above the fingerboard, a Derek pick-up from the bass, and two Lexicon digital delays. A mix of all of those will give me the sound that I want."

Vitous is ostensibly only planning for the solo LP sessions, but he is clearly a man who is not happy unless he is overextended. In addition to his academic responsibilities, he also wants to record a classical bass solo album. "I have a tremendous education in classical music which has not yet been exposed. I'm thirty-seven years old and I have played jazz many, many years. For the second half of my life, I'm going to go more toward the classical side to fulfill my other obligation."

As the interviewer prepares his exit, a radio from the street blares through the window. Vitous springs to action. "Before you go, I have a message for your readers. Don't listen to the crap. Listen to the music."

"What is the crap?"

"Turn on the radio."



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Studio Notebook

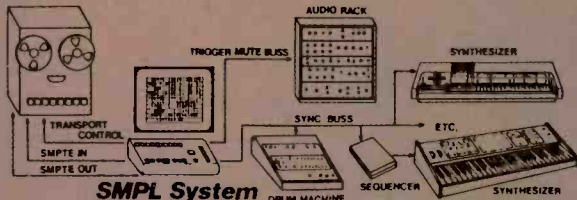
A Lesson In Management, Part I

Last issue I made a statement to the effect that a studio owner should only be dealing with an accountant when he or she is too busy making money to adequately keep track of it. It has since struck me that there may be yet another very good reason for the new studio owner to shun the services of a professional numbers-jockey, and it also involves money. (Or the lack of it.) A novice studio generally is

having enough trouble getting off the launching pad without adding the oftentimes heavyweight cost of an accountant or bookkeeper to its payload. When you're trying to squeeze out the rent, the next equipment payment, last month's light bill and enough scratch to put in an order for reels and boxes, imagine the joy of having to pony up more bucks to get your books done for the last quarter. Ah, sad it may be, but true

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it is, begorra, that it's the pushin' of the pencil you'll have to be learnin'. (Excuse me, I'm still hung over from St. Patrick's day.)

Poor financial management has been the last nail (and maybe the biggest) in the coffin of many a budding business venture. Many an independent recording studio in this country is hanging on by its fingernails only because the owner/manager is willing to work for little or nothing to keep it afloat. No business should have to be operated forever under this circumstance.

Sound financial management is absolutely vital for any business to survive. Basic record keeping with efficient access to needed information is a cornerstone to any financial management program. If you cannot lay your hands on the numbers of how much business you are doing, what kind of profit you are making and how much it is costing you to keep your doors open, prepare to tearfully place a lilly on the burial shroud that now hangs looming over your studio operation. Just because you cannot afford a bookkeeper does not mean that the books do not have to be kept... and that spells Y-O-U.

Every day that you serve your customers, the information that needs to be preserved is: cash sales, charge sales, equipment expenses, supplies used, miscellaneous purchase expenses, accounts payable, accounts receivable, payroll, deductions, local sales tax figures (when applicable) and bank deposits are but a few of the figures that have to be compiled.

There are several basic categories that a professional accountant might use in setting up a bookkeeping system that fits your studio's needs. Can amateur pencil pushers like us use them, you say? You bet! Once you know what the categories mean, keeping records on them starts to make a bit more sense. Let's start with...

Cash Receipts—(Bless them!) A record of the cash the business receives.

Cash Disbursements—A record of your company's expenditures [expenses].

Sales—Used to summarize and record monthly income, cash and charge.

Purchases—Purchases of merchandise bought for processing or resale. (Tape, boxes, reels, cassette shells, etc.)

Payroll—Wages and deductions of employees. (Income tax, Social Security, etc.)

Equipment—Your studio's capital assets. (Equipment, office furniture and motor vehicles.)

Inventory—An actual physical count of a company's assets, including supplies necessary to produce a product. This figure is used to arrive at a dollar value of inventory remaining on a certain date. This dollar value is needed to figure quarterly and yearly profits for financial statements, (try dealing with a bank without one!), and for income tax purposes. (Clear as mud, huh? More details on this later.)

Accounts Receivable—Used to record the balances which customers owe your company.

Accounts Payable—Used to record what your company owes its creditors and suppliers.

Raw data and cold figures on the categories listed above will probably not provide you with much insight into how your studio business is really doing. The U.S. Small Business Administration suggests that such data is like a roll of exposed photographic film. It must be developed before you can begin to get the picture.

Each individual number by itself might not mean too much. It is how these figures relate to each other that is the key.

Let's see if we can develop our own 'picture' with a P & L (Profit and Loss) statement from a hypothetical audio studio. A P & L statement is designed to show exactly what its name implies, the profit and/or loss of a business within a certain time period. This is a sample for our mythical recording operation...

Profit and Loss Statement for Gimmebucks Recording Studio—1984

Gross Sales		\$35,000.00
Cost of Sales;		
Opening Inventory	\$6,500.00	
Purchases	\$12,500.00	
Total	\$19,000.00	
Ending Inventory	\$7,000.00	
Total Cost of Sales		\$12,000.00
Gross Profit		\$23,000.00
Operating Expenses;		
Payroll (Not including owner)		
Rent	\$13,000.00	
Payroll Taxes	\$3,000.00	
Interest	\$750.00	
Depreciation	\$300.00	
Equip. Maint.	\$700.00	
Telephone	\$1,250.00	
Insurance	\$1,200.00	
Miscellaneous	\$500.00	
Total	\$500.00	\$21,200.00
NET PROFIT		
(Before Owner's Salary)		\$1,800.00

So how'd you like to be in the shoes of the guy who owns this joint? No thanks. Me neither. Anybody who puts in a year of work, builds a business to thirty five grand worth of gross sales and manages to walk away with only \$1800.00 is my nominee for the coat with the endless sleeves. Eighteen hundred skins for a year's labors is simply not worth the time and effort that the owner/manager put into the business.

Several things stick out when the P & L statement is examined closely. What? You don't see them? Why, they're as plain as the nose on my face. (And that's saying something!) Are you telling me that you really can't see some of the problem areas in this business that could be corrected to substantially increase profits and reduce costs?

Then you better tune in next time when we explore how you can apply even the simplest bookkeeping techniques to your studio operation and maybe even turn a tidier profit along the way. Keeping proper records is not just something you do to please Uncle Sam. A little effort and a few extra minutes a day can give you valuable data that you can use to improve many facets of your studio's management program. And that's the name of the hymnbook we all ought to be singing out of.

See you next time.



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- D 750-M Pro 12" Stage Monitor w high powered MagnaLab spks — \$179
- E MX1644 Modular Recording board w 16ch x 4 sub groupings, L&R assign, 4 buss sends, 4 band EQ, four 9 band Graphics, Reverb — \$1995
- F SX1202 Stereo 12 ch w Graphics — \$999 (w 300W RMS \$1199)
- G DCA800 800W (bridged) Stereo Amp — \$549. DCA300 300W — \$419
- H EQ2029 29 Band 1/3 Octave Equalizer w Hi & Lo Pass Filters — \$299
- I XC1000 Stereo Electronic Crossover for Bi & Tri Amping — \$299
- J DC200 Solid body guitar — \$499. With Kahler tremolo — \$649
- K XV112E Tube X-Amp with EVM-12L — \$659. X-60 w Celestion — \$419
- L B215M MagnaLab 15" Bass Reflex — \$259. B215E w EVM-15L's — \$379
- M PB150 Bass Head w Compressor, Parametric, & Crossover — \$399
- N V412M Guitar speaker system with 4 G12M-70 Celestion spks — \$399
- O X100B British 100W X-Amp head — \$529. X60B X-Amp head — \$479

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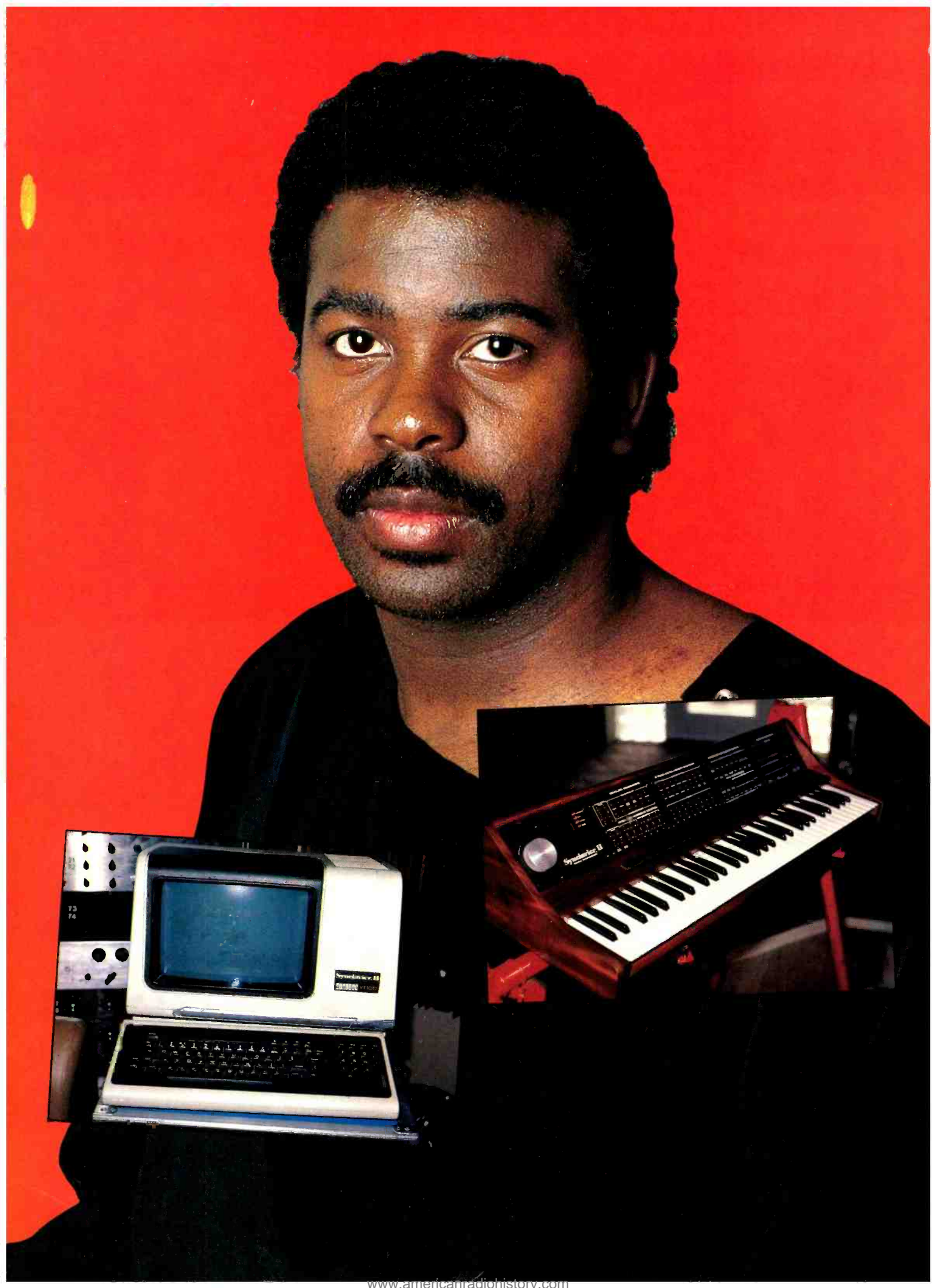
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KASHIF

Synthesizing

Toward the Future

Since the time he was named "Newcomer Of The Year" in a major industry poll in 1983, Kashif has become a seasoned veteran of all the creative phases of the business. Writing and producing hits for George Benson, Evelyn King and Melba Moore, his pronounced influence on the sound of R & B has earned him a top slot among the new generation of New York City producers.

With his first solo effort, *Kashif*, he earned a Grammy nomination and enjoyed a string of radio hits. On his recent second release, *Send Me Your Love*, Kashif plays keyboards, drums, percussion and bass, and demonstrates his agility with one of the new breed of computerized aids to music making, the Synclavier II.

Kashif recently acquired the Jackie Robinson estate near Stamford, Connecticut, and has settled on its five idyllic acres. He is in the process of turning the large house into a state-of-the-art recording complex which will be known as the New Music Group Studio. At the time of this interview, Kashif was putting the finishing touches on the 24-track digital studio whose control room was formerly used to display Mr. Robinson's many trophies.

Modern Recording & Music: You began your musical career at an early age learning to play various instruments. How did you get into producing?

Kashif: I stumbled into it. I was working on being a recording artist, and I made a lot of demos that were sent around by MCA Music, with whom I had a writing and publishing deal. I got involved with some producers, and from there got into producing myself.

My composing involved producing all along, though, making demos on 4 and 8-track machines. I had a TEAC reel-to-reel 4-track, a Dokorder 4-track, and some Sony cassette decks. I would bounce down and keep going back and forth on them.

MR&M: How did you get involved with computerized aids to music-making?

K: That was a natural progression for me. I just gravitated toward it because I've always been into high tech. I'd go to the NAMM and AES shows, I was always in the music stores seeing what was coming out. The computer age was inviting to me, and I wasn't intimidated by it.

MR&M: Do you have a basic approach to producing?

K: My basic philosophy is that you do what you have to do to get a hit record. The age of "it can't be done" is over when you have tools like the Synclavier that affords you all the

musical and technical flexibility you need to get any sound you want. My basic approach is to find a good song, take it in the studio and transform it into a hit record.

MR&M: Can you elaborate on that process?

K: Some things that work on a demo don't work on a record because the demo is informal, inexact. You have to expand on the basic ideas. Sometimes it's just a matter of transforming it into a technically good piece of art.

I think every song is an island, although they all should interrelate within an album. I approach one song at a time, record it, mix it, and put it away. That way I don't have ideas spilling over from one song to another.

MR&M: Tell us about the studio you're building out here in the country.

K: My original concept was to make a creative recording atmosphere that was out of the hustle and bustle of the city, but still had the high technology required to make the kind of records that meet my standards. This is a musical complex. We took the large rec room downstairs and made it the control room. We have two live rooms for overdubs. We have one room that is carpeted, all soft surfaces. It's a dead room. There's another room for the Synclavier with tie lines to the main control room. There's an editing room with a Sony editor.

We have tie lines all over the house. Upstairs there's a Yamaha 7-foot grand piano running into the board. Tie lines run into my bedroom where my stereo system is.

Jim Taylor, who designed Celestial Sounds in New York, designed and built our studio. The wiring was done by Jerry Garsva. We wanted to get the feeling of bringing the outdoors in, and so there's lots of windows.

If we work for six or seven hours straight, we can go row in the lake, go for a dip in the pool, play tennis. It's a very relaxed atmosphere, and you can get a lot more done because of that.

MR&M: When you started working with the Synclavier there was a feature that bothered you...

K: Right. When we wanted to replace, say, a snare drum on tape with one that's on the Synclavier, and have the original snare triggering the second one, there was always a ten millisecond delay. Back then, we had to do a reverse compilation to get around it. We wrote a new program that would trigger something ten milliseconds before it should happen so the delay wouldn't exist. That was a makeshift approach. Now, we have SMPTE time code that we lay down on the tape with different amounts of delay. If you start the code early, you can move the variables in between. You can sync the Synclavier up to the multi-track and vary the delay. If you record the code ahead of time, you can defeat the delay by backing off. It will line up perfectly. In other words, we're moving time forward and manipulating it backwards.

Before that, with analog, I'd reverse compile manually by recording a delay, then I'd turn the tape over, trigger from that, turn the tape back over and bounce the track off that.

MR&M: Was the program you wrote incorporated into new Synclaviers?

K: No, but when we came up with the program, I just left a copy of the floppy disc there with them. The thing I like about Synclavier is that now I can call someone like Nile Rodgers up and say 'How did you get such and such sound' and he'll tell me. And now, with the modem, sounds can be transferred by phone.

MR&M: Products like the Synclavier are often intimidating to musicians. Why do you think that is?

K: These products are computer-based, and people are intimidated by computers.



Soundcraft TS120 console at New Music Group Studios.

Computers are fairly simple, they are just logic. Most of them today are user-friendly, they tell you everything to do. Computers shorten the time between thought and realization. They make it easier to implement your musical ideas.

MR&M: Can you explain the process of using the Synclavier, step by step?

K: First of all, there are many parts of the Synclavier to use, so there's no set order to the process. You can use the sections one at a time or in many combinations. I'll tell you about some of the sections.

