

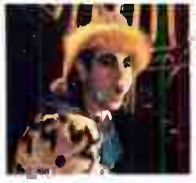


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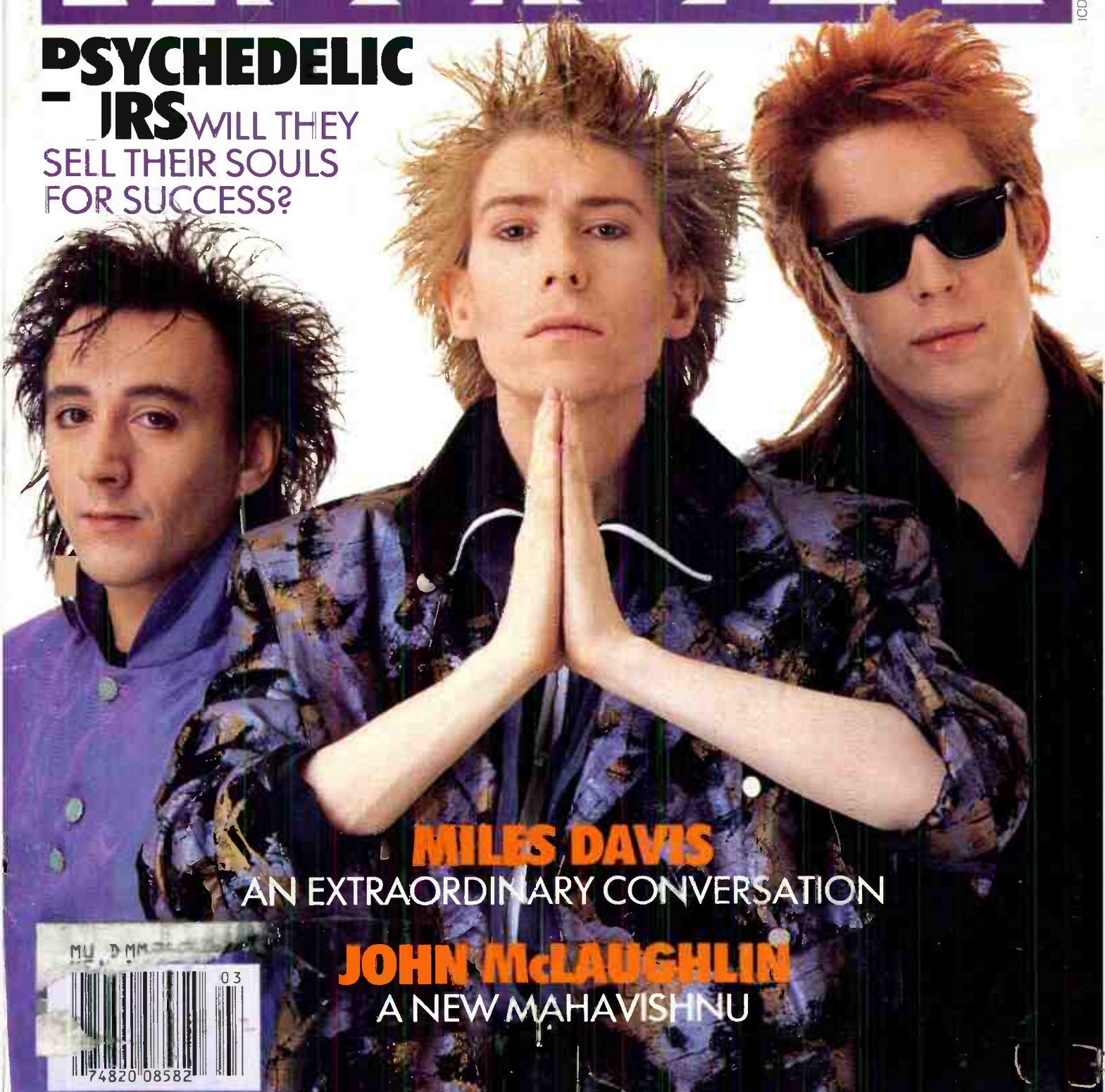

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JOHN McLAUGHLIN
A NEW MAHAVISHNU

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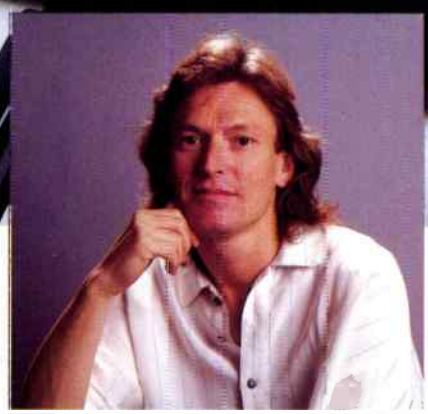

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Korg combines the realism of sampling with the flexible control of synthesis to create a new kind of keyboard with unlimited possibilities for musical experimentation: the DSS-1 Digital Sampling Synthesizer. The DSS-1 recreates sounds with digital precision. But it also shapes the complexity and variety of sampled sources into new dimensions of sound.

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MARCH 1987 NO. 101 A BILLBOARD PUBLICATION

CONTENTS

MICHAEL PUTLAND RETNA, PHILIP OLLERENSHAW STAR FILE (2) CHRIS WALTER RETNA, ROSS MARINO, FEATURE FLASH STAR FILE PSYCHEDELIC FURS BY DAVID STEWART. HAIR & MAKEUP BY CORDI COLE

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came after *Dancing In The Dragon's Jaw,* which was the peak of what I had to say about the spiritual side of things—at that time. It was the best I could do. Then it became a question of looking at what that means in the terms of the world outside. Okay, you've got this set of spiritual beliefs, but what does it mean to live in the world with those beliefs? That became more the focus. And I also started doing a lot of traveling outside North America then. I saw the very graphic way that politics affect people's lives in other parts of the world."

Of his sixteen albums, *World Of Wonders* may be the best encapsulation of what Bruce Cockburn is about. On the one hand, it contains rich, sensuous ballads such as "Lily Of The Midnight Sky," a brooding, mostly-spoken piece filled with poetic imagery and suspended over a lovely melody line. "Berlin Tonight" combines an eye for poetic nuance with a twist of geopolitical menace: "Berlin tonight / Tabledancing in black tights / Waving a silver crutch in the blue lights / Shapechanging over glass / On the front line of the last gasp."

At the same time, both sides of *World Of Wonders* open with songs more angry and didactic than anything he's done before. "People See Through You" is aimed straight at Ronald Reagan, an uncharacteristic move for Cockburn.

"The idea came from meetings with people in the Sanctuary movement, and hearing about the FBI breaking into their churches," he says. "They'd go in and break into files and leave the ones pertaining to Sanctuary people on the desk. It's what Reagan says the 'evil empire' is doing, yet it's exactly what his own people are doing. Plus there's the almost amusing contrast between the incredible power of these covert agencies, and the use of that power to break into places any idiot could get into, and just throw paper around. That *had* to be a song."

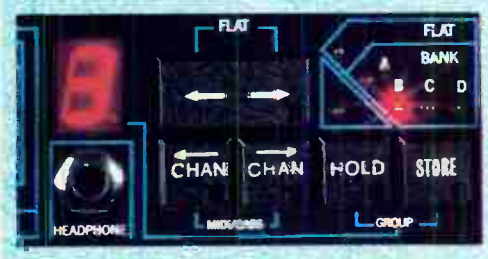
"Call it Democracy," a thumbnail history of U.S. economic exploitation in underdeveloped countries, is remarkable for reasons beyond its lyrics or music—it was one of the first songs to bear the mark of the censor, in accordance with last year's agreement between the recording industry and pro-censorship forces led by the Parents Music Resource Center. On the first pressing of the jacket of the American version of the record, the lyric was surrounded by a black border, and the lines "You don't really give a flying f**," and "IMF, dirty MF" are highlighted in bright yellow.

"I think it's really stupid, and it's tempting to believe there's a connection [between the political content of recent music and people wanting to censor it]," he says. "But I haven't seen any real evidence to that effect. The connection may go the other way, too. When you get a very uptight mentality trying to enforce itself on the rest of the population, people are driven to react."

[Cockburn's record label agreed the

ROCKET LAUNCHERS

The full-band sound of Cockburn's last several albums obscures his breadth as a guitarist. It's more evident in his stage show: "I use different tunings, and there really isn't time for that during a show, so I keep a lot of guitars with me. I've got two Strats, one an old '63, and the other a more recent model. An old Gibson Melody-Maker, of roughly the same vintage as the old Strat. The newer Strat has Seymour Duncan pickups, but the other two are all original. Then there's a custom-made Flying V I use as well—actually two, but only one in the show. They're completely handmade, from the body to the pickups. I have two handmade acoustic guitars, a David Wren as well as one Yamaha that was built by their guitarmaker. I also have an electric charango made by Linda Manzer, who's done a lot of work for Pat Metheny. And I have a dulcimer onstage for one song, too."



SPM 8:2

A Conventional Mixer?

The SPM 8:2 from Simmons is anything but a conventional audio mixer. There are, however, some similarities: Eight channels, each with bass, treble and parametric mid-range equalization, two effects sends, pan and level controls. Two effects returns. A headphone/monitor output and left and right master outputs.

Here the similarities end because SPM 8:2 is a computer controlled device making duplication of channel controls unnecessary.

64 different mixes of eight channels, each comprising level, pan, eq and effects data can be stored in SPM 8:2s memory and individual mixes selected at will via MIDI, footswitch or the front panel. Cross-fade times between mixes are programmable for individual channels allowing fade outs and ins of different instruments simultaneously. Each channel also has a four function effects bank offering such features as variable rate auto-pan and phasing.

With a specification and price tag the envy of most "mixing desk" manufacturers SPM 8:2 has only one disadvantage . . . How do you fill a page with its picture?

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new record] was so computerized, that is somewhat a problem. Like, my latest single...Turn on the radio and it sounds *great*! I found *myself* snakin' to it. But when it's time to perform it live, there's spaces where so much music goes. So what do I do? I'm not even singing. Do I leave the stage and make a change? No, there's not *that* much time. So, for the stage version of the single I've had to add horns where there were no horns and just really create a different song!

"There aren't too many live musicians on *anyone's* albums these days. That's the new sound; you have to go with the new sound. Keyboards, computers, lead guitar and a little background—that's it! I have no real objection to that—the drum machine won't lose time and if the keyboard player's there, the whole band is there. But you have to duplicate [live] the bassline that was done on the keyboards or you have to duplicate the drum machine, which means you need an octopus for a drummer or you need another drum machine. The new sound is the phrasing of the *keyboard* bass rather than the *bass* bass. The music now is airier, a light sound with lots of space. The old music with everything live is that *heavy* sound. Then you'd have to eq it to get a lighter sound."

Millie Jackson's control of the creative side of her music is matched by control of the business side, to a degree achieved by very few artists—especially black female artists. The way she tells it, as a self-managed, self-produced artist with her own production company, it's not so hard to gain control of one's career.

"I just never gave it [control] up. When I read my first managerial contract and it said they had to place me with a booking agency—I already had one—and they were supposed to buy me pictures which cost me eighty dollars a hundred and stage uniforms which we already had, I didn't see any sense in giving them fifteen percent of my money!"

So there's no Svengali behind Jackson; every aspect of her image, sound and creative direction is orchestrated by her. And, she says, what you see is what you get—she's busy just being herself. That's meant, in the U.S. at least, limited airplay and a mainly black audience. She has not yet crossed over and doesn't intend to change to reach pop (i.e. white) audiences. Her take on this country's "apartheid radio" is matter-of-fact.

"To me, it's not about 'expanding your audience.' That's on the record company. 'Cause, to me, you can sing any way you want to sing and if it's marketed a certain way and they hear it long enough, whites will go for it just like blacks. There's no difference; it's just where it's marketed. America is so...sorted out! That's what makes me pissed off more than anything. What happens is the black artists will start to get on the charts; then the white acts will look at the charts and say, 'This is the now sound.' So the white acts start copying what we're doing. Then six months later our music will change again. Now white artists are doing what we *were* doing and our music is being called something else. Like, we did rock 'n' roll but when Elvis Presley and everybody else started doing it, they became rock 'n' roll and we became R&B. So now we're 'black contemporary' or something. I'm not sure *what* we are this week. Even disco—you have white disco, black disco; you got white pop, black pop." She sighs. "It just goes on and on.

"In Europe, you're on the *charts*. I like being on the *charts*. If you're on the top one hundred there, you're fighting *all* the competition on the charts. It's a matter of: 'This is me, this is the way I am, I like what I'm doing and if you white

continued on page 113

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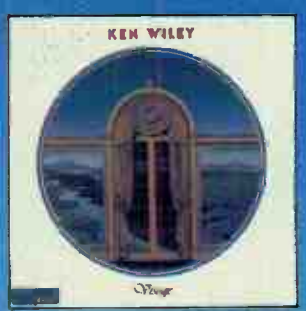

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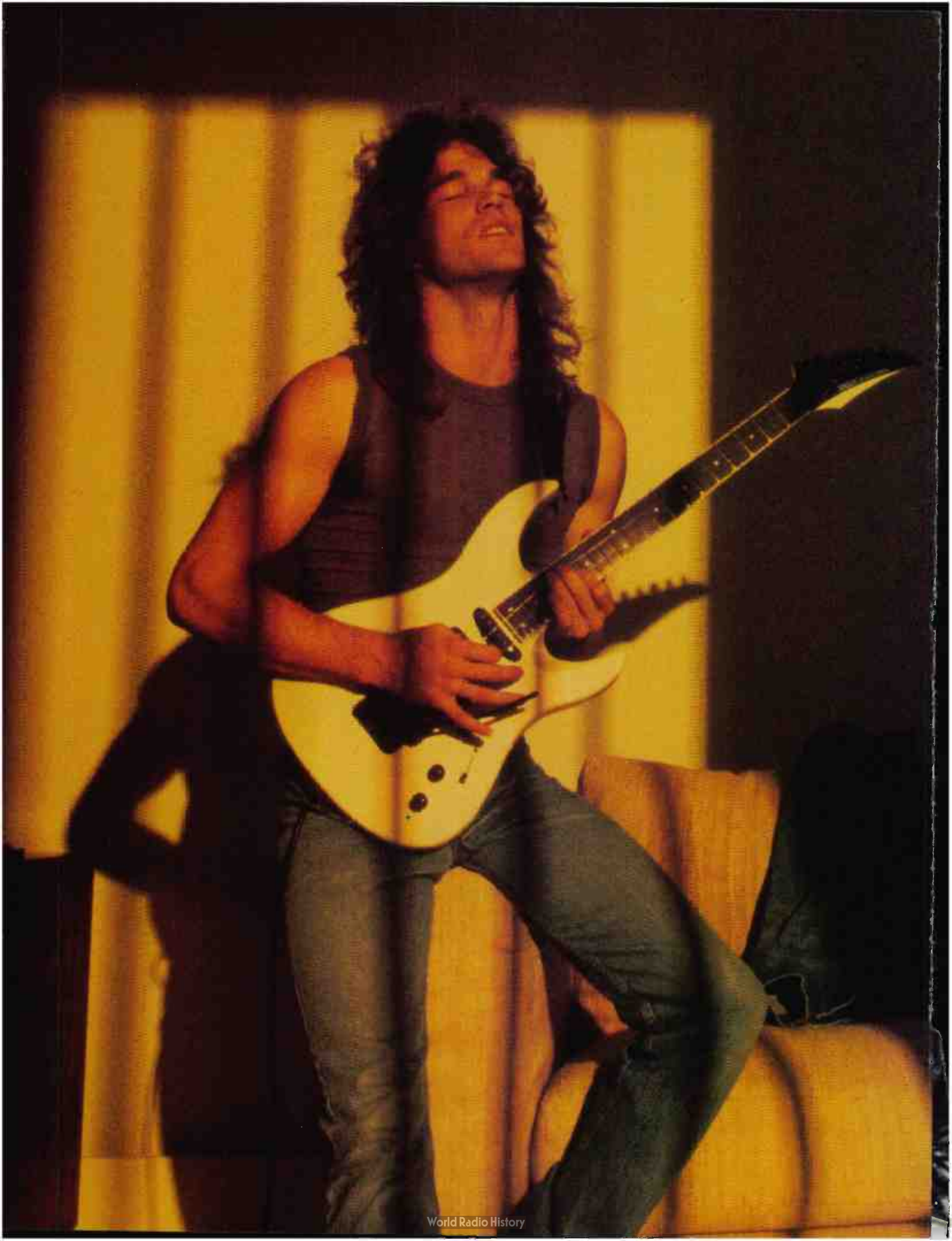