What you do with the memory recorder is turn it on and pick a sound from a catalogue, call it up and start writing a part. There are a lot of young producers just starting out who could never afford to hire a string section, but with the Synclavier they can. It's just like a tape recorder, you hit "Play" and "Record." You start playing, and if there are any tempo mistakes it will correct them, if you wish. There are 32 tracks to do this on. It's digital, and this gives you a lot of flexibility. Let's say you record on track 1 and you love the part you've played, but you don't like the sound. You can change the sound without having to play the part again. If you want to modulate in the middle of a tune, you don't have to do it manually. You just hit the transpose key. If you were playing in the key of C, say, and you hit a C# on the keyboard, whatever's playing goes up without transposing.

Then there's re-synthesis, where you can take a recorded sound and affect it as if it were a synthesized sound. You can change the envelope, the harmonic structure. It works on the principle of frames, like film. You take pictures of a sound and can see it, and then manipulate its harmonic structure.

There is sampling, which is basically recording sounds onto a Winchester hard disc. It's more flexible than tape because you can take the sound, turn it around, reverse compile, chop off the beginning and make it the end. You can take a sound and make it play in harmony with itself. You can make one vocal sound like a choir. You can superimpose other sounds from the sampling catalogue on that sound. You could take the attack of a guitar and replace it with the attack of a piano, for example.

There is sample to disc, where you record a sound into the Synclavier

and bring it to the keyboard and execute it from there. If I'm doing background vocals, for instance, I'll have vocalists come in and get the part down right one time, and then I can send them home. I can then execute that part from the keyboard, and sync it up to the track using the code. You have two hundred seconds of sampling time with 20 megabyte. Two hundred seconds is a lot of information.

MR&M: Where is digital technology going?

K: I think digital technology has not firmly implanted itself, but it's taken a good root. I think the company that is ahead as far as digital recording goes is Sony. I think the Sony machine is a wonderful piece of equipment, well thought out, well supported. I did my last album on a different system and I absolutely hated it. You have to clean the machines every half hour. The machines break down a lot. If you turn the machine off, you have to spend an hour biasing it when you turn it back on. The Sony is something like a little

cheap tape recorder. You turn it off and on and just keep recording. You clean the heads every two weeks.

I think that in five years analog will be passé.

MR&M: How will music be changed by advancing technology?

K: The quality of music will be significantly raised. I'm beginning to hear it now. There are more good-sounding tapes, records and CDs. Advanced technology has been one of the contributing factors to getting the music industry back on its feet again.

MR&M: Do you think that sound has subtle properties that people are not aware of?

K: Yes, and I think producers, songwriters, engineers and composers are becoming more aware of these properties and are learning how to manipulate them to get the basic aura or feeling they want.

I think musical therapy is around the corner, to benefit the mentally and probably the physically ill. It all ties in because it starts with calming a person down. I know it works be-



Synclavier computer in road case.

cause every morning I listen to these calming Japanese melodies to start my day with a clear head. I think all music comes from a divine source, and with the right combination of melody and harmony, it may put folks who are mentally ill back in touch with that divine source.

MR&M: You've been using the Synclavier in live performances for background vocals, right?

K: We sample all the background vocals from the master recording into the Synclavier.

MR&M: How does the audience react?

K: They love it. They don't know that we're doing it with computers. We have additional singers on stage, but the sound is so big that people walk away in awe.

MR&M: Have you ever thought about informing them that one of your sidemen is a computer?

K: We do tell them. They love the idea. We crack a joke about Thomas Dolby *who*?

MR&M: The use of machines in the process of creating art is becoming controversial. Using the Synclavier is like having an omnipotent genie at your disposal. It takes a certain amount of sweat out of the creative process...



Atlantic Studios featuring an MCI 500 Series console, Sony 24-track analog and digital tape machines.

K: You have to learn how to use the genie first. It takes common sense, ingenuity and practice. You still have to have the musical ideas, the computer won't write a song for you. The computer makes the recording process easier, not the creative process. Now, you have so many

sounds available that it sparks new, previously unheard of ideas.

MR&M: I've heard that they're building computers that actually compose music.

K: I think it's possible, but who wants it? It would take all the fun out of it. You're talking about artificial

There is sample to disc, where you record a sound into the Synclavier and bring it to the keyboard and execute it from there. If I'm doing background vocals, for instance, I'll have vocalists come in and get the part down right one time, and then I can send them home. I can then execute that part from the keyboard, and sync it up to the track using the code. You have two hundred seconds of sampling time with 20 megabyte. Two hundred seconds is a lot of information.

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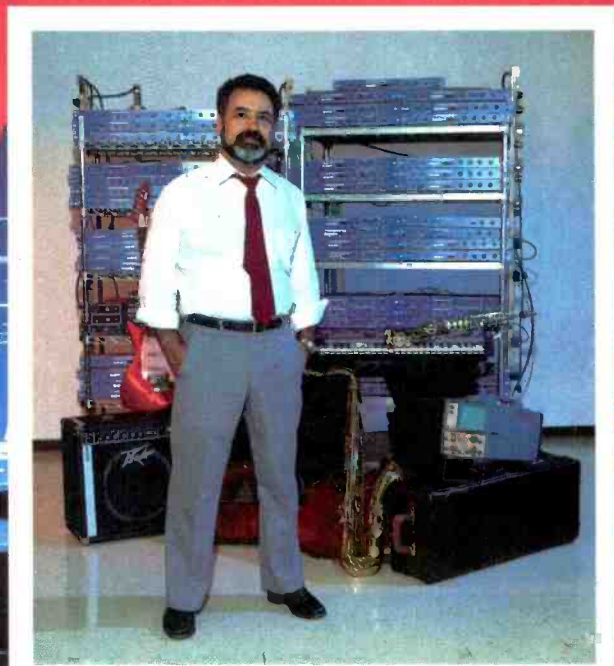
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RE Def



RICHARD E. DEFREITAS—(Engineer, Musician)
Founder, DeltaLab

 **DeltaLab**

The New Music Group

Studio Equipment

Keyboards

Minimoog Model D
Oberheim OBXA
Oberheim OB8
Yamaha DX7
Fender Rhodes
Yamaha C7 Grand Piano

Tape Recorders & Accessories

Sony PCM 3324
Sony RM 3310
Otari MX5050
Sony SL2700
Sony AC220 (PS)
Sony PCM F1
Aiwa F990 (Cassette)
TEAC Tascam 38

Speaker Systems

Visonik DAVID 9000
Visonik DAVID 7000
Yamaha NS10M
EAW 1X15 (2)
EAW BG 150
EAW FR 150
EAW SM120LR

Mixers

Soundcraft TS120
Yamaha M406
Tangent SM8
TEAC Tascam M35
Yamaha MQ802

Amplifiers

UREI 6150
UREI 6250
AB Systems 1211 A Module pairs
Bryston 4B
Perreaux 5000B
Fender Vibrolux Reverb
Fender Rhodes Amp Bottom
Roland JC-120

Synclavier II

Keyboard
Kennedy Drive 6455
Winchester Drive
Disc drive
Mainframe
Clock Interface Module CIM

Miscellaneous Instruments/ Computers/Processing

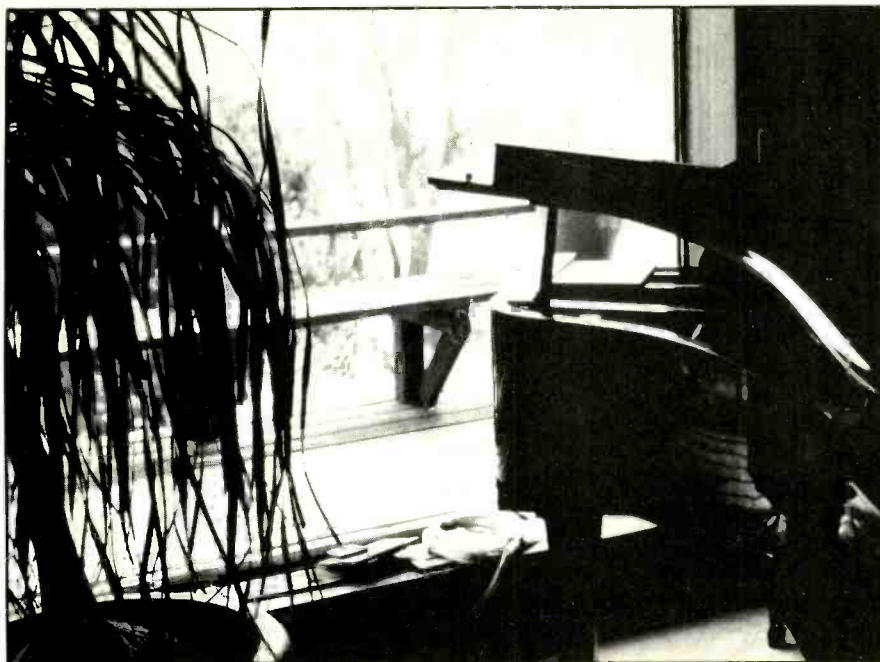
Master Mix Digital Interface
Master Mix Automation Computer
Loft sine wave generator
GML 8200 Parametric EQ
API 550A (2), 560A (6) EQ
AMS RM16 Digital Reverberator
Eventide SP2016
DBX 160X Comp/Limiter
UREI 1176 Comp/Limiter (2)
dbx 163 Comp/Limiter (2)

Miscellaneous Instruments/ Computers/Processing

Ibanez SDD 3000 DDL (2)
Roland SVC 350 Vocoder
DMP TSC 618 Stereo Chorus (2)
Valley People TR804/
Kepex II Noise Gates (2)
Drawmer DS 201 Noise Gate
UREI 315 DI
Audioarts 2100A X/Over (4)
Audioarts Comp/Limiter
Ashly SC44 Comp/Limiter
Master Room Reverb 210
Ibanez GE3101 EQ
Soundcraftsman ZX10 EQ
Valley People Dyna Mite
Oberheim DMX
Oberheim DSX
Oberheim DX
Nady wireless microphone 700 (2)
Complete Simmons Drum Kit
AKG C414EB Microphone (2)
Sennheiser MD441 Microphone
White 4400 EQ
Tama snare drum

New Music Group Staff

Studio Manager:	John Harris
Booking:	Michelle Harris
Executive Asst.:	Vivian Scott
Engineers:	Alec Head
	Bruce Robbins
	Steve Goldman
	Rick McMillian



Yamaha C7 Grand Piano in living room of New Music Group Studios.

Intelligence now, which isn't confined to the field of music. I've heard that in the future, if you want to be a doctor, you'll pay a fee and they'll implant something in your head that gives you that knowledge.

The whole world is moving in the direction of technology. First there was the industrial revolution, then there was the space age, and now it's the age of the micro-processing chip. Knowledge is accumulative; knowledge is snowballing.

MR&M: Do you think dehumanization can result from high technology's invasion of art?

K: It already has occurred. I've heard a number of records that sound very mechanical. I don't think people are receptive to that. They want to hear emotionalism. I use computers all the time and no one has ever said that my music isn't warm, inviting, friendly, big, or emotional.

MR&M: Will computers ever be used to synthesize the human voice?

K: We're already doing that. It's a good thing, too, because there are some vocalists out there who should not be singing. We'll save the public some earaches.

MR&M: But how will you feel

Computers are fairly simple, they are just logic. Most of them today are user-friendly, they tell you everything to do. Computers shorten the time between thought and realization. They make it easier to implement your musical ideas.

when you hear a love song being sung to you by a machine?

K: The real trick is for people not to know. To interject that human feel, the emotionalism that's so needed in a piece of art.

MR&M: Do you mean to say that there's no difference between a flute sound generated by a machine and one produced by human breath and lips?

K: The performance capabilities of the Synclavier allow you to evoke emotionalism on a machine. There are breath controllers, volume pedals. The bottom line is that you've got to think, act and emotionalize like a flute player.

MR&M: How can you know the subtleties of flute playing without years of training?

K: How can a flute player do it without years of training? I'm challenging your question by saying that in order for me to sound like a flute player, I've got to have years of training as a musician. We're coming to the age of the well-rounded musician. By observation, I can understand the limitations of instruments and have a feeling for sounding like them.

We're not moving into a time when machines will replace musicians, we're approaching a time when machines will help musicians become more rounded. That's the ultimate goal, and that's what Synclavier has helped achieve. It's just a tool to help expand awareness.

Musicians who fight against this [technology] should realize that it's the nature of the modern world. There are reusable spaceships now...

MR&M: But what about the practical matter of musicians being displaced from jobs in the commercial and jingle industry by machines like the Synclavier? Musician's unions are taking the matter up.

K: All I can say is that when they invented the motorcar, there were a hell of a lot of horsebreeders and blacksmiths who were pissed. But it did not stop progress, and I don't think you'll find many people who'd rather ride in a horse-drawn buggy than a car. Look at medicine. There was a time when they'd drain blood to cure diseases, and now there's microsurgery. When they find a cure for cancer, a lot of cancer centers will go out of business, and maybe they'll complain.



MODERN **RECORDING** & MUSIC

Looks At

Compressor/Limiters



What follows is lists of compressors, limiters, expanders, and sometimes other things as well. The information contained in our listings is supplied by the respective manufacturers and we have limited our editing to a minimum, except where we felt the manufacturer was laying on an excessive sales pitch, disguised as a specification.

You will find a list of each of the manufacturers at the end of the charts. Each of them can supply you with additional information if you will just write to them. As always we would appreciate it if you tell them that you saw them in Modern Recording & Music.



APHEX

CX-1 combines a "soft knee" compressor/limiter with a switchable expander gate, using the proprietary Aphex VCA chip to provide an extremely clean overall sound. It is adjustable from 0 to 100 dB of expansion, and features a multi-functional LED display that indicates input, output, compression or expansion levels. Dimensions- 1½ x 5¼ x 6 inches. Weight-2 lbs. Price-\$449.00.



ASHLY

SC-50 is a combined compressor/limiter, peak-type, extremely low-noise and distortion, detector patch point, stereo tie patch point, double time constant release action, in/out bypass switching, all input and outputs can be used balanced or unbalanced. Price-\$359.00.

SC-52 is a two channel compressor/limiter, peak type, wide control range on all parameters, gain reduction meters, output level meters, clipping indicators, front panel stereo tie switch, minimal pumping or breathing. Price-659.00.



AUDIO + DESIGN

EASY RIDER is a comprehensive dual channel/stereo strappable compressor/limiter with infinitely variable compression ratios of 1.5:1 to 20:1, release time is continuously variable from 15ms to 4 sec plus a dual release auto platform. Price-\$690.00.

EXPRESS LIMITER is a stereo compressor/limiter/expander with all sections individually usable, fully variable attack, release, threshold, ratio, Applications include tracks, mixdown mastering, tape duplication, disc cutting, sound reinforcement. Price-\$1245.00.

SCAMP S31 modules includes totally separate compressor and limiter with all functions continuously variable. Features include log or lin release function and 60 dB range, computer control mute input, side chain access. Price-\$485.00.

SCAMP SO1 is the original SCAMP compressor with fully variable attack, threshold, and release functions including auto release, stereo switchable side chain access. Price-\$370.00.

COMPLEX 2 combines a compressor/limiter/expander/gate with all parameters fully variable, features include log or lin release, gate HOLD circuit, expander ratio continuously available between soft 1:1.2 to gate 1.20, meter shows gain reduction, input and output, dual mono or stereo use. Price-\$1030.00.

VOCAL STRESSER needs no introduction. It's a combination complex/limiter with a 4-band parametric equalizer. Price-\$1575.00.

F601 SUPER-DYNAMIC LIMITER is designed for protecting inputs to 16 bit digital recorders. With superb specifications and sonic qualities it has all parameters fully variable, dynamic range is greater than 100 dB, distortion is less than 0.03% with 6 dB GR. Price-\$975.00.

VOICE OVER LIMITER has intelligent circuitry that permits a music:voice ratio that is automatically maintained provided music is not attenuated naturally or by operator when it then only attenuated by the amount it exceeds established threshold. Price-\$975.00.



BIAMP SYSTEMS

Quad Limiter/Noise Gate is four independent channels of compression or gating with variable threshold and release time. Combining channels permits simultaneous compression/gating or hard limiting. Price-\$599.00.

Stereo Limiter/Noise Gate is a two-channel model with external triggering and stereo strapping. Both this model and the one above accept line or mic inputs, distortion of 0.02%, and high slew rate of 10V/msec. Price-\$349.00.



BROOKE SIREN

DPR402 is a stereo multifunction dynamic processor and is capable of compression or expansion, peak limiting, and de-essing. Controls include attack, release, threshold, and ratio, plus a tuneable filter for the de-esser. Below threshold, gain reduction, input and output levels are given by LED displays, and the unit can be two independent channels or stereo linked. Price-\$1395.00.



dbx

Model 163 is a mono compressor/limiter with one sliding knob for automatic control of attack and release rates, compression ratio, and output level. A 12-LED gain-change display is provided as are phono inputs and outputs. Price-\$189.00.