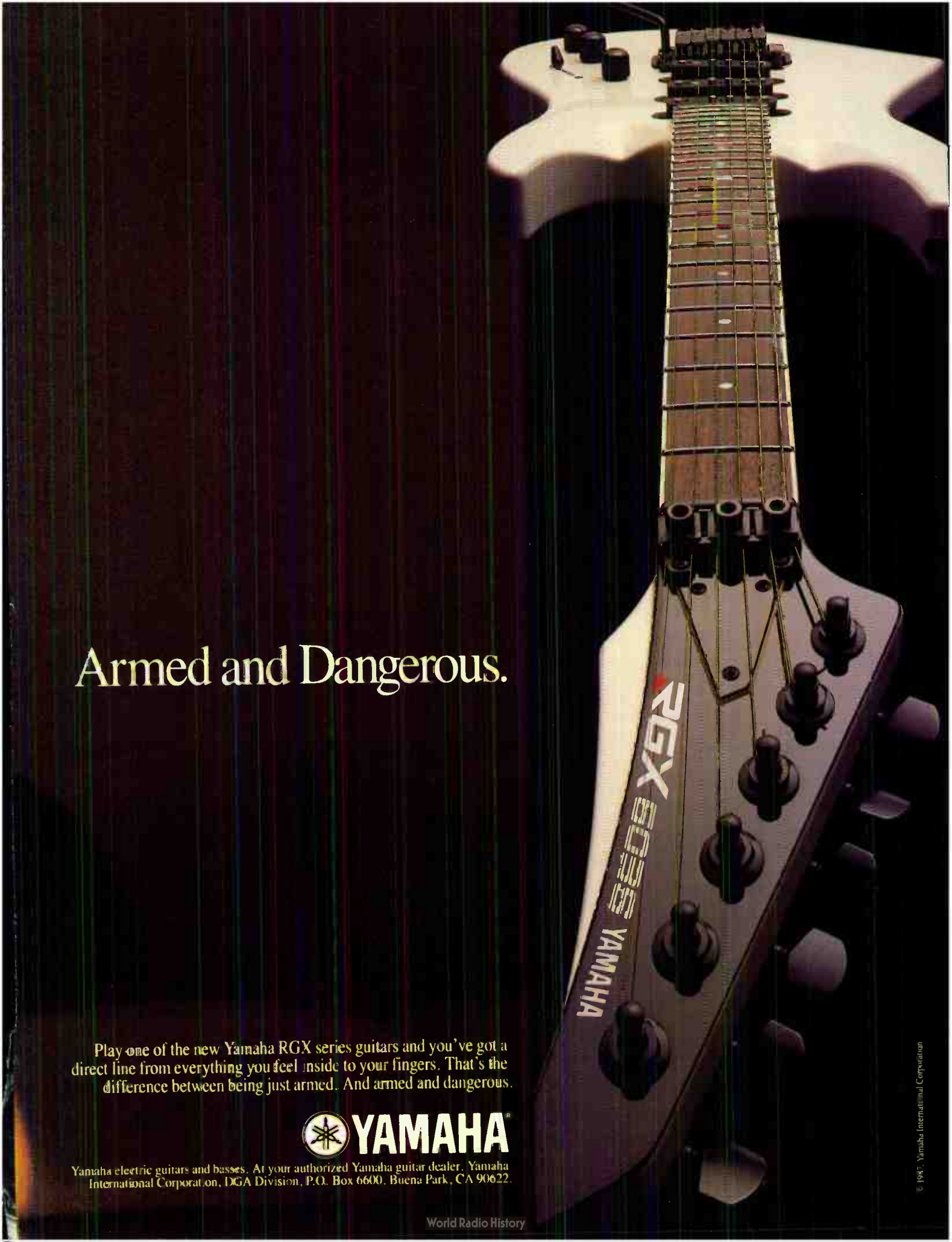

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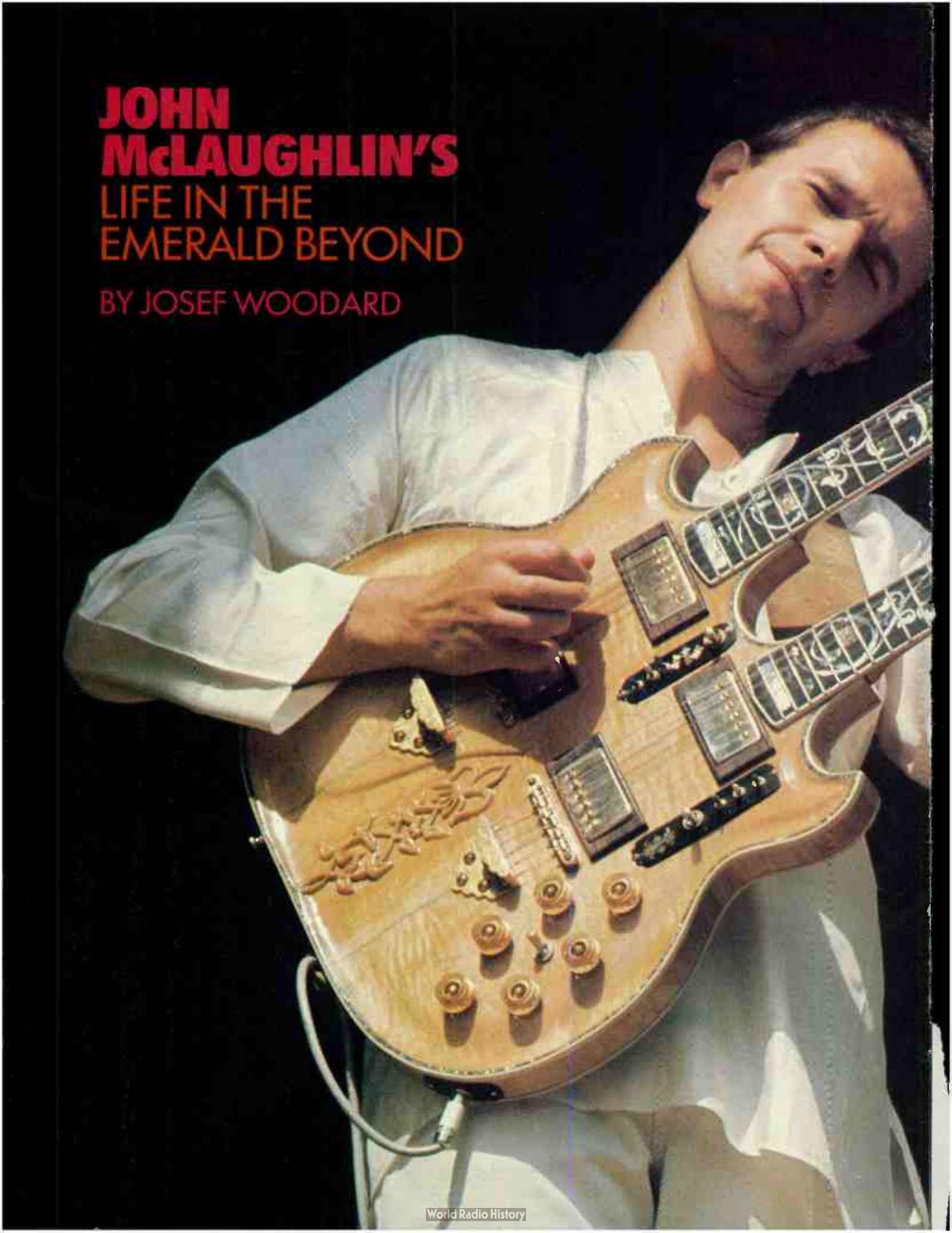
JOHN McLAUGHLIN'S LIFE IN THE EMERALD BEYOND

BY JOSEF WOODARD



PHOTOGRAPH BY MICHAEL PUTLAND/RETNA

GUITAR GREAT SEEKS CLARITY IN CONCEPTION

Despite all appearances, guitar heroism is a relatively new cultural phenomenon—a product, really, of post-war ennui and manifest destiny for twentieth-century schizoid man. All due respect to the legacies of Segovia, Reinhardt, Christian, et al, the guitar didn't pick up steam as a significant musical tool until the century was half over; suddenly the world went guitar mad and the rapid glorification of this highly portable, sexually charged stringed instrument started to sweep the globe.

This thumbnail history is brought to you in the interest of perspective: the electric guitar is a young thing. That, in part, is why we love it so. You have to wonder, then, when one of the instrument's prime icons remains vital and undaunted over a course of time normally long enough to see the rise and fall of three or four such heroes.

Johnny McLaughlin, electric guitarist, is by all reliable accounts a pivotal guitar hero, an innovator who struck out at an early age to find a new route of expression and wound up spearheading a budding generation of players after more than the quick pop buck. McLaughlin—a.k.a. Mahavishnu—was on a daring onramp of inspiration when his Mahavishnu Orchestra stormed onto the scene in 1971. Here was an instrumental cosmic fireball of a group—seizing the excitable glands of the young rock crowd with the ample deposits of *loud* and *fast*, and massaging the change-starved intellects of the post-free jazz quarters as well. There was a spiritual subplot, too, with McLaughlin's Eastern ideology and submission towards his guru Sri Chinmoy. McLaughlin cut an unusual, spartan figure in his white garb, cropped black hair and cumbersome double-neck axe, played with face ever squinting skyward in surrender and devotion.

A decade and a half later, numerous incarnations, recantations and instruments under the bridge, the newly formed and more pragmatically-scoped Mahavishnu has released its second record, entitled *Adventures in Radioland*. Along with his new cohorts—charismatic bassist Jonas Hellborg, saxist Bill Evans, drummer Dan Gottlieb and keyboardist Jim Beard—McLaughlin's new band is streamlined, melodically driven, athletically interactive and studded with rhythmic fiber that has more to do with

Brazil and urban funk than religiously laden ecstasy.

Despite the fortuitous timing—lately we've witnessed a veritable fusion redux—*Adventures In Radioland* owes its melting pot moves more to McLaughlin's fusing fretboard agility to mental muscle. Fueled by flamenco, modern jazz, classical music, Indian thought, Hendrix and other stray coordinates, the young Scot was shuffling around London in the mid-60s, making a name for himself among jazz adventurers. McLaughlin got a chance to put his ambition to the test when America called; his transplanted Anglo pal bassist Dave Holland was eager to introduce the star-struck kid to Tony Williams and Miles Davis. McLaughlin may have been the only guitarist for the job of spiking Miles and Williams' fiery, proto-fusion *Emergency* work—short, perhaps of Jimi Hendrix.

Inevitably, McLaughlin wasn't long for the role of sideman. He fused. He grafted. This was music's great white hope of "fusion" at its utopian best, long before the stigma and the industry maneuvers set in.

His own early classics—the quirky, modal English jazz turns of *Extrapolation* with reed wiz John Surman and the continuously popular acoustic idyll of *My Goals Beyond*—announced a burgeoning bandleader. The early Mahavishnu records—*Inner Mounting Flame, Birds Of Fire*—came out fully formed, full of both quixotic compositions and an uncorked energy that thrashed about in mad soloing frenzy on tracks obviously recorded extra hot on the poor VU meters.

The band was probably too hot, in fact, to stay alive long. After two years, it was over, despite the undimming public support. Notwithstanding a few other electric efforts with an expandable lineup, McLaughlin/Mahavishnu was already on his way to the first radical changeover: denying the electric outlet. The music world was never really ready to accept the acoustic group Shakti on its own terms. But McLaughlin's tough, beautiful concept was to mate Indian music's intimacy and musical code with his own Westernized compositional thinking and his modified guitar—with frets scalloped out as in a sitar. The band's three poorly selling albums were gems of ethnic *esprit de corps*.

Two juicy electric projects put to rest suspicions that McLaughlin forgot how to play with pickups and beefy amps: 1977's *Johnny McLaughlin* was a collage of groupings and loose tunes, while the underrated *Electric Dreams* made an appealing stab with the short-lived One Truth Band. McLaughlin then stepped back to regroup yet again, and came back with the unusual instrumental architecture of his Belo Horizonte group; balance of energy sources was the key factor, with McLaughlin playing acoustic guitar against an essentially electric band. It was not rock 'n' roll, but a delicate ensemble with an undertow of fury.

It was at this point, four years ago, that *Musician* last caught up with McLaughlin. A good deal has transpired

Learning to speak the unspeakable.

with McLaughlin since deputized reporter Robert Fripp paid him a visit in his French home and wolfed his chocolates. Even apart from the sentimental meaning of Mahavishnu's renovation, their first album featured McLaughlin's pioneering use (live and in the studio) of the Synclavier guitar synthesizer, before it was commonplace. Some grumbling fans, enamored of McLaughlin's analog bite on Les Paul, were grateful to hear McLaughlin return to the land of the searing electric guitar on the new album.

On other fronts, the ever peripatetic guitarist has, last year, premiered his first guitar concerto—commissioned by the Los Angeles Philharmonic—and has hit the big screen, in a bit role as an American guitarist in the jazz-hued Paris of *Round Midnight*. For one often deemed as a guitar hero—a dispenser of licks—McLaughlin saw the concerto itself as something of a milestone—a well-received opus that took three years to write and that he is still revising for future performance.

In fact, pages of a revised manuscript are in plain view on his hotel table as we talk. "I listen to classical music and I have amongst my friends some of the greatest classical musicians in the world," he explains, with the dense late fall thicket of Central Park looming outside his picture window. "But I'm a jazz musician at heart, and I always will be. That's my discipline, let's say. But that shouldn't stop me from playing with an orchestra."

McLaughlin speaks in measured tones, veers off into related detours and speaks freely, but is always a gracious conversationalist. Apparently his sweet tooth is verifiable; he offered this year's reporter a bowl of dinner mints at regular intervals. McLaughlin's mind is as quick as his guitar soloing. He probes and devours and hops tracks to other trains of thought. But all the while, he conveys the calm confidence one might expect of, well, a seasoned guitar hero.

MUSICIAN: *Over the course of your career you've gone through distinct phases. Do you perceive it as a succession of new concepts realized chronologically?*

McLAUGHLIN: I don't even think about it, to tell you the truth, since I really indulge my musical instincts because I believe that they won't lie to me. In spite of the fact that it can lead me to some strange avenues.

But I believe we have to follow our own nature. I don't consciously think I should do this now or I should do that now. Really, music is the chief executive of these decisions. You're respected for what kind of music you play, you know. It's an interior enrichment, and for me this is very important. I continue to go along with these musical impulses.

MUSICIAN: *What was your motivation in reforming Mahavishnu?*

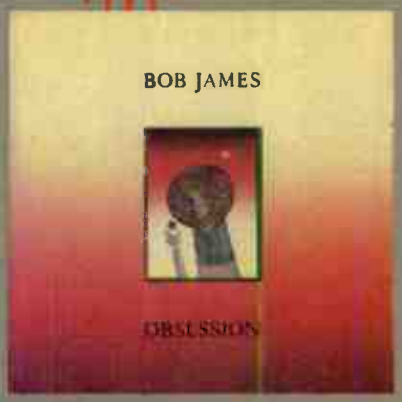
McLAUGHLIN: Hmmm. Probably a number of reasons. One being the fact that I tried to reform the original band many times over the years and I was never successful because of Mr. [Jan] Hammer, who refused categorically. In the beginning, Jerry [Goodman] refused also, but they were very close and then they fell apart and I became pals with Jerry again. So then everyone was enthusiastic about it, but I could never get Jan to do it. And it was all or nothing. I tried for quite a few years. Maybe it was partly because of frustration.

There were two reasons, really. One, to try to prove to myself that this petty bullshit has nothing to do with music—but I was wrong—and coupled with that, to show the people that essence. The band was much loved by people and there was a great spirit in it.

That's the only reason I broke the band up, because the spirit had gone out. It was only after two years. We were really beginning to hit it big, but unfortu-

PAUL NATKIN/PHOTO RESERVE

GET JAZZED.