Model 166 is a dynamics processor with a noise gate with switchable release gate, an OverEasy compressor, a PeakStop limiter for smooth clipping, sidechain monitoring and dual mono or stereo operation. Price-\$549.00.

Model 160X features a mono compressor/limiter with switchable hard-knee/OverEasy compression, continuously variable ratios, separate detector input, stereo linking, barrier strip and phone jack connectors, and +4 output levels. Price-\$420.00.

Model 165A is a mono compressor/limiter with OverEasy compression, continuously variable ratios of 1:1 to infinity:1, Peak Stop, variable attack and release rates, stereo strapping, detector input. Price-\$699.00.

Model 903 is a mono compressor/limiter module with OverEasy compression with continuously variable ratios of 1:1 to infinity:1, separate detector output, true stereo operation when used with dbx Model 907, stereo gated compressor slave module. Modules are powered by dbx F-900A frame. Prices-903 359.00, 907 \$299.00.



DOD

The compressor/limiter R825 provides compression ratios of 1:1 to 30:1 and a fully independent de-esser, controls are available for attack time, release time, input level, output level, compression ratio, de-ess level, and de-ess output. Price-\$249.95.

See the DOD ad on page 25



FOSTEX

3070 is a two-channel compressor limiter with VCA operated detect circuits for lower distortion and external access to this circuit for limitless creative possibilities. Features include variable threshold, compression ratio, attack time, release time, and gate threshold, a stereo interlock is also provided. Price-\$400.00.

MN-50 is a 4-input line mixer that is battery operated and contains a built-in switchable compressor with variable release. Price-\$55.00.



FURMAN

The LC-3 limiter/compressor is ideal for recording, sound reinforcement, broadcasting, etc. Features include controls for attack, release compression ratio, input and output volume, mode select is available for regular, de-ess, side chain operation, a 5-segment G/R meter is provided. Price-\$342.00.



IBANEZ

MSP1000 multi-signal processor combines three processors- the limiter uses dbx™ VCAs for up to 40 dB of smooth limiting, a 2/3-octave graphic equalizer and a 2-band notch filter, Price-\$449.00.

JBL/UREI

LA-4 compressor/limiter has a long-life LED optical attenuator, smooth natural sounding rms action, selectable compression ratios, true standard VU meter, input overload indicator, simple stereo coupling. Price-\$496.00.

1176LN peak limiter has pushbutton selection of four compression ratios, attack time is adjustable from 20-800 microseconds, release time is adjustable from 50 ms to 1.1 seconds, high impedance and balanced bridging input, balanced transformer output. Price-\$596.00.

1178 is a dual peak limiter with perfect tracking when used in stereo mode, release time front panel adjustable from 50 ms to 1.1 seconds, pushbutton selection of 4 compression ratios. Price-\$896.00.



LOFT

Model 400-Quad Gate Limiter is a cost effective four-channel feed-forward limiter and noise gate. The unit employs side channel processing so the signal does not flow through the VCA until the feed-forward controller commands limiting. Price-\$602.00.

Model 410 Dynamics Processor combines a full range dB-linear compressor with a fast acting peak limiter and a downward expander. Price-\$699.00.



LT SOUND

Model CLX-2 is a no-compromise feed-forward compressor/limiter incorporating the Allison EGC-101 VCA, features include simultaneous operation of both compressor and expander functions, de-essing, ducking, stereo tracking, keyed expansion and ultra-low distortion operation. Price-\$895.00.

Model ACC-2 is similar to the CLX-2 but has a full featured expander as well. In addition there is an on-board oscillator for tremolo and automatic stereo panning, does negative compression as well. Price-\$1250.00.

Model SL-2 is a stereo limiter/expander with features that include simultaneous limiting and expansion functions, de-essing, stereo or independent operation. Price-\$395.00.

See the LT Sound ad on Cover III



ORBAN

424A is a gated 2-channel compressor/limiter/de-esser which offers manual adjustment of compression ratio, attack and release times, gating threshold, and de-esser sensitivity. An output trim control adjusts absolute peak level of the VCA with accurate meter display, idle-gain control help prevent abrupt gain changes, full function de-essers. Price-\$989.00.

422A is identical to the 424A above except single channel only. Price-\$629.00.

414A is a 2-channel streamlined version of the 424A above, features include adjustable attack and release times, compression ratio, and threshold, front-panel input and output attenuators, illuminated gain-reduction meters. Price-\$799.00.

412A is identical to the 414A above except single channel only. Price-\$425.00.

See the Orban ad on page 5



ROCKTRON

Model 300 compressor/limiter also offers HUSH II single-ended noise reduction, features include program-dependent logarithmic compression, HUSH II noise reduction prevents modulation of noise floor during maximum compression for extremely quiet operation. Price-\$429.00.

Model 310 is a fully automatic compressor/levelr designed to incorporate professional performance in a cost-effective package, features includes program-dependent ratio attack and release with selectable compression or levelling modes. Price-\$239.00.

See the Rocktron ad on page 6



SCHOLZ

ROCKMAN X100 complete processor for music instrument includes multiple stages of eq, pre, post, and between the compressor and distortion stages, stereo chorus and stereo reverb. Presets by Tom Scholz. Price-\$319.95.

BASS ROCKMAN is a complete processor for the bass guitar and includes multiple stages of eq, pre, post and between the compressor and distortion stages, stereo chorus and chorus off. All presets by Tom Scholz. Price-\$319.95.

The Soloist includes multiple stages of eq, pre, post and between the compressor and distortion stages, stereo chorus and fixed 25 ms stereo delay. All presets by Tom Scholz. Price-\$169.95.



SYMETRIX

501 Peak-RMS Compressor/Limiter simultaneously performs the functions of a peak limiter and an RMS-sensing compressor. Both control circuits employ soft-knee thresholds to make an easy transition into gain reduction. Price-\$425.00.

525 Dual Gated Compressor/Limiter simultaneously performs as either a peak limiter or RMS compressor and an exander/gate. The two channels may be operated either independently or ganged for stereo. Price-\$495.00.

522 Compressor/Limiter/Expander/Gate/Ducker is a two-channel multi-function dynamic range controller. The two channels may be operated either independently or ganged for stereo. Price-\$495.00.

CL-150 Fast RMS Compresor/Limiter is a low-cost single-channel unit which operates as either a peak limiter or RMS compressor. Uses a Valley People VCA for extremely low noise and distortion. Price-\$335.00.

VALLEY PEOPLE

Model 811 Gain Brain II Limiter/Compressor/Ducker does not respond to arbitrary voltage or power levels. Its response is variable depending on the degree of waveform complexity, and it also offers compensation for discrimination against low frequencies, and eliminates pumping and dynamic distortion. Price-\$400.00.

Model 430 Dyna-Mite Multi-Function Dynamics Processor is a two-channel unit that can be ganged for stereo or used independently. Each channel performs several variations of 128 specific operating modes, including-limiting, FM limiting, expanding, noise gating, keying, de-essing, and voice-over. Price-\$560.00.

Model 610 Dual Compressor/Expander offers two independent channels, each consisting of a compressor section and an expander section, with both the compressor and the expander controlling a common channel VCA. In the interactive expanded compression mode, the audio signal may be compressed to reduce dynamic range and the expander may be used to reduce the residual noise as well. Price-\$995.00.

Model 440 Limiter/Compressor/Dynamic Sibilance Processor consists of a fast peak limiter, a compressor/expander, and a de-esser, each section controlling a common VCA. An auto function optimizes compressor attack times, ratio, and release times for one control operation. Price-\$499.00.



YAMAHA

GC2020 is a two-channel compressor/limiter with an adjustable noise gate on each channel. Features include threshold, attack time, release time compression ratio, and input and output controls for each channel. Each channel has a variable expander gate for eliminating noise during no-signal portions of the program. Attack time is adjustable from 0.2 to 20 ms and release times are 50 ms to 2 seconds. Price-\$295.00.

List of Manufacturers

Aphex Systems Ltd.
13340 Saticoy Street
North Hollywood, CA 91605

Ashly Audio, Inc.
100 Fernwood Avenue
Rochester, NY 14621

Audio + Design/Calrec, Inc.
P.O. Box 786
Bremerton, WA 98310

Biamp Systems, Inc.
P.O. Box 728
Beaverton, OR 97075

Brooke Siren Systems Ltd.
262a Eastern Parkway
Farmingdale, NY 11735

dbx, Inc
71 Chapel Street
Newton, MA 02915

DOD Electronics Corp.
5639 so Riley Lane
Salt Lake City, UT 84107

Fostex Corporation of America
15431 Blackburn Avenue
Norwalk, CA 90650

Furman Sound, Inc.
30 Rich Street
Greenbrae, CA 94904

Ibanez/Hoshino
1716 Winchester Road
Bensalem, PA 19020

JBL/UREI Electronic Products
8500 Balboa Boulevard
Northridge, CA 91329

LT Sound
P.O. Box 338
Stone Mountain, GA 30086

Loft Professional Audio Products
91 Elm Street
Manchester, CT 06040

Orban Associates, Inc.
645 Bryant Street
San Francisco, CA 94107

Rocktron Corporation
2146 Avon Industrial Drive
Auburn Heights, MI 48057

Scholz Research & Development, Inc.
1560 Trapelo Road
Waltham, MA 02154

Symetrix, Inc.
109 Bell Street
Seattle, WA 98121

Valley People, Inc.
2817 Erica Place
Nashville, TN 37204

Yamaha International Corp.
Combo Products Division
6800 Orangethorpe Avenue
Buena Park, CA 90620

Write to each manufacturer di-
rectly for further information.



At age twenty-nine, Arthur Baker is a multi-faceted, multi-hyphenated rising star in the music industry. Although he is primarily known as a remixer for 12-inch dance records, Baker is also a noted producer, writer, and songwriter. In addition, he is the president of his own dance oriented record company (Streetwise Records) and the owner of a relatively new recording studio (Shake Down Sound) in New York. And recently Baker completed his first album for Epic Records, which he categorizes as a rock and roll LP.

Arthur Baker's meteoric rise to fame began when he produced and mixed Afrika Bambaataa and the Soul Sonic Force's "Planet Rock" in the summer of 1982, which became a dance hall smash. He also worked on many of the releases on Tom Silverman's Tommy Boy Records, and then went on to start his own Streetwise Records.

The teen pop/soul quintet, New Edition, turned out to be Streetwise's big group and scored heavily with "Candy Girl." Streetwise's main dance group was Freeze, and the label also ventured into new music with New Order and brought Eartha Kitt back to vinyl!

Arthur Baker

Shake Down On Baker Sound!

While remixing hits for his own label and other small labels, Baker began to get calls from the major labels for help with their major artists. He remixed three Bruce Springsteen 12-inches ("Dancing in the Dark," "Cover Me," and "Born in the USA") and two Cyndi Lauper hits ("Girls Just Want to Have Fun" and "She Bop"). In addition, he produced and mixed for Hall & Oates, Diana Ross, and the Rolling Stones ("Too Much Blood"). Other artists who he has remixed for include: Paul McCartney ("Lonely Nights"), The Cars ("Hello Again"), and David Bowie ("Dancing With the Big Boys").

Since Baker has always wanted to be a producer—mixing was a means to an end—he is now getting that opportunity. He is currently producing some songs for Jeff Beck, Carly

Simon, and Jennifer Holliday, and has produced both volumes of the *Beat Street* soundtracks, Tina B. (his wife) and, of course, his own solo album. And as *MR&M* is going to press, Baker has begun to work on a new Bob Dylan album. (For the record, Baker did the overdubs and preproduction to Mick Jagger's 12-in. "Just Another Night.")

Although there are numerous ace producers and engineers in the music industry, there are only a handful of top-notch mixers and remixer. Their aim is to make a 12-in. record of a song that dancers will work out to—sales are not the primary intention. If the record company then decides to release a commercial 12-in. to try to recover its cost, it can help increase the longevity of the single and the sales of the album.

Baker is probably the most radical and the most aggressive of all remixers around. He is not afraid to add tracks, especially percussion and synthesizer, to make a song more danceable. He maintains that if he heightens a song's strength without adding anything, then he is simply adjusting an original mix.

When Baker's 12-in. discs took off, they garnered him national fame—he was profiled in *Newsweek* last year along with British producer/mixer Trevor Horn. Recently he claims to have retired as a remixer, although his Shake Down Sound Recording Studio house mixers, The Little Rascals, will continue under his supervision. He is now also building a second studio in his complex which is located in New York's garment center.

Baker, who is from Boston, is continually on the move between meetings and productions, but *MR&M* was lucky enough to spend a couple of hours with him and got a chance to discuss his career and current projects as well.

Modern Recording & Music: Arthur, you're a mixer, producer, artist, head of a record company, and owner of a recording studio...

Arthur Baker: ...and I'm still broke...

MR&M: What is your top priority?

AB: To be a producer/songwriter. I'm on Epic Records as an artist. My art is really producing and writing. I'm not really an artist; I can play a little music. Most of the songs I've produced I've also written.

MR&M: Are you also an engineer?

AB: I'm not an engineer. I can engineer more than some producers and not as much as others. I know how to work things on the board and how to EQ a little bit. Working in the studio as much as I do, you have to pick up on some things. I engineer my own recordings when I get the urge to record at two in the morning.

MR&M: Which engineers do you work with?

AB: A lot of them. I think I'm different from a lot of producers because most producers use only one engineer. I use different engineers for different things. My house engineers, Jay Burnett and Andy Wallace, work in my in-house studio. For the Hall & Oates project, Bob Clearmountain did it, and Jay Burnett was

my engineer. I work with Jay Mark, Ed Stasium, Chris Lord Alge and Tom Lord Alge. I just produced three cuts for Jeff Beck and Tom engineered the mixing and recording.

MR&M: How did you get into the music business?

AB: I started off as a fan. I worked in record stores when I was a young kid. I always wanted to be involved in music, and I had no other aspirations. At fifteen, I wanted to be a record producer or be involved in working with a record company. The easiest way to be involved with records was to work in a record store. I was a DJ playing records in clubs and I applied for hundreds of jobs at record companies but could never get one. I thought how could I get a job as a record producer if I couldn't get a job with a record company. As it turned out, it was a lot easier to become a producer than to get a job at a record company. The kind of people they hire at record companies aren't usually that independent, and I've always been independent in the way I acted and thought.

MR&M: How did you get hired as a producer?

AB: I didn't get hired. I just got some money together and recorded some songs. It was an egotistical thing to think that with no training I could go into the studio and know what to do. I took an engineering course at Intermedia Studio—now Synchro Sound, (the Cars' studio in Boston), and that was the first time I was ever in a recording studio. It was the first 16-track, then the first 24-track studio in Massachusetts. I took the course, and then I convinced Dan Cole, the manager of the studio, to give me some time, to *spec* me some time, to do a disco record. It was 1976, and disco was real hot. Dan was the executive producer, and John Luongo worked on the mix—this was also the first or second time John was in a studio. The record was "Losing You" by the Hearts of Stone, which was released in Canada but not in America. I was nineteen years old and got \$500 for it. At least I had a record out. I got bitten by the bug, and I knew I always wanted to be working in a studio.

From there, I did two projects that were successful because they were released in America and got some acclaim as disco records by making the *Billboard* disco charts. It was exciting to see my records on the charts. "Kind of Life" by Northend which was on Westend Records went

to #17 on the *Billboard* disco charts. Then I learned how screwed up the music industry can be.

I got people to invest \$10,000 to put an album together, but I ran out of money. Tom Moulton and his brother made me an offer and wanted to rerecord the songs because they loved the songs but didn't think the production was very good. They gave me \$25,000 for the tapes and arrangements and one-third of the publishing but no points. Well, of course, they *didn't* rerecord the songs, they remixed them and the album came out as TJM on Casablanca Records. It was a top ten dance album, and Vince Aletti wrote in *Record World* that it was the best thing Tom Moulton ever did, but Vince didn't know that Tom didn't do it. Tom probably got \$150,000 for the album. I learned that I had to watch out or people would rip me off in the record business really quickly if I let them. So that was a good educational thing in making a record from start to finish.

I moved to New York for a summer when my wife (Tina B., a recording artist now on Elektra Records) was in law school. That's when I got exposed to New York music and the whole R&B/street scene—rap music. In 1979, I was involved in a record "Rappo Clappo," which I co-produced with Joe Bataan and which was done before "Rapper's Delight" by the Sugerhill Gang. That was another record I did with someone else but he wound up selling it without me. I'm a better producer than a businessman even though I have my own studio and record company. I now leave the business end to other people.

MR&M: When did you form Streetwise Records and why?

AB: [In] 1982. I did "Planet Rock" by the Soul Sonic Force for Tom Sullivan which did incredibly well. I made good money on it, but it was for Tom's label, Tommy Boy Records. Tom made me an offer to become a one-third partner with him—Tom having the other two-thirds—but which would exclude me totally from doing any outside projects. It would have been absurd for me so I turned it down and started my own label. I had financial backers and wanted control over my situation. But the end result was that I had no more control than the man on the moon. My partners nearly drove the label to bankruptcy.