Bob James
Obsession

David Sanborn
A Change Of Heart

Mark O'Connor
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Madhouse
8

Miles Davis
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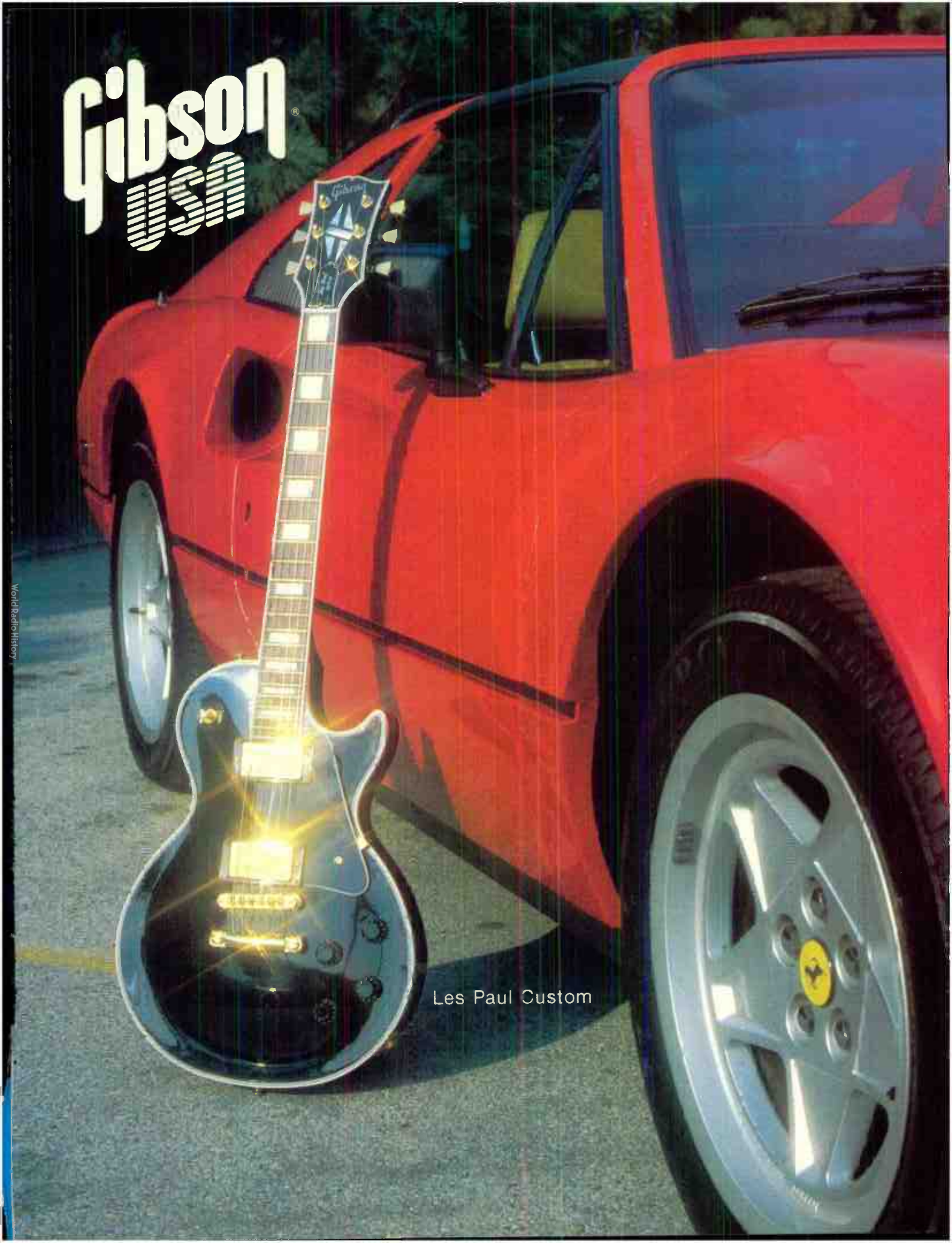
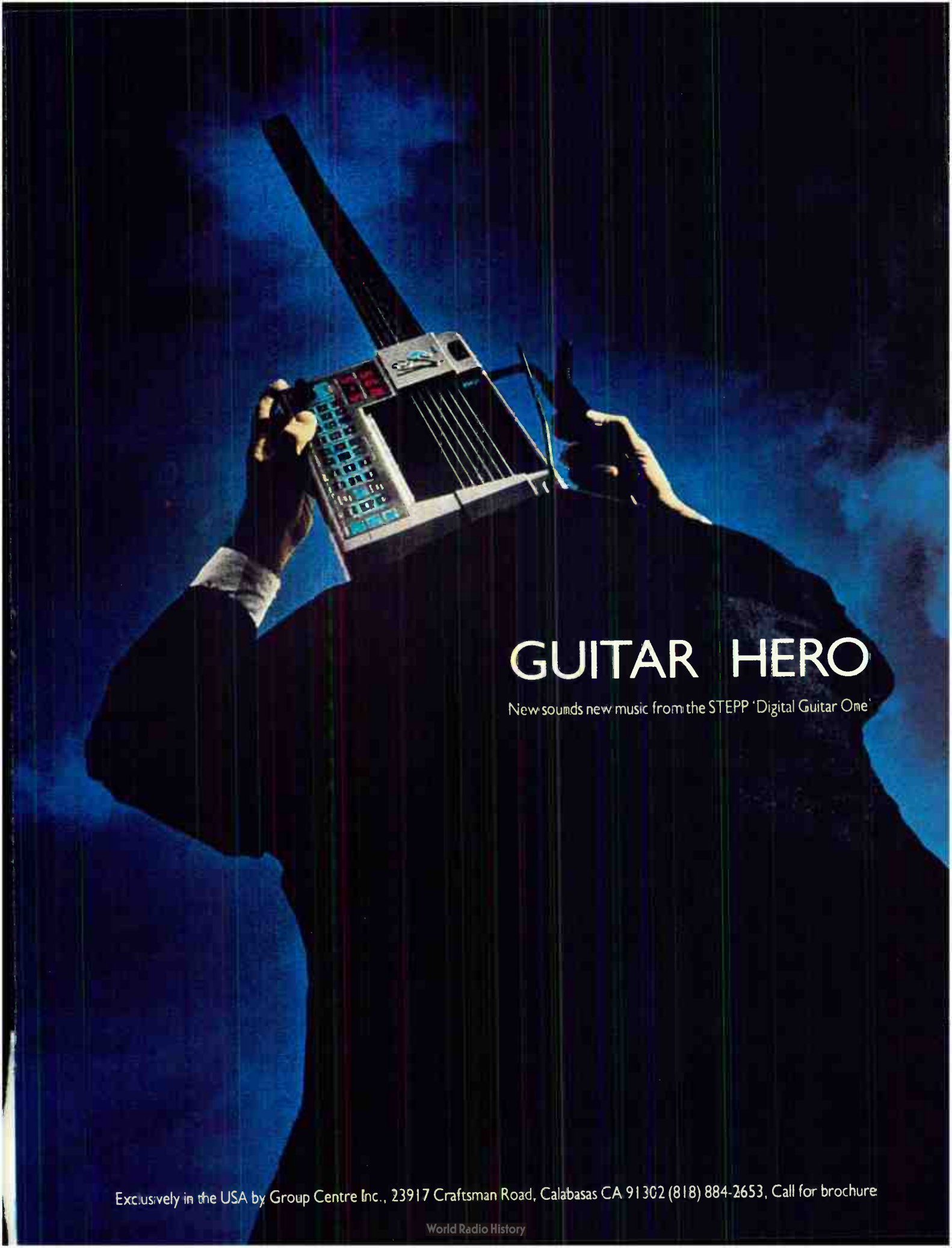




Mounting Flame, *coming out of what you had done prior. It was a shock wave of sorts, and a real bridge between the jazz and rock worlds. Just before that landmark, you had done the relatively meditative acoustic album* My Goals Beyond. *How did the transition between those two extreme poles transpire?*

McLAUGHLIN: Mahavishnu was already being planned before I went in to do *My Goals Beyond.* The thing is that...would you like another mint?...dreaming up plans and executing them sometimes don't happen with due speed. It takes time to make them happen. As far as the concepts of Mahavishnu Orchestra, I was very clear even when we went into the studio to do *My Goals Beyond.* That was, however, an album that I'd wanted to do for a long time and I thought, "A good time to do it." I've been playing acoustic guitar all my life. Even when I'm touring on the road, I've got my guitar here (points to his acoustic at bedside). It's timeless. So I went in and recorded that album. It's my record with the greatest longevity. It's been recently re-released. I wonder if it's because of the acoustic guitar.