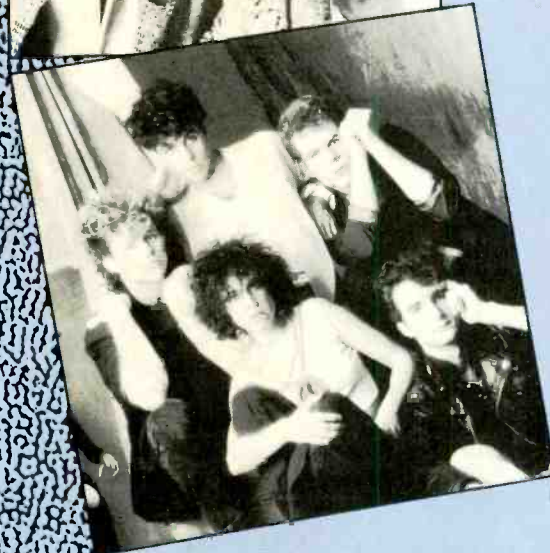
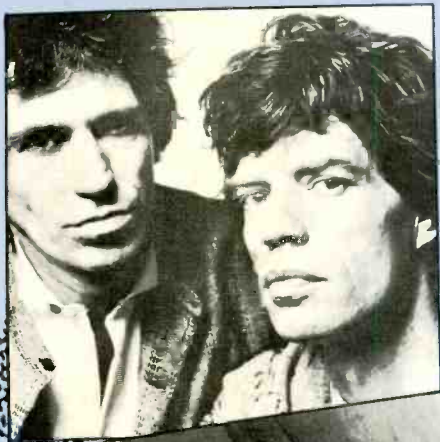
MR&M: When did you start Shake Down Sound Recording Studio and why did you build your own studio?

AB: [In] January, 1984. I built my own studio for artistic and financial reasons. I was working out of Unique Recording Studio for about a year, and I spent over \$100,000 in the year, which is nothing compared to what I spent on Shake Down Sound Studio—over a quarter of a million dollars. I figured that if I'm going to spend that much money, I might as well put together my own studio. I also knew I would be real busy this year. I thought it would be great to have my own studio and be able to use it at anytime I wanted. And also financially, it's a business.

This business is much stronger than Streetwise Records because I have my own studio equipment—I don't need a hit to keep it going. It's more of a stable business especially when you know you're going to have projects. With a record company, you

Shake Down Sound's Equipment List

- Trident Series 80 Console
- MCI 24-track tape machine
- MCI ½-in. tape machine
- Ampex ATR ½-in. tape machine
- UREI 813 monitors
- Electro-Voice Sentry 100 monitors
- Yamaha NS-10 mini monitors
- Crown amplifiers
- dbx 160 and 165 compression-limiting
- Orban 627 equalizers
- White ⅓-octave equalizer
- Neve 8-channel equalizer
- Pultec parametric equalizer
- Kexep Gain Brain
- Shure Bros-Neumann-AKG microphones
- EMT 240 plate
- AMS digital delay
- MXR digital reverb
- Eventide harmonizer
- Lexicon PCM 42
- Fairlight CMI
- Emulator II with full disk library
- Yamaha DX7
- Oberheim OB-8
- Prophet T-8
- Casio CZ101
- Yamaha CP35
- Roland Juno 60
- Yamaha 6½ ft. ebony grand piano
- Roland MSQ 700
- Oberheim DSX sequencer
- Roland TR-808 drum computer
- Drumulator drum computer
- Oberheim DMX drum computer



Just a few of the numerous artists Arthur Baker has worked with are (clockwise from top left); David Bowie, Cyndi Lauper, General Public, Paul McCartney, Bruce Springsteen, Face to Face and the Rolling Stones.

Selected Arthur Baker Discography

- Soul Sonic Force
Planet Rock produced & mixed (Tommy Boy)
- Rockers Revenge
Walking on Sunshine produced and mixed (Streetwise)
- New Edition
Candy Girl produced & mixed (Streetwise)
- Freeze
I.O.U. produced & mixed (Streetwise)
- Cyndi Lauper
Girls Just Want to Have Fun, She Bop mixed (Epic)
- Bruce Springsteen
Cover Me, Born in the USA mixed (Columbia)
- Naked Eyes
What In the Name of Love produced & mixed (EMI)
- Face to Face
10-9-8 produced & mixed (Epic)
- Tina B
Tina B produced & mixed (Elektra)
- Diana Ross
Swept Away produced & mixed (RCA)
- Hall & Oates
Out of Touch, Method of Modern Love, & Big Bam Boom produced & mixed (RCA)
- The Cars
Hello Again mixed (Elektra)
- David Bowie
Dancing with the Big Boys mixed (EMI)
- New Order
Confusion, Thieves Like Us produced (Streetwise)
- Paul McCartney
Lonely Nights mixed (Columbia)
- Rolling Stones
Too Much Blood produced & mixed (Atlantic)
- Northend
Kind of Life co-produced (Emergency)
- General Public
Never You Done That, So Hot Your Cool co-produced (IRS)
- Carly Simon
produced three songs (Epic)
- Jeff Beck
produced three songs (Epic)
- Mick Jagger
Just Another Night overdubs & preproduction (Columbia)
- Daryl Hall
produced LP (RCA)
- Beat Street Soundtrack
produced (Atlantic)

might not have a hit for eight months—there's no guarantee. With a studio, I know I can have it booked for the year between my productions and outside productions.

MR&M: What percentage of outside productions do you have?

AB: About 50%. Mark Kamins, Russell Simmons, Jay Burnett and some other people are using the

studio. Shake Down Sound is basically an overdub and mix-down studio. It's a recording studio for anyone who doesn't track live drums. There's no facility to record live drums. We can record guitars, bass and keyboards.

MR&M: How come you built a studio without the ability to record live drums?

AB: When I record drums, I would

rather go to Electric Lady or the Power Station where there are really great drum rooms. I actually could put drums in this room (now the game room), and I'm sure it would sound good, but I know Electric Lady Studio A is the most incredible drum sound room around.

MR&M: How hard is it to build a good sounding drum room?

AB: I don't know. I haven't done it. If I were to make this a drum room, I would have to soundproof the room. It just wasn't a priority.

MR&M: Then this eliminates recording live in the studio.

AB: Very few of the groups I work with record live. There are other studios that can do that better so why not use them. I'm going to make this another mixer room with a SSL (Solid State Logic) in here. So then I'll have two overdub/mixer rooms.

MR&M: You became notorious as a remixer. What is a remixer?

AB: Mixing and remixing are different. Mixing is the act of finishing up a record the way the original producer hears it. Records that I produce, I mix, not remix. Remixing is the act of someone going back and doing another mix. Usually, you do not remix your own records. But it's also a case of semantics.

I'm producing three tracks for Jeff Beck, and I mixed them too. Now I might go back and mix something again, but I wouldn't call it a remix. When I do David Bowie or Mick Jagger, I'm called in to redo something or add something to it to make it different.

MR&M: It has been said that the various versions of the same song—album, single, different 12-in. mixes—can be a rip-off to the collector who strives to possess everything a certain artist releases. How do you feel about it?

AB: It's not a rip off per se because if I can make something more exciting and different or more creative, then it's not a rip off. When Trevor Horn does six remixes of the same record, then I think it can get to the point of a rip off. When Bruce Springsteen does a remix of one song once, I don't see that being a rip off. It's another artistic statement, another creative statement. Some of the guys in England are milking it, are ripping people off by changing things just a little bit and going after the collector.

MR&M: When an artist or record company executive comes to you and says they want you to remix a song, do

they tell you what they are looking for or do they leave it all up to you?

AB: No one has ever come in in the beginning and said this is what they wanted. Afterwards, a few people have said that they don't like this, change that—there have been about three people. I've never had a remix turned down. I've never had a mix that I've finished and felt good about which I have handed in and had it released which did not do fairly well and that the artist didn't like. A few people have disagreed with what I've done along the way. In one case, I changed it a little bit. It's a philosophical thing. I feel it should go one way, and the artist feels it should go the other way. I could do it my way and have him not put it out. I could do it my way and change his mind because it would be so good.

MR&M: What is your assignment?

AB: To do a 12-in. mix.

MR&M: Are you given parameters on beats or length of song?

AB: No. They don't give me anything but the master tapes. And they say, "do what you want with it." I won't work on a song I don't like and feel I could do something with. I've turned down a lot of things in the past year that I could have made a lot of money on. Mixing is a painful process, and doing mixes just for the fun of it is not fun. If I was really poor and needed the money to live, I might do it. There are very few producers or mixers who really like remixing. It's a really hard task.

If I'm not into a record in the beginning, I won't do it. Then if I like

it, but I'm not sure, I'll have them bring in the tapes to see what I can do to it, what I can add.

MR&M: What do you mean by add?

AB: Remixing is really a misnomer because when I remix, I really reproduce more than remix. Remixing is taking what is already there and putting it into a different perspective and making it sound different. There is only one remix that I've ever done where I didn't add at least five or six tracks.

In the old days, remixing was bringing things out that were already in the mix. Now, it's gone to where I change the bass line on "Cover Me" by Bruce Springsteen. I really didn't like "Cover Me" at first. I really liked Bruce's "Dancing in the Dark," but because it was Bruce, I decided to take the tape to "Cover Me" to see what he left off the record because Bruce will have things in there that at the last minute he will decide not to use—he'll go to the edge and then pull back. He put Joceylin Brown, a great black singer and a friend of mine, on "Cover Me" two years ago doing a duet with him, and when I heard that in the studio, it flipped me out. And I hated the bass line, which was just going with the guitar and was really rock and roll, but I also found out that they had sped up the original tempo to get more rock. The original tempo had more of a reggae feel because of the piano. So I took the bass line, and I started playing the bass line on the synthesizer. It made more sense to me to have a reggae bass and a

reggae feel. I brought a bassist, Brian Rock from Mojonaya, a group signed to Streetwise, in on reggae bass, percussionist BiSherry Johnson, and keyboardist Gerry Henry. It's a reggae tune.

MR&M: How long did it take you to finish it?

AB: A day to do the overdubs and two days to do the mix. Usually, a remix takes about a week, editing being a big part of it. Meanwhile, I had to send it to Bruce.

MR&M: Was Bruce or anyone from his record company in the studio while you were mixing?

AB: No. Bruce was here though for "Dancing in the Dark" mix but not for the overdubs. So I sent it to Bruce and waited and waited and waited and waited and... Finally, the word came down that he liked it. He never told me, but Jon Landau, his manager, did. But before I ever heard from Jon, I read in *Rolling Stone's* Random Notes that Bruce was using parts of my remix in his live show when he played "Cover Me."

"Dancing in the Dark" was the greatest song I ever heard, but there were so many holes in there that should be filled. To me, it sounded like they hadn't finished it. I feel they had one more day of overdubs left to do—that's the way it sounded to me. I got permission to do overdubs. Bruce came in while we were mixing and hung out for eight hours at the Power Station. I explained to him what I had done. I showed him the Emulator, and he got into it. There were certain things that he didn't like, and he told me about them. I added another hook: instead of an answer hook to "Dancing in the Dark" repeating the words and a different melody, which he didn't like so I didn't use it but I used it on the dub side.

MR&M: Since you have your own studio, why did you work on it at the Power Station?

AB: That's where he mixed the record, and it was 48-track. I only have 24-track here. But I used my engineer Chris Lord. On "Cover Me" though, I used his engineer Toby Scott. I also used Toby on Bruce's "Born in the USA."

MR&M: What's the key to being a good remixer?

AB: Being a good producer and being aware of some of the gimmicks you can use on a record, using stuff with street sensibility, like multiple edits repeating parts of the song in rapid succession, delays, and big drum sounds.

The Village Voice recently compared remixing to interior decorating, and the writer said that while Jellybean will respect the decor of the artist, I would rip down the guest room and put up three shower stalls. I like that. I wouldn't put an Emulator solo on a Bruce Springsteen record. I'm sensitive to each artist. But when someone wants me to do a remix, I become part artist too in a way.

MR&M: When you get a master tape, what do you look for?

AB: On "Dancing in the Dark," there were 48-tracks but fifteen were open. On "Cover Me," there were only 24-tracks so we made a slave, which is another 24-tracks with a mix of the first 24-tracks on two tracks and then we had 21 tracks to play with. The other track is used to line up both tape machines. I never erase anything from a track without putting it on another piece of tape so if we ever need them we can fly it back in, and rerecord it back in.

My process of remixing is different than a lot of people's. After I get the tape, I go in and ask what can I add, what is missing on the record, does this thing fit, is the drum sound good, is the beat good, does it need background vocals... It's like rearranging, *re-producing*, more than remixing. Remixing is part of it. Now when I do these records I ask for the credit of additional production and remixing.

MR&M: What does it cost to do a remix?

AB: I've heard of some costing between \$20,000 and \$30,000; some are \$5,000. It depends on how complicated they are, how much work needs to be done, where it's going to be done, whether it's going to be done, whether it's 48-track or not... It can cost a lot of money. I don't know how many of these remixes make money on 12-in. sales, but they push the album along and give longer life to the songs. We get a fee on top of the studio costs.

MR&M: Do you have to hand in a budget before getting an assignment?

AB: I've never been asked to hand in a budget for a remix. They just say do it. I've never done one at \$30,000 either.

MR&M: Do record companies take a track to you and other remixers to see what can be done with it?

AB: At this point, I don't think I'm doing any mixes that someone else turned down. The ones I'm doing now, I think I'm getting offered first. I've done three of Bruce Springsteen's, two of Cyndi Lauper's, and three of Hall and Oates'. I've had satisfied customers.

MR&M: You also co-produced Hall & Oates' album *Big Bam Boom*.

AB: I did production all through the album and was credited as an arranger. I also co-wrote a song with Daryl Hall. The versions they wanted for the album weren't as far as I wanted for the songs so I did mixes

for the album. I then went back in and added more things so I was actually remixing my own mixes, which you can do when you add stuff. A remix is a stretching out process. Generally, for a 12-in., you have seven minutes to say what you want; an album version is four minutes; and a single is three minutes.

MR&M: What is the difference between engineering and producing?

AB: Engineering is the person totally responsible for running the tape machine and EQ-ing the way I want. But I'm not a hands-off-the-board producer. I'm a hands-on-the-board producer. I work the board as I'm producing, but I have someone there who has the final technical word.

MR&M: There are a few prominent remixers around New York. Do you feel you have your own distinguishable style?

AB: I'm much more aggressive. I go for the throat school of mixing. I overpower the mix. It really depends on the song. I'm sensitive enough that I deal with each thing as a separate thing, but I do have an aggressive style of mixing.

The *Village Voice* recently compared remixing to interior decorating, and the writer said that while Jellybean will respect the decor of the artist, I would rip down the guest room and put up three shower stalls. I like that. I wouldn't put an Emulator solo on a Bruce Springsteen record. I'm sensitive to each artist. But when someone wants me to do a remix, I become part artist too in a way. More than even producing because when someone wants me to do a remix, they want something drastic or they wouldn't come to us. They'd go to Jellybean or someone else. Francois Kevorkian changes it more than Jellybean; he puts more of his personality into it. Jellybean doesn't put much of his personality into his mixes. You can't hear a mix and say it's a Jellybean mix because he's more respectful of the original mix. I say the original mix has already been done so why do it again. They don't want me to do an original mix again, they want me to do something different, something wild or they would go to someone else.

MR&M: Remixing has gotten you to the point where you are now producing established artists like Jeff Beck, Carly Simon, and Jennifer Holliday.

AB: It's too bad I had to do that to get established artists because some

of my best work was some of the songs I wrote, produced and mixed which were real successful in England. "I.O.U." by Freeze was #2; "Walking on Sunshine" by Rockers Revenge was #4, and "Candy Girl" by New Edition was #1. In America, no one knew who I was until I did the remix of Cyndi Lauper's "Girls Just Want to Have Fun" and then the Springsteen remixes. The things I did on my own productions I threw on after the fact on established artists productions.

MR&M: You mentioned that you are doing your own solo album for Epic Records. What kind of record will it be?

AB: I wrote all the songs, and I play all the music on some songs. I play keyboards/synthesizers. I'm not an accomplished keyboardist, but I can play enough for the type of music I do. I also programmed the synthesizers. There will be stuff like Foreigner on it and stuff like Kraftwerk.

MR&M: You say that you're not an accomplished musician...

AB: I'm not, but I'm an accomplished songwriter. You don't have to be a great musician to be a great songwriter or great producer. There are not that many producers who write songs or play instruments. I'd say that less than 50% of the producers I know write music.