This is one of the things that I always liked about acoustic guitar, particularly the Lamb gut-strung guitar, which I've been playing for a lot of years now. I stopped the steel-string acoustic guitar in '79—well, that's seven years—one of the reasons being that the percussive effect of the nylon-string guitar, a powerful, soulful sound to me, is much greater than the steel-string guitar. With the steel, instead of a percussive effect you get more of a slap.

A nylon string dies. You know, that's something that I like. The note comes and you put as much expression into it as possible; it dies and it has a very short life. For me it's a little being that is born and it lives and dies, in the space of that one second or two seconds. There is something very poignant in that, which is the reverse of playing the electric guitar.

MUSICIAN: *When you did play electric guitar, there was something emphatically* electric *about it. It wasn't just a matter of gothic volume and blinding speed; you found some new threshold of musical expression.*

McLAUGHLIN: I think, in a sense, almost everything's experimental. In terms of the concerto—after all the years of experience, I'll sit down and write and play it and, who knows? Nobody knows until you try it, but then you run the risk. That's good. Without the risk, those nerves...it's irreplaceable in life.

Mahavishnu played with an edge, an energy that you can't get in the studio. It's clinical in the studio.

MUSICIAN: *How do you go about working in the studio?*

McLAUGHLIN: Suffering.

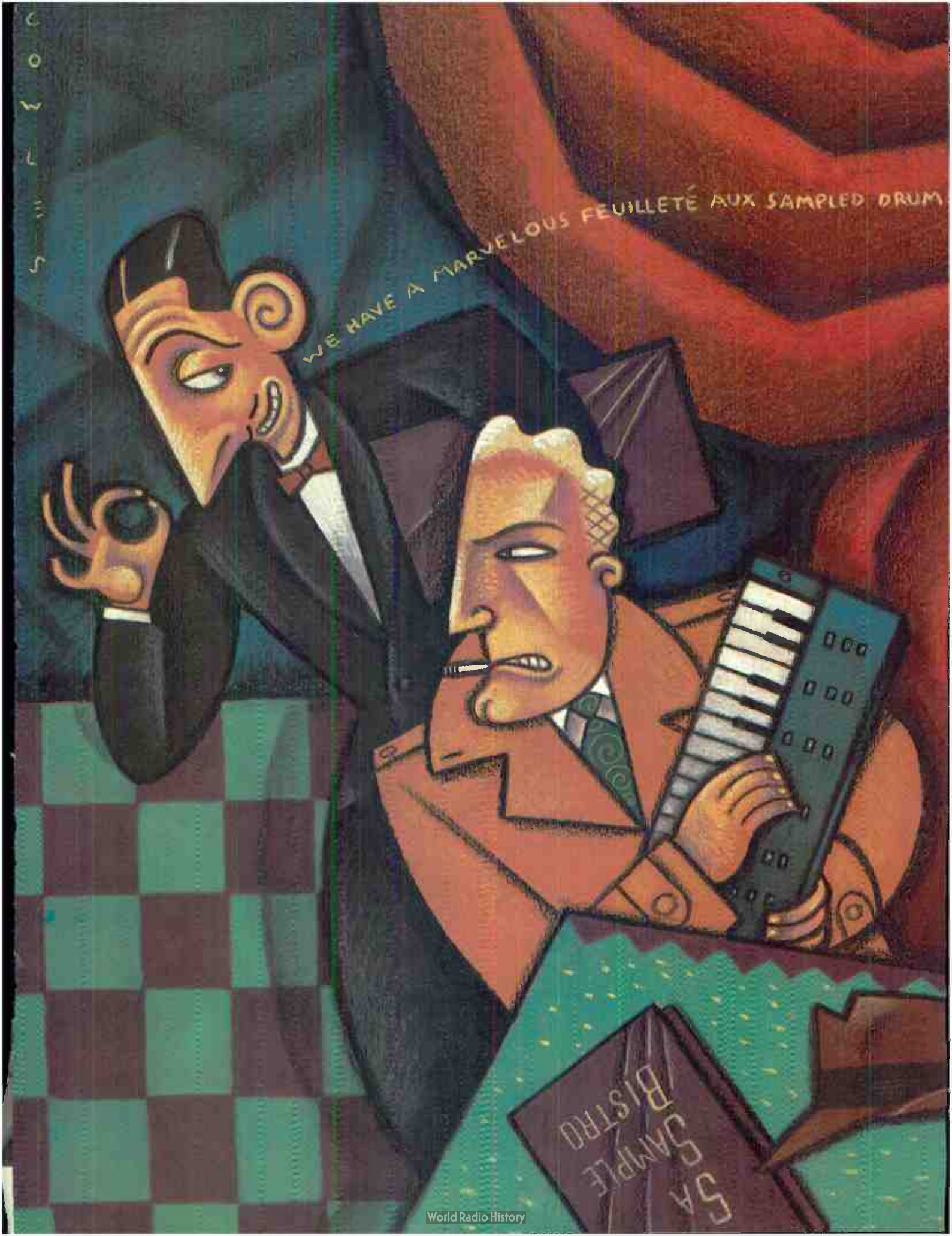
MUSICIAN: *Not a pleasant process...?*

McLAUGHLIN: It can be. But maybe I like to suffer a bit [*laughs*]. Actually it's true, if somebody came up to me and said, "I've got this magic pill, and your suffering would be gone forever, no after effects," I wouldn't want it. It's the salt of life. Strangely enough, we all try to avoid it. Life would be extremely boring.

MUSICIAN: *You play a lot of Les Paul again on this new album, after using the Synclavier almost exclusively on the prior album. What is the status of your affair with the guitar synthesizer?*

McLAUGHLIN: When Mitch Forman left to join with Wayne Shorter, I asked Jim Beard to come in right away. But Jim plays exclusively synthesizers. So we started rehearsing and we started one tune on which I played synthesizer guitar and it seemed to me that the two synthesizers were phasing each other, almost cancelling each other out. I could see that either we do a lot of work in sound design, timbre construction, or I play

continued on page 114



ALIASING: OR TOO MANY OVERTONES SPOIL THE STEW

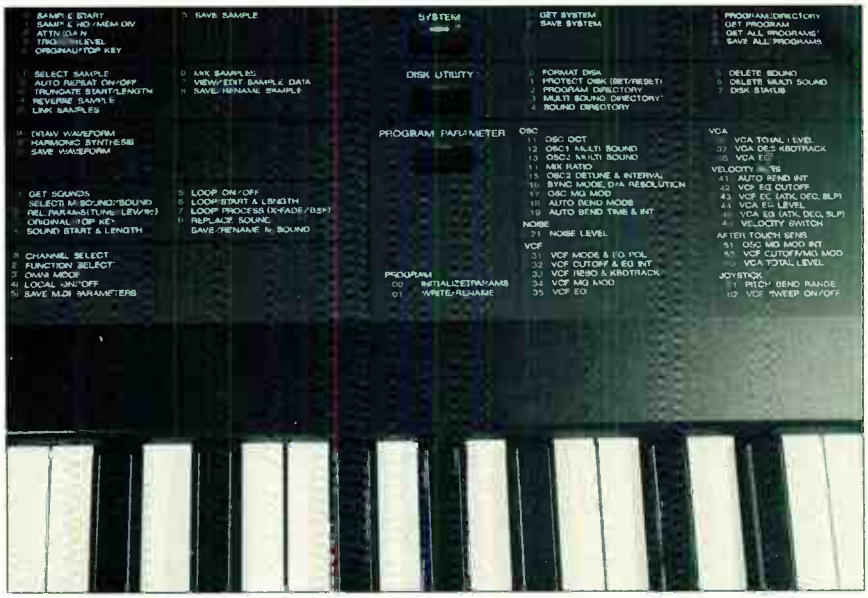
You may be wondering what would happen if a frequency higher than half the sample rate somehow managed to sneak into a sampler's ADC.

"Yeah, does the Nyquist Squad come and pay you a little visit?" smirked Sam, understandably a little irritated from having to absorb so much technical data.

When those high frequencies undergo A to D conversion, you get a form of ignoble sonic rot called *aliasing*, which can make your nice fresh samples sound like they've been left out in the sun too long. What the Nyquist theorem comes down to, in essence, is this: the ADC has to take at least two samples per cycle if it's going to read the waveform accurately. As long as the incoming frequency is less than half the sample rate, that condition is satisfied. But as soon as the incoming frequency gets higher than half the sample rate, the ADC gets a mite confused and actually represents it as being *lower* than the sample rate. This is called aliasing because the high frequencies are appearing under a false identity—or alias—as low frequencies. (Hey, I didn't invent the term.) These foldover frequencies, as they're also called, are manifested as false fundamentals and/or false partials, which can cause several varieties of unpalatable distortion.