MR&M: Do you generally play on albums you produce?

AB: A little—programming synthesizers, playing drums.

MR&M: As a mixer, remixer, and producer, what kind of board do you prefer?

AB: I like the SSL because it has total recall, and I can always go back to the mix the next day and set it up exactly the way it was the previous day and change one or two things. When I mix, I'm super paranoid about some things, and it's a security blanket. Having total recall is like having total security.

I like to use the AMS digital delays, which can store sounds digitally. This means you can take a drum sound from another mix and put it in the AMS and use the drum signal that is on the tape to trigger the stored sound. You can get a drum sound real quick by using a drum sound you used before.

MR&M: What kind of microphones do you prefer?

AB: AKG tubes—Neumann 87s and 47s. I usually let the singers pick the ones they prefer. Singers have their favorite microphones so I leave

I'll be doing production and my own albums. My priorities are writing songs and making creative hit records. Remixing is second. I don't want to give people less than 100%. I live a record, and spend a lot of time and sweat on them.

it up to them. If an artist, generally a new one, doesn't know what they want, I'll try different ones.

MR&M: And what monitors do you prefer?

AB: UREI, Yamaha. I'm pretty adaptable because I use different studios which have their own monitors. The Power Station uses UREI. I always mix on the Yamaha NS10s which are the smaller speakers.

I record and overdub at my studio which is 24-track, but I have to mix elsewhere because I don't have the ability to do 48-tracks. I'm going to put a 48-track in this room while I'll still have 24-tracks in the other room.

MR&M: When you built Shake-down Sound, why did you only build 24-track?

AB: Back a year ago, I never did 48-track work. When I did the *Beat Street* soundtrack, I had another 24-track machine in the other room for balancing. But the SSL doesn't fit that well in there [studio A], and I didn't have the money. That board [Trident Series 80] costs \$40,000; the SSL costs \$250,000.

MR&M: You were recording at your facilities so fast you weren't aware of your capabilities a year or two down the line.

AB: Right. I'm always updating. With synthesizers and other things, six months later I find things that will do the same thing at a tenth of the price. But if I want to stay competitive, I have to get them right away. If I had put a 48-track board in there, it would just be a mix room. And every time I would be doing overdubs, I would be losing \$100 an hour. SSL rooms usually rent for \$200 an hour. So while using one room, I could rent the other. I didn't need both rooms a year ago. A year ago, I didn't know I would be signed to Epic Records; I didn't know I would be working with Jeff Beck. Jeff is playing on my album as well.

MR&M: How do you feel about digital vs. analog?

AB: I'm going to try digital. I want to do some tests with it. Nile Rodgers swears by it totally. Some digital records sound good. I'll be testing it on my album.

MR&M: When is something overproduced?

AB: When the people out there say it's overproduced. Who's to say? Some people think some of the things I do are overproduced. There have been times I've overproduced albums, and I know it. If a producer buries a song, it's overproduced. If a producer loses sight of a song, it's overproduced.

MR&M: Do you have any formal musical training?

AB: No.

MR&M: You took an engineering course. How do you feel about those type of courses?

AB: They're great. If I had more aptitude towards technical stuff, I'd be better off now. I don't have much aptitude for technical things. I know how to work the board, but I don't have the patience to learn about a lot of the equipment.

MR&M: You mentioned before that you turned down songs to remix...

AB: Yes. Thomas Dolby's "Hyperactive," Peter Wolf's "Lights Out," a Joe Jackson record... They don't spark my creativity. However, when I heard Joe's record on the radio, I liked it. I have no regrets for passing on records as a remixer, but I do on records passed for Streetwise. At the same time, I picked up on records for Streetwise that other labels passed on which balances it out. Everyone passed on New Edition's "Candy Girl."

MR&M: Both you and Jellybean are releasing your own records as artists. Do you see a trend wherein remixers/producers are also becoming artists?

AB: No. It's really a business hype because our names are well known and are on a lot of records. The reason I got my deal is because of what I've done with other people.

MR&M: Will you tour?

AB: Someone will be touring behind the record. I don't know if I'll be there every night.

MR&M: Why didn't you sign yourself to your own label?

AB: I wanted to rock and roll, and Streetwise is a disco label.

MR&M: Who would you want to produce that you have not?

AB: Bruce Springsteen. He is missing a whole part of the population—black and Spanish. Prince, Michael Jackson, and Hall & Oates get more exposure. I think Bruce should make rock music that black people can get into which would be nice for him. He doesn't have to make a disco record. Without prostituting his music, he could reach other people. His producers, who are good friends of mine, aren't aware of how to do it. I think I could do it.

MR&M: I understand that you plan to stop remixing in favor of producing.

AB: I'm starting a remixing company employing other remixers. After "Born in the USA," I was going to stop, but General Public offered me a co-producing deal. I'll do that any time. Then Mick Jagger called me up about remixing a 12-in. which I could never turn down.

If I had to do it all over again, I would turn down the Paul McCartney remix, "Lonely Nights," because the whole thing was a flop, and I never even got to meet him. If I had met him, it would have been worth it because I'm a fan at heart. To watch Daryl Hall and Diana Ross singing together in the studio, that makes it really worth while. To be able to watch Mick Jagger jump around in the vocal booth doing his rooster strut was worth it.

I don't have the time to remix records anymore. Albert Cabrier and Tony Moran, who go by the name of the Latin Rascals, will pick up a lot of the mixes for me. They're young—twenty—and are real creative, and I'll be supervising them. I'll be doing production and my own albums. My priorities are writing songs and making creative hit records. Remixing is second. I don't want to give people less than 100%. I live a record, and spend a lot of time and sweat on them.

In Session With Jaco Pastorius and Steve Gadd

(Engineered by Phil Kapp)



DCI Music Video Inc. has been somewhat of a pioneer in the musical education field. Their video presentations of master drummers, guitarists, and keyboardists have been a tremendous teaching aid to many musicians. Located in Manhattan, DCI is a spin-off of The Drummers' Collective, the well known progressive learning center for drums, percussion, guitar, and keyboard. Its directorship is shared by Rob Wallis and Paul Siegel who, incidentally, are the producers of the musical video project featuring Jaco Pastorius and Steve Gadd. M&I Recording Studio was their choice with chief engineer Phil Kapp at the helm, and All Mobile Video under the watchful eye of its president video engineer Brian Wierda. From the technical people to the musicians, the two day shoot was an incredible assemblage of experts in their field.

The key element which creates a precise marriage of the audio and video is the SMPTE time code. Have you ever tried to synchronize two metronomes? They soon sound like the windshield wipers of an old truck. No two machines will stay perfectly in sync. There are thirty video frames per second, and the SMPTE time code generator produces a series of square waves which code time down to

a 30th of a second. "The time code," said Brian Weirda, "lays down onto the address track of the video tape an electronic or audio signal which can be read by the editors or the editing system. That will lock in the two tapes, which the two cameras are shooting. You can then go switching back and forth or go cutting in from one camera to another. But if you have any problems with the time code, then you're really in for a difficult time when you start to edit because each tape will be running at its own speed. This equipment is not so precisely made that you can take a tape from one machine, play it on another machine, and it will play back at precisely the same speed as it did while it was being recorded. That's why the time code is so critical, so you can *lock* it in and reference it back." During the shoot Brian was alert to the constantly changing numbers of the important reference. "After the picture is edited," he said, "we get a computer printout of the time codes for reference. Sort of relating back to the old time codes (that being the time codes on the original tapes) and those relate back to the audio tapes, because the audio tape will have the same time code. We'll lay time code down on track four, on the four track masters. We get a stereo music mix down on tracks one and two. Then track three will have whatever conversation the lavalier microphones pick up." "I generally try to keep the lavs low," said Phil Kapp, "then when I see they're done playing I bring them up. It's kind of like a game of cat and mouse. Since the speaking is isolated here, they will be able to pull it down when they do the post production. I'm trying to give them a rough mix. You must balance the musicians so they can be comfortable in their own environment and hear themselves. And at the same time, you want to make the finished product sound good, and it has to sound good in two ways. In one way musically, that involves making sure the ratio of your dialogue mic is as low as it can be and at the same time you don't want to miss any comments the artist makes. The biggest obstacle of this whole thing for me is trying to catch every verbal utterance of the people on camera. They may be in the middle of a solo, stop on a moment's notice, say something and then revert right back to playing. I've got to be there like Johnny-on-the-spot to make sure that I get it. If the player



Jaco Pastorius performing with Jerry Jermott reading along.

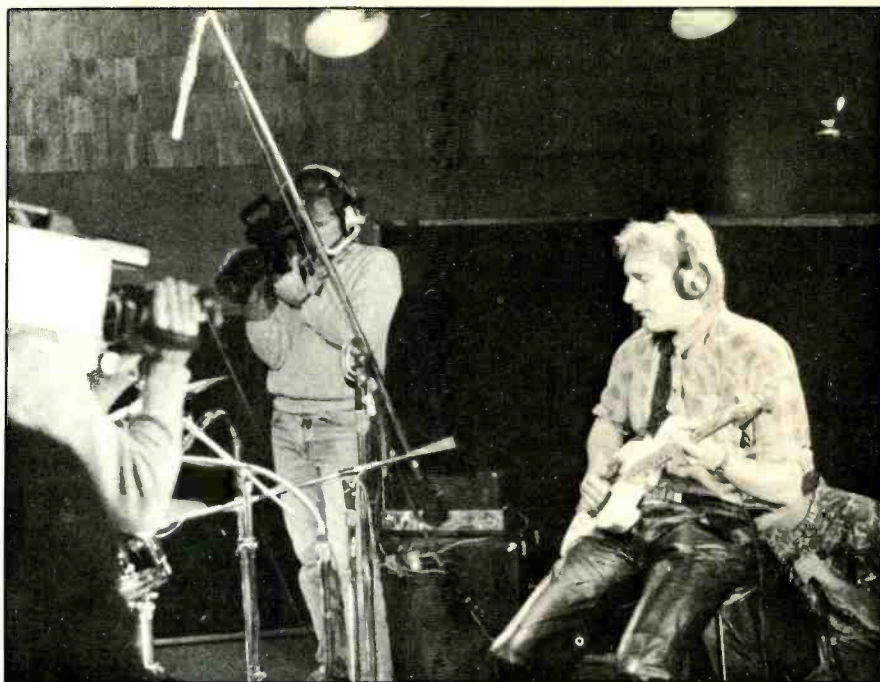
says something while the fader is down it might get by. But I must keep the lavalier down, because there's just too much sound in the room." Too much of the ambience of the amplifier getting back into the lavalier tends to create a hollow sound. "I've dedicated channels one and two," Phil continued, "and I've called it left and right music. I'm recording everything in stereo because as stereo televisions are becoming more and more the IN thing, we want to have it ready. Rob just told me today, this particular video will be issued on a VHS high fidelity stereo format. Track number three I call dialogue. That's the blend of the two Beyer lavalier microphones for the speaking."

The ½-inch four track is being recorded all the time. When the musicians play, it's recorded on both ½-inch and two-inch tape. If the engineer gets a really good mix on the ½-inch stereo tracks between the three instruments, then he will not have to come back and mix down from the two-inch tape. If the budget allows the traditional time, he can always take the two-inch, remix the trio and dump it back on blank ½-inch

tape. Then marry this ½-inch tape with the video tape, instead of the tape which was rolling at the time they were playing that song, winding up with two pieces of ½-inch tape of the exact same shoot. One, a live mixed stereo version which was done while they were playing, the other, a two-inch master which could be accessed months later. "It's back up upon back up," said Phil seriously. "I could give the stereo monitor output directly to the ¾-inch VCR's and that would be it. But what I am giving them is a separate feed to go onto the two audio tracks of the video machines. Track ONE is a mono music mix. Track TWO is the dialogue from the two lavalier mics. This way, while they're in the process of editing the video tape, they have sound. Plus, in case any of the tapes were damaged or destroyed, it wouldn't totally scrub the project. And on top of all that, I'm also giving a mix to a little speaker out in the lounge. There are about four or five different feeds that are coming off this Trident Series A Console, and because this particular console is so flexible and has such an extensive patch bay, it's no problem."

"At Marco Video we will do the striping of the audio tracks." Brian said, "the outline editing we will do somewhere else. The offline editing which is basically taking the original tapes and making *burn-in* window copies so you can see the time code. Then you make your edits with those window dub copies. You have to log your edits on the time code numbers for each shot, beginning and end. So you read off those numbers downstairs when you finally do the outline edit. The editor will punch the numbers into his computer and the computer will direct the tape recorders to go find those particular numbers and perform the edits. That is also where all of the video effects will be added (split screens, fades, titles, etc.).

The two Ikegami 79E cameras were shooting onto 3/4-inch tape. DCI has used the more expensive 1-inch broadcast quality video tape on some of their past projects. The 1-inch quality is thicker based and does not gain noise as readily as the 3/4-inch tape. "It loses quality as you run more passes," said Brian, "probably because the oxide rubs off. We are going to be editing directly onto 1-inch and you don't really lose any quality going from 3/4-inch to 1-inch. When you finally finish with your end product, you haven't lost any quality from the original negative. Whereas here, with the video tape, you're just constantly making copies. Each time you make a copy you're going to be adding more noise into the picture and getting less quality each time. When you go 3/4-inch to 1-inch, you don't do that. Of course, you're not starting out with the best quality to begin with. But you're going upwards to a better grade, so that first generation loss is free for that particular edit. Then you make all your copies from 1-inch. One-inch lasts much longer, you can make thousands of passes on it. You need the 1-inch rather than the 3/4-inch for a copy master. You can also make copies from the 3/4-inch but they only last around one hundred passes or so." Because of scheduling, the entire project from shoot to finish should take about three months to complete. "We have other jobs to do," said Brian, "and we can't always get right to these things. Sometimes it's good to get away from the project. Sometimes we edit for a while and then Paul or Rob will take a VHS copy of the tape home to view. They will make notes of the kinds of things



Will Lee laying down a bass track.

they want to include in the tape. Then when we start to edit again, we really tighten everything up. Select shots, maybe even work on re-ordering the stuff." Approximately 25% of all that has been filmed will actually wind up in the actual video.

"Neither one of these instruments is really my bass," reminded Jaco Pastorius, "I'm using Jerry Jermott's bass. Both of my main basses have fallen apart, which is a bad time since I'm doing this video. But it's cool, because I'm not really burnin' out, I'm showing more technique and stuff." Holding the beautifully scrolled instrument by its neck he added, "This Rivera bass sounds good, doesn't it?" The instrument's designer Jerry Jermott actually played acoustic bass before he moved on to the electric bass. "When I designed that bass, I wanted a natural sound in the instrument," Jermott recalled, "yet when I'm playing electric bass I also want that electric sound. So I wanted an instrument that could do both. I also wanted it to be lightweight and easy to play. It originally had frets on it, but I pulled the frets out. It sounded so good, and so warm with the frets, I felt it would sound even more fantastic without the frets. Jaco loves it! Abe Rivera did all the design, all the beautiful work. That's his forte. It's semi-hollow in design. The wood is maple, ebony, and some type of red wood."

The question and answer session

between Jermott and Pastorius was shot first. Pastorius explained and demonstrated a varied spectrum of technique and style as the Ikegami camera zoomed in for a penetrating close-up. Wallis considered using a voiceover during this demonstration portion of the video presentation, making it seem as though the person is speaking while he is playing.

Jaco's strong rhythm and blues influence was evident during some of the bass lines he demonstrated. Also made clear was the explanation of his feedback effects using fundamental harmonics through the overdrive section of the amplifier.

After the question and answer and demonstration sections were completed the producer called for a lunch break and the entire crew retired to M & I's posh lounge for a 6 foot long hero sandwich and liquid refreshments.

The second part of the day's shoot was to be the trio of Jaco, John Scofield, and Kenwood Dennard. Scofield is one of New York's master guitar players with some heavy credentials and his own identity. Dennard, noted for his work with Brand X and the Manhattan Transfer, has recently been gigging with Pastorius. Wallis explained to the musicians he wanted to capture some odd time playing, and the musicians discussed what direction the music should take as they made the fine adjustments to their instruments.



Phil Kapp engineering the session.

But before they could play the first note there was a power failure. Because of the extra lighting, video equipment, and musical instruments, there was a power overload and the breaker went off. The maintenance crew soon had things happening again and the work continued. The trio explored various feels and time signatures with exploding energy. They also played a Dennard composition which allowed the featured bass player ample space to display a beautiful sense of colors and use of harmonics.

Dennard's maple shelled Pearl drum kit was covered by eight microphones. The 22-in. bass drum had an Electro-Voice RE 20, the snare drum had a Shure SM 57, the three tomtoms used Sennheiser MD 421s, with a Neumann KM 84 picking up the Zildjian New Beat hi-hats, and a pair of Shure SM 81's for the overheads.

Scofield used an AS 200 Ibanez guitar with an array of effects which included an octave divider, a fuzz tone, a digital delay and a stereo chorus.

As far as Pastorius' bass was concerned Phil explained, "One side of it is coming in through a direct box, and the other channel is a Neumann U 47 FET mic'ing an Ampeg B 15. By blending both the direct and the bass amp sounds, you capture a very realistic impression of the bass. Because the amp almost rattles at times, there's a certain degree of intermodulation distortion, which kind of becomes part of the bass sound. While at the same time, the direct side provides a more pure sound. So I find that a combination of the two is very desirable."

"The first video we did with Steve entitled 'Steve Gadd Up Close' was more on technique," said producer Wallis, "this one will be more music. That's where Steve really shines!" The second day of the project began with Steve Gadd playing one top of a pre-recorded groove from the Yamaha RX11 drum computer. He went from big cannon fills to fragmented triplets creating a syncopation which sounded like a refrigerator falling down the cellar steps. After the taping, all assembled in the control room for the playback over the Big Reds. (That's the common name for the system.) "Internally," Phil revealed, "it's actually a 15-inch Altec Lansing 604 E which is a coaxial speaker. On some speakers, like the little monitors on the top of the board (referring to the Auratones and the

Yamaha NS10M monitors), the tweeter is separate from the woofer, kind of adjacent to it. Whereas in the Big Reds, it's a little better because there's the woofer, and right in the center of the woofer is a little horn which is your high frequency driver. So your access is a very symmetric arrangement."

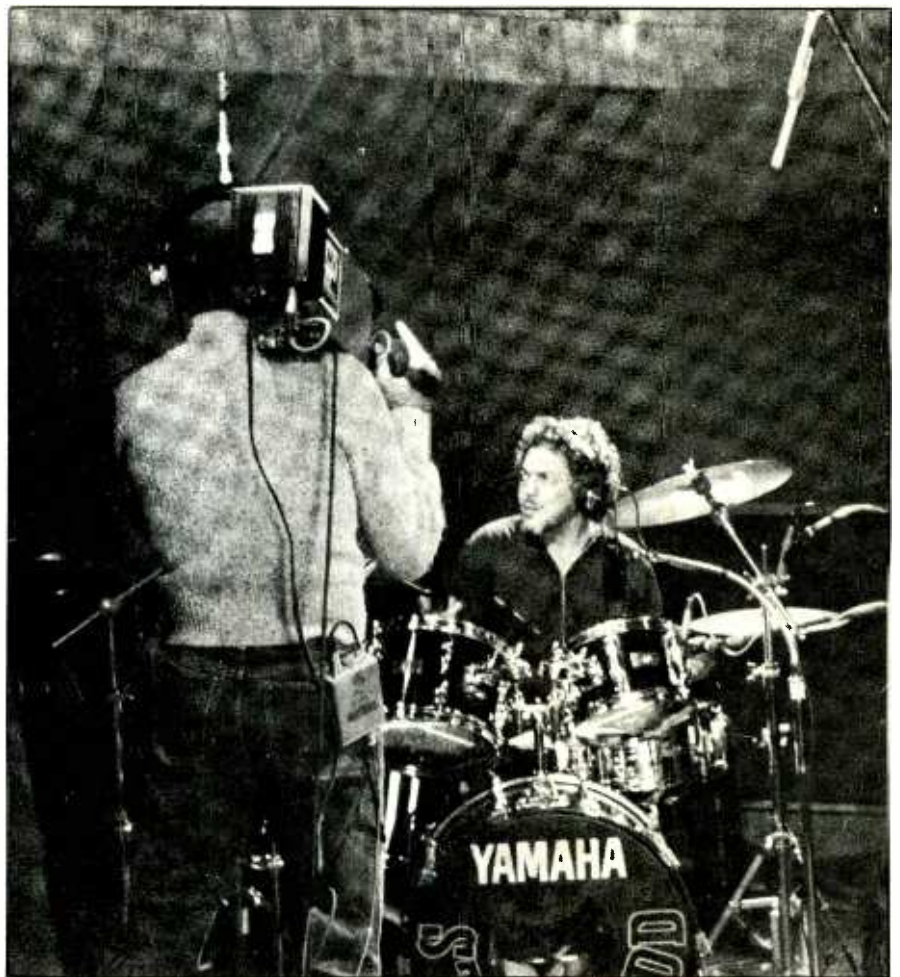
Studio veteran Richard Tee, who was feeling a bit under the weather, joined the drummer for a solid groove alternating from the Steinway acoustic piano to the electric Fender Rhodes. Gadd played with brushes and peppered the music with bass and snare drum accents. Adding a third studio great to the rhythm section, producer Wallis called in Will Lee, who not only played his Fender Jazz Bass, but also played harmonica on an extended jam. The trio discussed the next format that they were to improvise on while an assistant made some minor adjustment to the special floor lighting which illuminated Gadd's feet. The tune began and it evolved from a slow funk groove to a hard driving shuffle, as the cameras got great shots of the drummer's hands and feet. After playing several different feels, a union break was called. During that break, I discussed with Phil Kapp his approach to mic'ing the instruments. "I usually like to mic the tom-toms of the drum kit from the top. I've experimented with all different mic'ings. I've placed them up inside the drums with the bottom heads removed, but I found the best result is mic'ing the top surface at about a forty-five degree angle, about an inch to an inch and a half from the



Steve Gadd's drumkit featuring Yamaha drums.

tom heads. You get the impact of the drum stick hitting the head. When I placed the mics up into the toms I found it was more of a rubbery sound. You didn't really get the attack, but you got the pitch of the drum. That's not the way drums actually sound. Every engineer has his own mic'ing methods and will fight to the death that his is the best. It's like your favorite color or something. There's no hard fast rule about mic'ing. But just from my own experience, I've found that a single Sennheiser MD421 placed above and relatively close to the rim works best. You don't want to get into the drummer's way because a drum stick traveling ninety miles per hour against the microphone is not the greatest thing for a mic. At the same time, you want to catch the tone of the instrument. The most important thing, however, is the drum sound. The microphones are really secondary to the actual sound the drums are producing. Understanding of the tuning and dampening the instrument is crucial particularly when you are working with a drummer such as Steve Gadd. Far be it from me to delve into that realm. First of all he's using Remo Pinstripe heads, which are semi-hydraulic. Basically it's two layers of plastic with an oil film in between, which has a deadening effect. In fact a lot of drummers prefer to use that than to use a conventional head with padding on it. The drummer is simply providing us with the sound. The amount of muffling or deadening that he requires, and the combination of head choice and tuning is entirely his personal taste. So I let the drummer, particularly in the case of somebody like Steve who is probably the best studio drummer alive today, give me the sound. I must make sure that I capture it faithfully.

The acoustic piano is mic'ed with two AKG 414s. One placed up near the hammers in the upper range and the other placed near the tip for the lower range of the piano. When played back in a stereo spread, it gives a very realistic impression. In fact, if you make sure that you take the mic assigned to the high strings and assign it to the right channel and the mic closest to the lower strings and assign it to the left channel, when you listen to it back over a pair of stereo speakers it gives the illusion that you were seated at the piano. In other words, the keyboard going from low on your left to high on your right.



Steve Gadd pumping it out for the camera.

Next, we'll record Jorge Dalto on acoustic piano and Eddie Gomez on upright bass with Steve. I'm taking the actual direct sound of the pick-up [from the upright] on one line and then I'm placing a Neumann U47 FET microphone in front of the amplifier. And then by recording both the direct feed and mic'ed amp on separate tracks, I'm able to blend the two slightly different renditions of the sound. When you listen back in stereo, to panning the direct sound let's say to the left side, and the mic'ed amp to the right, it sounds spread out a little more. Technically, I could have also put a microphone in front of his bass, providing three different sounds. The only reason is that the bass is a very soft instrument compared to the drums. At times the drums can be twenty or thirty times louder than the bass. With a mic placed close to the bass, you'll end up hearing at least an equal amount of drums if not more drums than the bass itself. Because it wouldn't be in an ideal position it would tend to muddy the sound of the drums."

The group played a lazy swing groove, and the next was an up tempo

be bop tune. Then before they could count off the next tune Phil Kapp wisely called for a change of audio tape. The Ampex 197 reel was running a bit short and he didn't want to chance missing any of the spontaneous music. In a matter of moments they were ready. The band improvised on a Samba played at a bright tempo which climaxed as Gadd soloed over the ending vamp. Gadd wanted to hear it played back. As they listened, Dalto questioned the drummer about something at the beginning of his solo. Gadd admitted, "I was a little lost at the beginning of your solo. We can point that out, that's what happened. I was lost. The melody is like a bar short of a whole phrase. But it's all right though, because that's just as important to point out, if that happens...like a lot of times if you make a mistake and you repeat it at the beginning of the fifth bar, it becomes part of the piece. Ya know what I mean? So if no one else heard it, it's just best to keep going. Because even for one mistake the thing was feelin' good enough to keep it. The mistake wasn't worth stoppin' for; we were having a good time."

susan borey

Elliot Easton

Changes
Gears



At the wheel of his first solo album, the Cars' guitarist takes us for a spin to present his own perspective on rock and roll.

Elliot was galvanized at an early age by a televised image of Elvis Presley; he traded his Mickey Mouse guitar for a more substantial model and began to forge his own style. In order to learn more about the language of music, he attended Boston's prestigious Berklee College of Music and became immersed in that city's lively club scene. He joined several musicians in a band called Captain Swing. Within a year the group evolved into the Cars, and Elliot began the eight-year association which has found him creating, recording and playing hit after hit after hit.

Modern Recording & Music: After hearing you sing, I'm surprised you don't sing more on Cars albums.

Elliot Easton: I sing a lot, all background harmonies. I don't sing lead because we already have two lead singers. My record was not made in a fit of frustration at not being able to sing lead for the Cars. I really enjoy songwriting and singing. It's not meant to compete, it's another thing entirely. That's one of the reasons I'm not posing with a guitar on the cover. It's just an album of songs. It's not forty minutes of guitar histrionics, doing everything that people think I'm not allowed to do with the Cars or some kind of nonsense like that.

MR&M: How did your solo recording process differ from working with the Cars?

EE: If you go to a session as a guitar player, you're worried about your part mainly, but the songwriter is concerned with communicating what he's hearing in his head to engineers, producers, musicians and the like. I found that I had to do a lot more decision making.

MR&M: Do you have a lot of parts in mind when you went into the studio?

EE: A lot, yeah, and some came from the people I was working with. It's a great feeling to have someone

think about your song and try to come up with something nice for it.

MR&M: How involved do you get with the actual process of recording?

EE: I get very involved, only I may not express it by saying "Give me 2K here." I may just say, "Give me a little more top end." or something. John Lennon was a lot like that. I was just talking to someone who had worked with him a lot in the studio, and they said he knew nothing about the studio. If he wanted slap echo on his voice, he'd go, "Just give me some more Elvis."

I don't think you really need to know technical things to get your songs across. I think it's more important to choose an engineer who'll understand your requests and put them into technological realization.

I concern myself with the music. If I hear something that's wrong I'll try to describe it verbally as best I can and keep at it until it sounds right to me.

MR&M: Are you pleased with the faithfulness of this record to what you wanted to achieve?

EE: It came pretty close. Suffice it to say that it was my first attempt, and I learned a lot from it that will show up on the next one.

MR&M: Four tracks on *Change No*

Change have both acoustic and electric guitar. Were you going for a certain effect with that combination?

EE: I wasn't concerned with how acoustics sound with electrics. It's just nice to hear acoustic guitar in a pop song. It's more felt than heard in some ways. It adds a little sparkle to the track. It almost mixes in with the cymbals.

MR&M: On "Wide Awake" it sounds like a cello is playing a low end part. Is it?

EE: It's a cello sampled into a synthesizer, an Emulator. We didn't use any computerized keyboards on the album. Mainly, we used a Yamaha DX7, the Emulator, an OBX and a Korg of some kind. Stephen Hague, who co-produced it, played the synthesizers.

MR&M: Do you take any kind of stand on the synthesizer controversy?

EE: I've never seen a synthesizer player light an audience on fire, and, until I do, I'll stick with guitar.

If you get twenty guitar players in here, set up one guitar and amp, you'll hear twenty different sounds. There's nothing you can compare to flesh against metal actually physically producing the note and controlling the vibrato with your fingers, which connect to your brain and nervous system. If you get twenty keyboard players and tell them to press middle C, you're going to get the same sound.

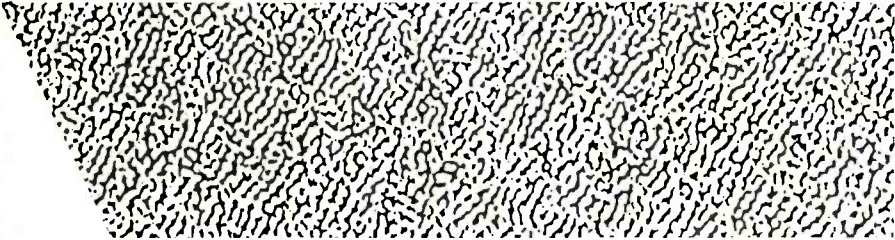
MR&M: We heard the closest thing to a "Lucy In The Sky With Diamonds" sound on "Hard Way"...

EE: In the chorus. It's a guitar played through a Leslie, which is what the Beatles always used before the chorus pedal was invented. I decided to actually do it the real way, and put mics all around the rotating speaker.

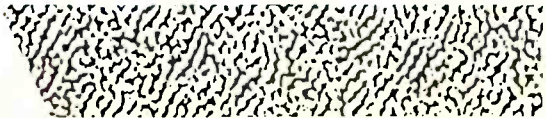
It's like the end of "Badge" by Cream where Harrison comes in with that arpeggiated figure, or in *Abbey Road*. Before Roland got started, people used to plug their guitars into those Leslie speakers and make it sound kind of organish, and that's probably what reminded you of that.

MR&M: Tell us about your recording process.

EE: Generally, we would set a tempo with a drum machine and I'd put down a reference rhythm guitar part of the entire arrangement of the song, so I wouldn't have to be out there for every take the drummer played. I could be in the control room with the producers analyzing what's happening with the drums.



If you go to a session as a guitar player, you're worried about your part mainly, but the songwriter is concerned with communicating what he's hearing in his head to engineers, producers, musicians and the like. I found that I had to do a lot more decision making.



After we'd gotten the drum track, we'd put on the bass, and then we'd start building the bed. The next step after that, before all the frills and icing goes on, is usually background vocals. If you want a lush sound, you have to do lots and lots of overdubs. You have to save tracks to keep bouncing down so you'll get like 56 vocals on a three-part harmony.

Early on I always put a reference lead vocal so that the players can follow the song. Once the background vocals are on, we start fleshing it out with guitar and synthesizer parts. Then come lead vocals and solos, and then afterthoughts such as percussion and stuff like that.

MR&M: What effects did you use on the vocals on the album?

EE: We used an AMS and a Lexicon 224 in places. I think we did most of the vocals through a Neumann 87, some through a 47. That's about all I could tell you, really, because I'm not a terribly technically-oriented person. We just used some regular old plate reverb, y'know, and EQ—that's not the fashion magazine, that's equalization.

MR&M: Where was *Change No Change* recorded?

EE: At the Cars' studio, Synchronsound, in Boston, but to be fair, I mixed the album in New York at Electric Lady.

MR&M: Why did you mix it there?

EE: Because of the more advanced equipment. Where you mix, as opposed to where you track, is more crucial, I think, to the production effect. Nobody wants to mix on anything but Solid State Logic anymore. You can go into a church that has great drum sound and record drums, but when it comes down to mixing, you want to do it on a Neve, or an SSL, something very advanced and automated. Synchronsound has an older MCI board. It's fine for recording, and we've mixed albums there, but I just chose to mix on a different desk.

MR&M: Do you have a home studio?

EE: Yes, a very basic one. The heart of it is just one of those four-track cassette portastudio things.

MR&M: Which?

EE: Teac. I love it. It's all I need to sketch out song ideas. I don't like to overdo pre-production, because then it feels like you're doing the album twice. I use it as a sketch pad.

MR&M: You went to the Berklee College of Music. Did you study classical or jazz?

If you get twenty guitar players in here, set up one guitar and amp, you'll hear twenty different sounds. There's nothing you can compare to flesh against metal actually physically producing the note and controlling the vibrato with your fingers, which connect to your brain and nervous system. If you get twenty keyboard players and tell them to press middle C, you're going to get the same sound.