To prevent aliasing and its attendant problems, most sampling devices include a filter, which is placed before the ADC in the circuit. This cuts out frequencies that are too high for the ADC to handle. Digital filters are generally preferred over analog filters for this job. This is because a digital filter won't add any colorization to the waveform, as an analog filter might, and it can provide the sort of sharp, "brickwall" characteristics you need if you want to stop everything above the Nyquist frequency dead in its tracks.

Digital filters are usually top choice on the menu for use in the output stage as well. Why is a filter needed here? Well, consider this question. If you were given a choice of sliding down a splintery, wooden staircase on your bare behind, or sliding down a gently sloping, grassy hill in the same state of undress, which would you choose? Your ears are no less sensitive. As you'll recall from the diagrams above, digitally encoded waveforms have an angular, "steppish" quality. When a waveform like this returns to the analog domain via a DAC, it generally needs a little "smoothing out." A filter placed in line after the DAC restores the waveform's analog "roundness."



Recipe menu for Korg DSS-1 sampler.

"Gosh," remarked Sam. "Just like puttin' lumpy gravy through a strainer."

QUANTIZATION: THE LAST WORD IN BYTE-SIZED TIDBITS

So now you see the importance of sample rate in capturing the full bouquet of a freshly sampled sound. For our next lesson, we'll see how *quantization* can mean the difference between *Escargots à la Bourguignonne* at Maxim's and a Bird's Eye frozen entree. Sample rate, you recall, is a measure of how many times per second the ADC takes a fix on the amplitude of an incoming waveform. Well, the system's quantization scheme determines how accurately those amplitude readings are taken, and how precisely they're stored in memory.

Most of the professional samplers out there employ a linear Pulse Code Modulation (PCM) scheme for digitizing the waveform. Each successive amplitude value is expressed as a series of binary digits. Each of these digits becomes one bit in a digital byte, or word, as it's sometimes called. Now, the more bits you have in your byte, the more numerical values you have available for zeroing in on the precise amplitude. This is called *resolution*; 8-bit, 12-bit and 16-bit resolution are the most common options available. And this spans the entire spectrum from under-a-thousand models to systems that cost more than a few acres of *Premier Cru* Bordeaux vineyard land.

One thing to bear in mind is that there is always some "rounding off" involved in any quantization scheme. No matter how many gradations you have, there's always going to be some pesky, rebellious amplitude value that falls somewhere between two of them. When this occurs, it's called *quantization error*. Back in arithmetic class you rounded off to the nearest decimal. That's because you were using the base 10 (decimal) arithmetic system. Samplers round off to the nearest binary (base 2) value, or what's known as the Least Significant Bit (LSB).

"Sounds like the part of dinner that ends up in the doggie bag," Sam sniffed.

The whole situation is a lot like buying a new pair of pants. No matter how many sizes they have at the store, the unique contours of your body (to put it one way) never quite fit into any of them, and you're stuck with the inevitable choice between The Tight and The Baggy.

Here's where things start to pinch, though. If all samplers used linear quantization schemes, comparing their resolution quality would be a simple matter of counting up the bits. But, in order to accommodate extremely high and low amplitudes (the extra-longs and extra-shorts of the waveform world) several popular samplers use *non-linear* quantization schemes.

Companding is one such technique. As part of the encoding process, the waveform is compressed down to HO model train scale. This lets the quantization system capture extremely high and low amplitude values more accurately. (The high amplitude "smokestacks" don't get cut off when the waveform enters the ADC tunnel.) Then, when the waveform is decoded for playback, it is expanded back to "actual size," and its

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called sample *rotation*, which provides an interesting variation on the idea of truncation. Rather than discarding the bytes that are truncated from the end of a waveform like so many potato peels, you can bring them around to the front of the waveform and stick them on there. Or vice versa. Since you can only truncate the back end of a waveform on the Mirage, rotation is absolutely essential for trimming bytes from the front end. Beyond this, the idea of using rotation to turn a sound "inside out" is not without its own demented, intrinsic appeal.

And while we're at it, is there any reason why all this editing has to take place on a single waveform? Not at all. The Emulator II and many other samplers provide a *splice* function that lets you take the beginning of one waveform and graft it onto the end of another. The result? A note that starts out as sitar, for example, and ends up as a raspberry.

But perhaps the most important sample editing function is *looping*. It allows you to take a central segment of your waveform and have it repeat over and over again—for as long as you hold down the appropriate key on your controlling keyboard. When the key is released, the waveform continues to its end point. Looping takes advantage of the fact that most sounds "settle down" into a fairly regular sustain pattern after their initial attack and decay. Loops can be just one cycle in length, or longer to capture phase shift patterns and other nuances of more complex sounds. In bidirectional looping, the loop can be made to play forward *and* backward. You can loop a single pitch sample (which is what enables you to hold out those long sustained notes on a sampling instrument). Or you can loop a rhythmic event, such as a sampled drum fill or spoken phrase.

The difficult part of looping is finding good loop points, i.e., the beginning and ending points of your loop. Your loop may begin at a point where the waveform is at its peak amplitude; but it may end when the waveform is at a low amplitude point. When the loop cycles around and the two points meet, there will be an audible glitch. (You can have the same problem, incidentally, when you're splicing two waveforms.) (Figs. 4a & b.)

The trick is finding beginning and ending loop points that match up *and* that sound good in the context of the overall waveform. A visual editing system (which displays the waveform on a video monitor so you can see what you're looping) is a big help in this application. Like Caribbean restaurants in a gentrified neighborhood, visual editing software programs for popular PCs and sampling instruments are popping up everywhere. Meanwhile, looping *can* be done by ear too. And, if all else fails, many samplers have an "auto loop" function that will find the best loop points for you. On the Emulator II+, you use two faders to set the best loop point you can manage with the "naked ear" and your two hands. (The faders are quite accurate.) The auto loop takes care of the rest, finding the best loop points nearest the points you've set.

To add that final garnish to your successfully sampled and edited sound, most sampling instruments also provide the usual range of analog synthesis sound-shaping tools—VCFs, LFOs, etc. So once your sample gets back in the analog domain, you can put some finishing touches on it before your guests arrive....Bon Appetit!

A smile of enlightenment spread over Sam's face as it emerged from the pages of *Gourmet Musician*. "So *that's* how it's done. I can't wait to get my own samples in the oven. If more regular guys like me took the time to find out what sampling's all about, maybe pop music wouldn't be so dismal. Maybe there'd be more on the menu than a bunch of empty flavor-of-the-month calories. 'Cause too much of that stuff'll spoil your appetite for good." M

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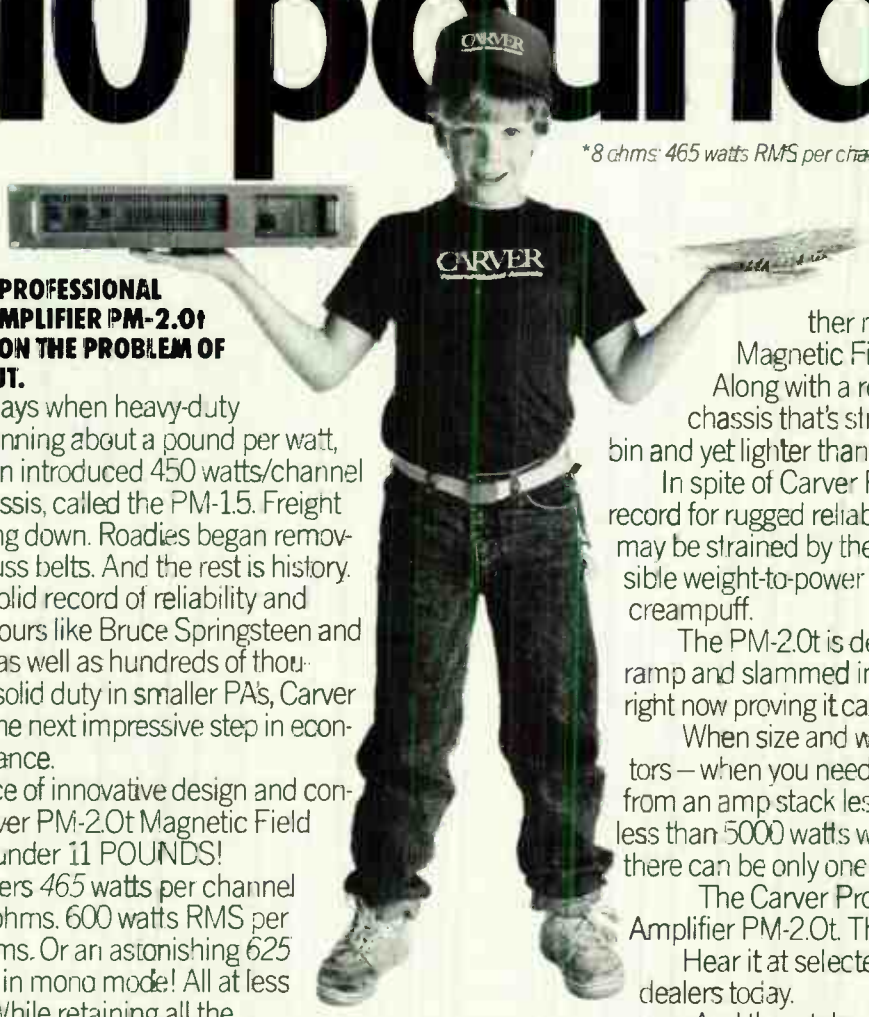