EE: I went there to learn music theory. Berkeley had little or nothing to do with my guitar style or technique or playing. I used to get made fun of for playing solid body guitar rather than a big, fat jazz guitar. They criticized the way I held a pick. They'd snigger at my Les Paul, y'know, and now they want me to endorse their school in magazines! They have a recording studio there now, they've probably come a long way in the guitar department.

I went there to learn the names of the relationships between the notes that I already heard in my head, to know what to call them so I could express myself to other musicians. I majored in arranging and composing, and got out before it would start affecting my playing.

MR&M: Do you believe that if you learn certain licks, they'll crop up whether you want them to or not?

EE: Naw, I don't even give a sh-- about that. If you have a half-hour lesson a week, what is that as far as learning how to play guitar? You can walk into a good record store and the entire history of music is available on disc, I mean, if you've got half an ear and half a brain, you can put it together and develop a style. When I was fifteen years old and everyone was listening to Clapton and Beck and Page, I would read the interviews and go out and buy the records they said they listened to. I was astonished to find that they had more or less taken the stuff note for note,

and all they did was play it through more distorted amplifiers, so I decided early on that I would form my own opinion on the subject, you know what I mean? You want to learn to play like Chuck [Berry], why listen to Keith [Richards]? Go dig Chuck. And if you want to be Claptonesque, go listen to Otis Rush and Buddy Guy and Albert King. Form your own opinion, form your own style. It takes a certain amount of consciousness to realize that that's where it's at, but I never idolized guys that were just five or six years older than me.

That was my approach on the subject, and I would just dig through the budget bins and find Skip James records and Vanguard stuff, and listen to things like that.

MR&M: Do you think you can sustain the rebellious attitude of a rock and roller into late middle age?

EE: Well, I'm certainly not obsessed with it the way someone like Pete Townshend is, where he beats his breast in every interview about how you can't be a valid rock n' roller because you're too old. He painted himself into a corner by saying, "Hope I die before I get old." Go tell that to Chuck Berry!

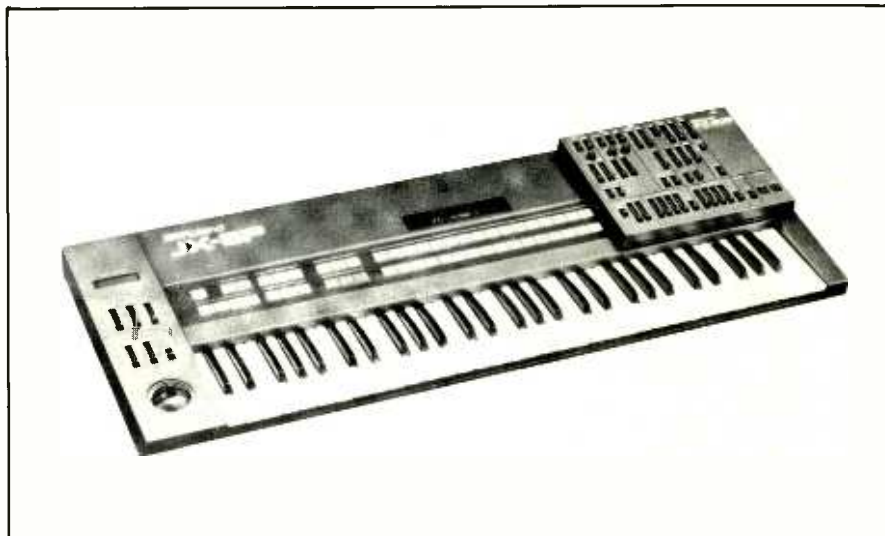
At this point we're practically into our third generation of rock and roll. The kids are sitting home watching heavy metal and their parents grew up at the Fillmore seeing the Dead, and their parents were jitterbugging, so it's a funny thing. I don't know, what were we talking about?

The Market Place

what's new in sound and music

ROLAND JX-8P SYNTHESIZER

The new synth from Roland, the JX-8P, offers a MIDI controller with dynamic response and aftertouch and a new spectrum of sounds on an analog/digital hybrid synthesizer for the synthesist/keyboard player. A six voice polyphonic synthesizer, the JX-8P has twelve DCOs, 64 presets, 32 programmable presets (expandable to 64 via MC-16 cartridge), two envelopes per voice and complete MIDI compatibility. The Amplitude Modulation (AM) synthesis mode gives the user the ability to create clangorous bell and percussion sounds, as well as sounds based on complex waveforms, by providing improved cross-modulation possibilities. These sounds can then be played with absolute fidelity of pitch throughout the keyboard's range. This makes sound effects, and other sounds that are not usually pitch related, much more musical. When AM synthesis is used with velocity sensing and aftertouch that can add brilliance, vibrato, or volume, new areas of sound reproduction open to the synthesist. Oscillator 2 amplitude can be controlled by either envelope for synthesizing transient sounds. Adding key-follow, two envelopes per voice, and Roland's standard high and low pass filters to the previously



listed features makes the JX-8P a versatile and creative tool for performer or composer. New patches or alterations to existing patches, can be made in two ways: parameters can be pulled up one at a time, and altered using the JX-8P's LED screen to monitor parameter values; or the optional PG-800 Programmer (seen in photo) can be used to make the synthesizer's parameters simultaneously available for edit or rewrite. A patch chain can be programmed into the JX-8P's memory for easy program changes in live performance.

Press a single button, and your next patch pops up, no matter where it's located in the memory bank. Additional JX-8P features include: a 61 key five octave keyboard six keyboard modes (Poly 1, Poly 2, Unison 1, Unison 2, Solo 1, and Solo 2), two position chorus, Hold pedal, and Memory Protect switch. The suggested retail price of the JX-8P is \$1695. The PG-800 programmer retails for \$295.

Circle 34 on Reader Service Card

AUDIO TECHNICA 4-TRACK RECORDER



Audio-Technica's new AT-RMX64 6-input, 3-motor, 4-track Recorder/Mixer is designed to accommodate any microphone or direct input, including low-impedance balanced professional microphones requiring 48V phantom power. A total of 60 dB of available input attenuation guards against overloading. Two-band parametric equalization is available on each input, with choice of shelving or peak/dip control and continuously variable frequency and gain controls. Two auxiliary sends are included,

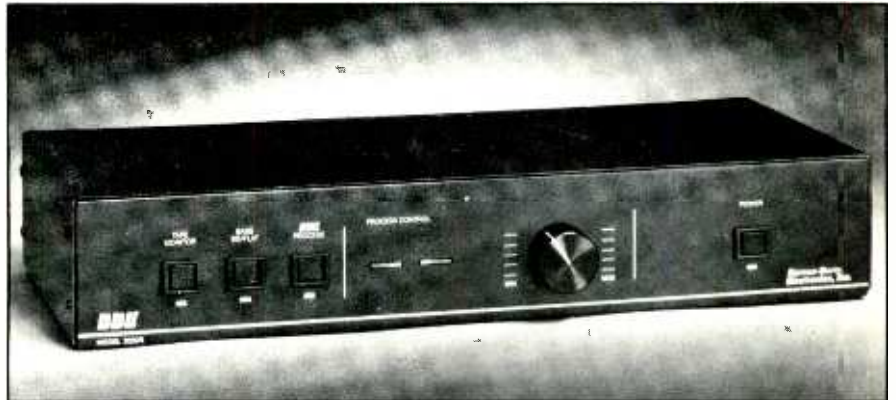
switchable from pre-EQ and fader to post-EQ and fader. Returns have individual volume controls, and all inputs and returns can be assigned as desired. Each input can also be sent to any of four sub masters. SOLO switches permit monitoring any input or return regardless of fader settings. With 72 dB of gain available in the mixer, the AT-RMX64 easily drives power amplifiers or outboard gear. Separate monitor and house mixes are readily available to the user, with flexibility which rivals dedicated performance mixers. The unit is capable of making 4-track tapes at $3\frac{3}{4}$ i.p.s. speed for use as demos, or $1\frac{1}{8}$ i.p.s. 2-track tapes compatible with all standard cassette units. Providing punch-in/punch-out capability, variable pitch control, Dolby B and C noise reduction and individual track recording, the AT-RMX64 permits songwriters and musicians to create high quality demo tapes from virtually any source. The result can be mixed down to two channels, playable on any standard

tape recorder. Four VU meters plus an overload LED assist in controlling each output channel. In addition, the SOLO bus is visually monitored by a 7-element LED display. A choice of headphone outputs adds to the overall flexibility of the AT-RMX64. It is expected that the AT-RMX64 will appeal to those who need to make high quality recordings but who also require a high performance live mixer. By providing control features and flexibility not offered by the "portable studio" tape recorders, at a price well under the existing professional components, the AT-RMX64 creates a new class of integrated recorder/mixer for both performing and recording musicians. In addition to professional electronics, Audio-Technica markets a variety of microphones, cables and accessories, plus high fidelity components including phonograph cartridges, loudspeakers, stereophones, tone arms, and record and tape care products.

Circle 36 on Reader Service Card

BARCUS-BERRY ELECTRONICS SIGNAL PROCESSOR

Barcus-Berry Electronics' new multi-band, program controlled signal processor Model 2002R has been termed a "component's component." The need for this type of signal processing whenever there is an audio (amp/loudspeaker) system was the motivation for the development of this hybrid circuitry. The BBE™ Model 2002R is designed to solve the interface problem which occurs when connecting any speaker with any amplifier even superb quality speakers and amplifiers. There does not have to be a problem with either speaker or amplifier for an audio system's output to discernibly improve with the addition of the Model 2002R. This signal processor uses a technology which is based on load reactance compensation and specifically designed to improve sonic clarity of virtually any reproduced sound. To maximize sound fidelity, the dual-channel BBE™ Model 2002R utilizes high-speed dynamic gain-control circuitry to audibly improve the reproduction of program transients. This new technology adds brightness and presence without the undesirable stridency which is so often characteristic of



equalized sound, especially at peak levels. This technology also increases voice intelligibility by eliminating frequency-band masking when important sibilant and consonant elements are represented in the program signal. Installation of the Model 2002R into any audio chain requires nothing more than insertion between the program source and its amplifier, recorder or signal transmission line. The compact size of the unit, a 16-in. long chassis, which occupies one and one-half standard EIA spaces, and a depth measuring $7\frac{1}{4}$ -in. makes insertion extraordinarily easy. Normal set-up requires only simple adjustment of a single control for each operating channel. Once installed, the operator need not

worry about adjustments, as all processing functions are fully automatic. Within the BBE™ Model 2002R phase adjustments are primarily directed toward preventing time lag distortion while the automatic gain changes are based on interband program amplitude ratios. The swept frequency response of the system is essentially flat from 20 Hz to 20 kHz in both the operating and bypass modes. Amplitude changes are developed only in direct response to application of a spectrally-diverse program signal. The first pro sound unit, BBE™ Model 2002R, was introduced in the fall of 1984. The suggested consumer list price for the BBE™ Model 2002R is \$850.

Circle 37 on Reader Service Card

GAINES AUDIO CABLE TESTER

The Checker from Gaines Audio is a new, simple and inexpensive cable



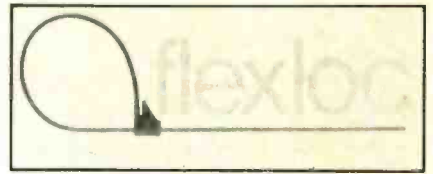
YAMAHA CX5M MUSIC COMPUTER

The Yamaha CX5M Music Computer combines the power and convenience of the MSX [Microsoft] standard with Yamaha's extensive musical capabilities. A built-in FM Sound Synthesizer incorporates the same advanced FM tone generation system used in Yamaha's DX Series Digital Synthesizers. In addition to accepting all MSX tape and cartridge programs, the CX5M uses custom Yamaha software for several specific musical applications. Built-in software accesses the FM Sound Synthesizer's 46 preprogrammed voices. These sounds can be recorded and instantly played back using the CX5M's memory for storage and playback for up to 2000 notes. Yamaha has also included an auto-accompaniment section, which includes bass, rhythm and chords. With the optional YK-01 (small keys) or YK-10 (full size keys) keyboard, the CX5M becomes a live performance synthesizer. A programmable keyboard split allows you to play two voices simultaneously, if desired. The CX5M also has MIDI which allows interface with most professional synthesizers, including Yamaha's DX series. Yamaha is also offering several optional software cartridges to augment the powerful musical capabilities of the CX5M. The FM Music Composer (YRM-101)

testing device designed for use in the shop and in the field. It accepts all popular audio connectors (XLR, stereo or mono 1/4" phone, and RCA phono) in any combination and quickly indicates normal continuity, open circuits, short circuits, and reverse phase conditions. The cable is tested by plugging it into the Checker, pushing three momentary switches, and observing the LED display, all of which takes around 15 seconds. More convenient to use than a general purpose multimeter, the Checker quickly weeds out questionable cables and cuts repair time considerably. Housed in a rugged cast aluminum case with black textured enamel finish and durable silk-screened graphics, the Checker fits easily into a pocket. Connectors are by Switchcraft and Neutrik, and power is supplied by a 9 volt battery which should last about two years in normal use. Suggested retail price is under \$60.

Circle 38 on Reader Service Card

VISUAL DEPARTURES REUSABLE CABLE TIES



Visual Departures' new Flexloc reusable cable ties are ideal for bunching cables attached to mics, speakers, and instruments, computers and peripherals, home entertainment systems and a/v electronic and electrical hardware. Their quick-release *pinch of the fingers* lock enables you to use the cable ties time after time. Made from tough, flexible nylon (Type 66), Flexloc has a tensile strength of 50 pounds. Each 10-in. fastening strap is self-locking with a ribbed backing that permits diameter adjustments up to 2 3/4-in. and secures the bundle until released. Flexloc cable ties are available in packages of 20 direct from Visual Departures, Ltd. for \$7.00 (includes First Class postage and handling).

Circle 39 on Reader Service Card



enables computer-aided music composition and orchestration, with full performance of all compositions. The FM Voicing Program (YRM-102) permits the creation of new voices and modification of the FM Sound Synthesizer's standard voices. By connecting the Yamaha DX7 synthesizer and the CX5M via the MIDI terminals, the DX7 Voicing Program (YRM-103) provides extremely efficient voicing of the DX7, with on-screen displays of all voicing parameters. FM Music Macro (YRM-104) allows the FM Sound Synthesizer to be accessed through MSX Basic programming for voice selection,

music composition and automatic performance. The CX5M incorporates a standard ASCII keyboard. In addition to alpha-numeric characters, special graphics characters can be accessed using the CODE and GRAPH keys. Ten function keys are also available for a wide selection of commands. The suggested retail price is \$469. The YK-01 mini-keyboard's suggested retail price is \$100 and \$200 is the suggested retail price of the YK-10 keyboard. All Yamaha software cartridge packages have a suggested retail price of \$50.

Circle 40 on Reader Service Card

& MUSIC...



THE KINKS: *Word of Mouth*. [Produced by Ray Davies; engineered by David Baker; recorded at Konk Studios, London, England.] Arista AL 8-8264.

Performance: **Kink-etic energy**
Recording: **Krystal klear**

When "You Really Got Me" was released in 1964, The Kinks established themselves with a sound, one that was of stark, raw, harsh and energetic guitars. Also on that timeless single was Ray Davies' pleasant, throaty drone that has stayed with the band as its career enters its 21st year. And it is these two characteristics that make "Word of Mouth" one of The Kinks' finest efforts in recent years, amidst a new drummer, two tracks sung by Dave Davies and the quirks, observations, attitudes and ineffable gifts in the songwriting of Ray Davies.

Three of the songs on this record are from the movie-for-video *Return to Waterloo* written by Ray. Those cuts, "Sold Me Out," "Going Solo," and "Missing Persons," are also the tracks in which Mick Avory, the group's original drummer, is present. His replacement is Bob Henrit who used to pound the skins alongside bassist Jim Rodford in the band Argent. Brother Dave lends his lead vocals and trademark Les Paul guitar on "Guilty" and "Living On a Thin Line."

The unequivocal standout here is "Do It Again" with Ray's nearly nasal vocals trying to hit those highs in that irresistible way and the trademark garage rocking guitars. Davies takes a stab with his pen at material gains that success brings like "a new house, a new nose." The clarity with which the song is recorded allows the



guitars to vibrate with one helluva wallop. Towards the end of the song as it winds down, it segues into the titlecut with curious quips by Ray.

"Massive Reductions" is another Davies tune about low budgets, economics, unemployment and trying to survive, whether it be because of too much money or too little. This one starts out with an industrial-assembly line type bass line with a trumpet, saxophone and piano all sounding as though they are tuning up in an orchestra for a masterful performance. They eventually all catch up with each other, and when they do, "Massive Reductions" is a playful romp through the land of the almighty dollar.

The Kinks seems to use the acoustic guitar whenever they want to give their listeners a treat and this doesn't let up on "Good Day." With an uptempo and cheery disposition, the song breezes along with a calypso taste. The guitar chords ring proud as the country twang of the harmonica embellishes the piece at regular intervals. Again present is the wry wit of the older brother, Ray, as he sings a song of optimism for a poor bloke with holes in his socks.

With the exception of the Rolling Stones, there isn't a "practicing" rock band that has been around as long with its founding, key core members intact. Some would say that that makes The Kinks a sort of rock and

roll living institution. The band has certainly had its successes and flops. This effort can be filed under success.

—martin basch

JOHN FOGERTY: *Centerfield*. [Produced by John Fogerty, engineered by Jeffrey "Nik" Norman, recorded at The Plant Studios, Sausalito, California.] Warner Brothers 9-25203-1.

Performance: **Committed if not groundbreaking**

Recording: **Clean but never slick**



Sometimes trendiness gets to be more than just annoying. McDonalds uses poppers and lockers to sell Big Macs; Macy's has a display window full of Frankie t-shirts. Get the picture? Enter ex-Creedence Clearwater Revival leader John Fogerty from a nine-year self-imposed exile with a disc that for the most part sounds as if it were recorded fifteen years ago. Heaven help the trend-busters.

This "timelessness" on *Centerfield* cuts both ways. On "The Old Man Down the Road" and "I Saw it on T.V.," Fogerty manipulates the musical allusions to old Creedence songs ("Run Through the Jungle" and "Who'll Stop the Rain," respectively) to give the songs greater resonance and place his images in context. On "Searchlight," though, Fogerty quotes CCR's "Born on the Bayou" and offers convincing evidence supporting the Law of Diminishing Returns. You can go home again sometimes, but not all the time.

Fogerty's attempt to integrate 80's sounds in his music are fascinating if not always successful. The syndrums sound like Nigel Olsson's Synsonic Drums commercial a few years back, but the synthesizers on "Zanz Kant Danz" and the title track suggest that

Fogerty may one day master more contemporary rock idioms as well as he has the classic ones.

As with all his post-Creedence work, *Centerfield* is a one-man album. Fogerty has overdubbed himself into a genuine rock 'n' roll band without sacrificing the apparent spontaneity such a move usually necessitates. On his two mid-seventies LPs, *John Fogerty* and *Hoodoo*, the artist often sabotaged excellent songs because he was not yet proficient on all the instruments he played, especially drums. Nearly a decade of woodshedding has solved this problem: the Fogerty/Fogerty rhythm section is now the equal of Creedence's classic Stu Cook/Doug Clifford team. Too bad Fogerty can't take this band on the road.

Centerfield is a transitional album for John Fogerty. He has some new styles with which to experiment, but he has no desire to abandon his classic CCR sound. Undoubtedly, it will be fascinating hearing him manage a fusion. Let's hope we don't have to wait another nine years.

—jimmy guterman

FOREIGNER: *Agent Provocateur*. [Produced by Alex Sadkin and Mick Jones, engineered by Frank Filipetti, recorded at the Hit Factory in New York City and Right Track Studios in New York City.] Atlantic 7 81999-1-E.

Performance: **Predictable Foreigner**
Recording: **Overproduced**

When Foreigner was created (rather than formed) in 1977 to produce hits, the then-sextet forever sacrificed artistic qualities for crass commercialism. And ever since 1977, the hits—"Cold as Ice," "Double Vision," "Urgent," "Hot Blooded," and "Feels Like the First Time"—have flowed, even when the group cut down to its present quartet.

Agent Provocateur is pretty much like all of Foreigner's recent albums—predictable, stereotypical Foreigner with all of the proper instruments sounding perfect. Foreigner doesn't seem to make mistakes, at least not on vinyl. And although there are no instant classic songs on *Agent*, ad nauseum from repeat listening on the radio will make giant hits for Foreigner since they're the type of group that works slowly on the (dulled) senses and builds blockbuster hits.

Foreigner's specialty is ballads

and compact rockers with the former more realized even though the latter are their best sellers. They deal with pain in a positive manner in the ballad "I Want to Know What Love Is" as a synthesizer cushions the bottom for an orchestrated feel. "Tooth and Nail" is probably the hit rocker with everything falling (too perfectly) into place.

Foreigner sings about lost love and people getting into trouble, and by hitting upon the emotions of the general public they have found a *built in* audience. Only on "Stranger in My Own House" is there some raunchy guitar while "She's Too High" contains some probing guitar lines. Only the electronic percussion on "Tooth and Nail" is provocative. But all too often, *Agent Provocateur* in an uneventful, sometimes boring, rock album by a group that no longer has its once urgent pulse. None the less they'll have the *built-in* audience and the air time that goes with it.

—bob grossweiner

MALCOLM McLAREN: *Fans*. [Produced by Robbie Kilgore and Malcolm McLaren, engineered by Tom Lord-Alge and Mike Finleyson, recorded at Unique Recording, New York.] Island 7 90242-1.

Performance: **Operatic new music**
Recording: **Busy production**



Primarily known as a British new music rock manager (as in the Sex Pistols, Bow Wow Wow, Adam Ant) Malcolm McLaren exploded on the music world late in 1982 as an artist with his own album, *Duck Rock*. The LP was a brilliant synthesis of various forms of new and old music that incorporated rapping, street music, and an overall ambience that recalled a radio program without commercials.

Ambience is again the key to McLaren's newest album *Fans*, a six-

song, 30 minute plus synthesis of opera and contemporary music. Five of the selections are adapted from Puccini—two from *Madam Butterfly*—and one from Bizet's *Carmen*. The curious combination plays off many layers with real opera singers either in the background under McLaren's contemporary music—or occasionally up front, sometimes in a busy mix, which can make the lyrics quite indecipherable.

Fans from Puccini's *Turnadot* is quite fascinating with a fan singing a letter of fandom while the tenor sings in the background and the contemporary singer croons in the foreground. It is a very visual and aural track with the fan coming to life like the fans who hang around the stage door. *Boy's Chorus* is McLaren's autobiographical narrative, complete with some laughter and Japanese vocals emanating from the background.

While the concept is particularly unique, some of it gets swallowed up in the production at times when the various sounds overwhelm the lyrics. Opera is meant to be heard; new music thrives on concealing enunciations. But McLaren has added humor and eloquence to new music and has possibly found a new art form. Coproducer Robbie Kilgore plays almost all of the instruments, which unfortunately are not credited. If McLaren's fans seek out operas as a follow-up, it would be educational.

—bob grossweiner

THE MANHATTAN TRANSFER: *Bop Doo Wopp*. [Produced by Tim Hauser, engineered by Eliot Scheiner, Dan Kasting, R. Lush, and Howard Steele, recorded live at Nakano Sun Plaza, Tokyo, Japan, and at Symphony Hall in Boston and at Paradise Studios in Sydney, Australia, and at Studio 55 (no city listed.) Atlantic 7 81233-1.

Performance: **Vocal-ease**
Recording: **Crisply clean**

As a jazzy vocal group, the Manhattan Transfer combine nostalgia and oldies with contemporary vocals generally exuding a vibrant personality on stage and record. And for the most part, their instrumental backings have never been too demanding, rarely overwhelming the vocals. *Bop Doo-Wopp*, a hodge-podge LP, contains the quintet's first American live sides outside of "Bird-

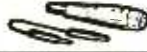

land" with Weather Report at *The Playboy Jazz Festival* (Musician Records). Atlantic released a live Manhattan Transfer LP in England a few years ago, but inexplicably refused to issue it in America. It lacks concept with five live tracks recorded in Tokyo, one studio song recorded in Australia, three studio tunes cut at Studio 55, one song recorded at Symphony Hall in Boston at an "Evening at the Pops" series for PBS. Plus it also includes "My Cat Fell in the Well (Well! Well! Well!)", which had its rhythm tracks produced by Richard Perry back in 1976 while the vocals were added eight years later under Tim Hauser's production. And with its haphazard song arrangement where the live and studio songs are interchanged, *Bop Doo-Wopp* resembles a patchwork quilt possibly done to fulfill a contract.

And for its first live sides in America, Manhattan Transfer has not chosen its best known songs—"Birdland," "Twilight Zone/Twilight Tone," "Operator," and "Boy From New York City"—but instead has included oldies like "That's the Way It Goes," which is dedicated to the Harptones, "Heart's Desire," dedicated to the Avalons, and "Route 66." Unfortunately, however, these are not classic oldies, but are ones that remind the listener of the original group. Manhattan Transfer neither transforms them into its own vehicles or emotionally recreates them. But with most of the ten songs under three minutes, the album sounds like an oldies show at times.

"Route 66" and the 1930's "High High the Moon," which was immortalized by Ella Fitzgerald, feature fine instrumental backing with guitarist Wayne Johnson, who has three solo jazz instrumental albums of his own on three different labels. "Jeannine," a classic Duke Pearson track, the longest song at 5:30, has a swinging scat vocal arrangement while Dan Roberts stretches out on woodwinds. "My Cat Fell in the Well" is a fun song about what else, a cat who fell in a well.

Bop Doo-Wopp is a fun album without any pretensions but also without Cheryl Bentyne, Tim Hauser, Alan Paul, and Janis Siegel's engaging personalities that have made their previous albums so delightful. Even the clean production cannot save a directionless concept. An entire live album would have sufficed—even a live side.

—bob grossweiner

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MADONNA: *Like A Virgin*. [Produced by Nile Rodgers, engineered and mixed by Jason Corsaro at The Power Station, New York City, mastered by Bob Ludwig at Masterdisk, New York City.] Sire 1-25157.

Performance: **Somewhat of a letdown**
Recording: **More bass, please**

Madonna's swift rise to superstardom has jettisoned her from downtown Manhattan obscurity right into the minds and dreams of males everywhere. With her pouty lips and her ever-exposed tummy (all part of her sultry video image), she's become the sexual fantasy of many American males. Her success though is real—as real as the royalty checks she's been getting plenty of these days.

Right now Madonna *must* be thanking her "Lucky Star," not to mention her "Physical Attraction," her "Holiday," her "Borderline" and "Everybody." Those are the hit singles that she has notched from her debut LP, *Madonna*, now platinum. That album, which was high on Billboard's Top 30 after a phenomenal sixty-six weeks, surprised many people—including me. It seemed, at first, like just another dance-club record by a white female artist, a la Tina Marie. But then radio formats changed to the less ossified seventies-type "hot hits" formula, and Madonna released a couple of lubricious video clips to accompany her singles and *Madonna* became a greatest hits package. Its followup, *Like A Virgin*, postponed for weeks because of its predecessor's popularity, is somewhat of a letdown. (I found it less funky, more methodically crafted than *Madonna*.) Nonetheless, it has vaulted into the Top Ten in a matter of weeks—no doubt a result of its former's success. With her old fans flocking to their neighborhood record stores in droves to buy the new record, eager with anticipation and a couple more of those sexy video clips to promote it, it just might sell even more units than the debut did.

Recorded digitally from start to finish on producer Nile Rodger's Sony equipment, *Like A Virgin* has all the snap and punch of a shot of down home whiskey—you know the kind like ol' gramps used to make? But though Tony Thompson's sledgehammer-like drumming, Rodger's clean precise guitar playing, Rob Sabino's gorgeous synthesizer work that serves only to enhance the rest of

the tracks (no electronic pyrotechnics here), and all the other instruments are rendered with clean timbral detail and sharp, biting presence, what is lacking is a full-bodied bass reminiscent of tunes like "Good Times" and "We Are Family" from Rodger's old bag. This might upset *some* dance floor enthusiasts—but not most. Because now, "Like A Virgin," the LP's first single, which borrows the eighth-note feel bass line

"Shoo-Bee-Do" and "Pretender" are particularly grating. In them Madonna tries to come off as the one that is used, manipulated and dumped upon. But I read Christopher Connelly's recent *Rolling Stone* profile, and after reading it, it became quite clear that *she's* the one that walks over people for fame and glory's sake. To her, being rich and famous is all that matters, hence "Over and Over," a song she co-wrote with Steve Bray



from Michael Jackson's "Billy Jean," is at the top of the dance chart.

The momentum initiated on the LP's kickoff tune, "Material Girl," is maintained throughout the record ("Over and Over," "Dress You Up," and the title track are particularly bouncy), waning only for "Love Don't Live Here Anymore," Barbra Streisand's emotional tearjerker of a few years ago, and "Shoo-Bee-Do." On these Madonna tries to emote tenderness and grief, but her voice, although sweet, sounds curiously empty. Having it mixed out front with piercing closeness leaves it open for scrutiny. Indeed, it's times like these when analog *smudge* works to the producer's and artist's advantage.

that outlines the ruthless brutality involved in getting to the top.

Meanwhile, in "Material Girl," the record's second single, Madonna comes off as a high priced whore as she sings: "The boy with the cold hard cash/Is always Mr. Right." These are definitely not the sentiments of someone who claims to feel "like a virgin."

—havelock nelson



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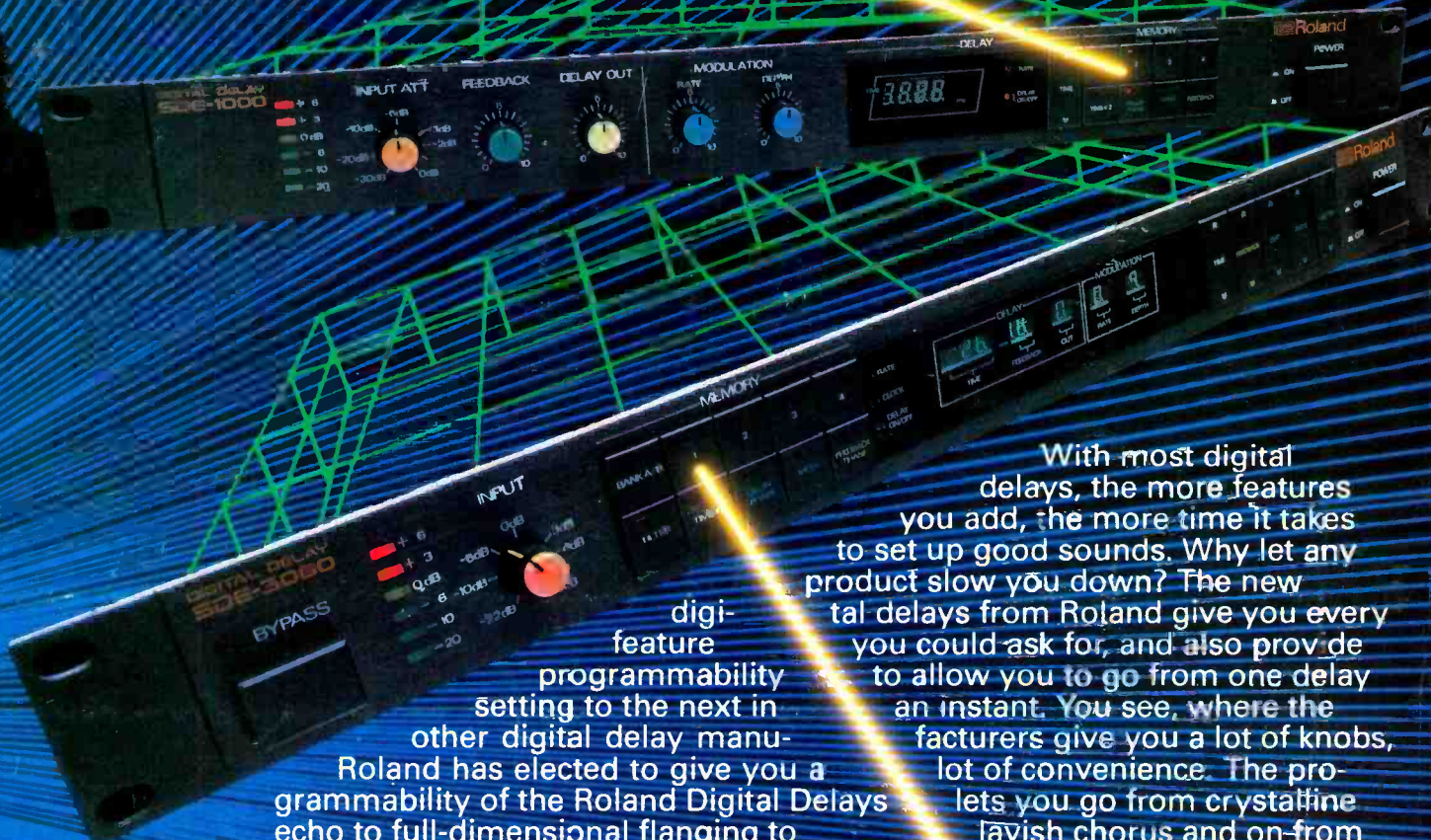
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