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waves, so that it can sound like more than a four-operator system. Better yet, it has all the multi-timbral capabilities of the FB-01! Now this is one thing I've just gotta check out. Hope we get one to review soon.

DM: Nothing like an inexpensive little expander box. I'll give it thumbs up.

CA: I'll give it thumbs up and checkbook open. Our last sneak preview is of a product that even the Yamaha people didn't know much about.

DM: Ah yes, the infamous RX-5.

CA: Yes, Bullet Cow, a drum machine with something like 64 voices but no sampling. Well, sampling isn't everything, and you can load in other FM sounds via cartridge. You know, some of these sounds are pretty good. This one sounds very much like a hammer hitting a steel floor in a castle.

DM: Try sampling that sometime.

CA: I'll agree that having that many voices offers more possibilities than what you can fit into a couple seconds of sampling time. Actually, the RX-5 is sort of like the ultimate analog beat box. It's as if one of those little boxes that used to sit in Schober organs and such underwent some kind of religious experience.

DM: Listen! There are even backwards sounds coming out of that drum unit...just like when we used to run tape backwards in the old days, you know, before 1983. This box does a lot of things I usually expect from something like an SP-12 or Linn 9000.

CA: It doesn't have those sexy rubbery velocity buttons, though.

DM: Yeah, but at least you can play it through MIDI and get velocity. And it will record patterns that way.

CA: I like the individual outputs and faders, and being able to edit and store voice parameters is quite something...I'm not used to seeing that on a drum machine. It seems like the RX-5 is at the same price point as something like a DDD-1. Not an easy choice. I guess it all depends on whether you gotta have sampling or not. Speaking of which, where is that fabled Yamaha sampler?

DM: Maybe next show.

CA: Or maybe it's in Product Limbo, a land of constant engineering changes and shifting market survey results.

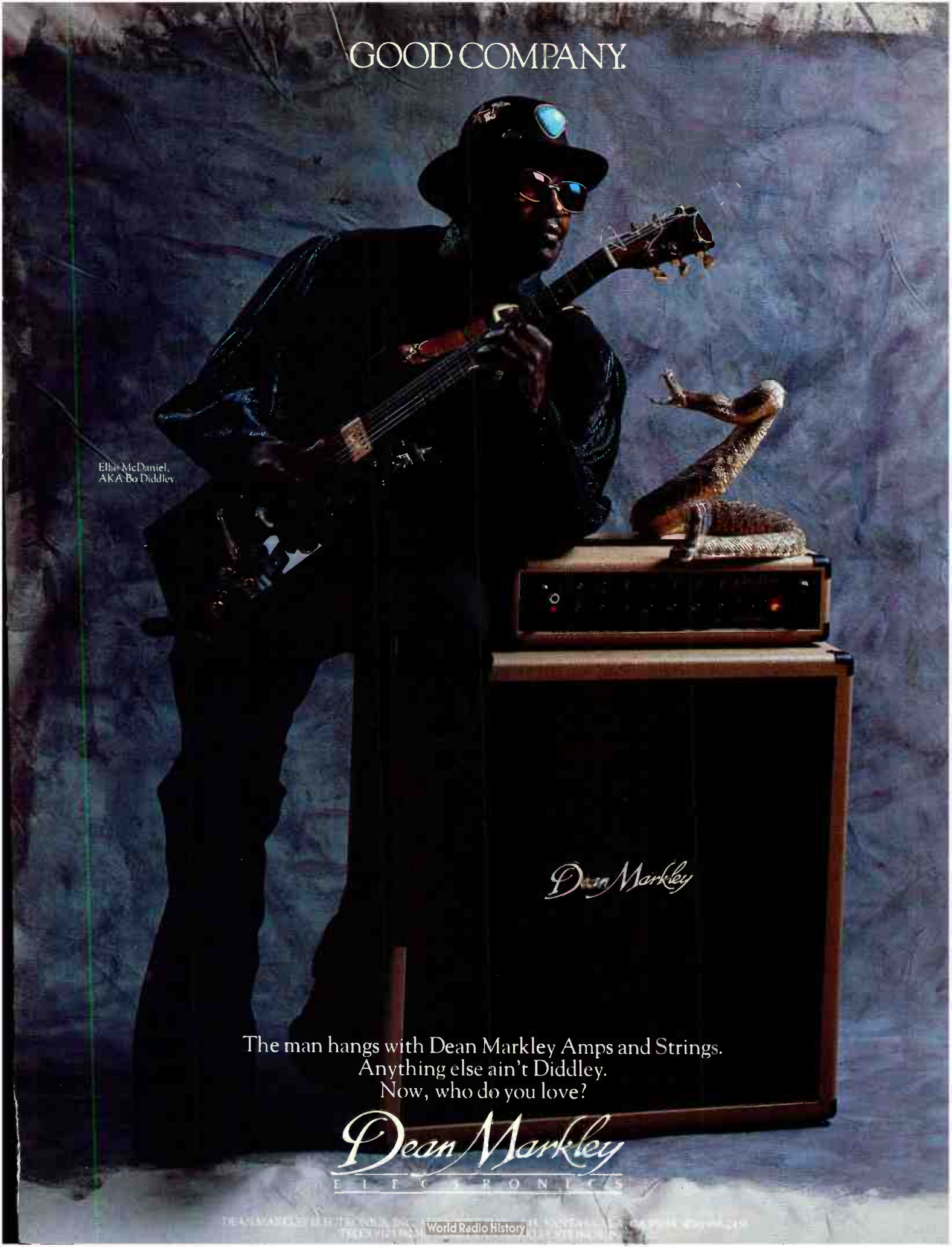
DM: If so, it certainly has a lot of company. Well, Shogun Chef, we didn't get any scoops on samplers or guitar synthesizers. But this was quite a sneak preview anyway.

CA: If someone had told me I would get excited about a DX7 in late 1986, I would have thought they were crazy. Yet the Mark II is a significant advancement compared to its ancestor. The TX81Z is ultra-slick and cheap, and the RX-5 is a pretty serious drum machine. I'd say this was worth the trip.

DM: Asahi beer, dancing shrimp, dancing...yeah, I'd have to agree. Still, the question everyone's asking themselves is how much of a market is there for a new DX7? Doesn't everyone who wants a DX already own a DX? We'll have to wait and see. But it's interesting that Yamaha chose to improve the DX without making so many changes that they alienated the thousands of people who've been studying how to use it.

CA: Good point. But remember that the DX7 is also four years old. New people have come into the electromusic biz since then, and they might have been reluctant to buy "old technology." Seems like the Mark II is yet another step in Yamaha's plans to have every man, woman and child on the face of the earth own at least one FM instrument. But enough philosophy, I guess it's time to close out this edition of *Sneak Preview.*

DM: If we're ever in the same place at the same time again, and *Musician* asks us to write an article for them because we spent Jock Baird's expense money when he couldn't make the trip, let's do it. ■



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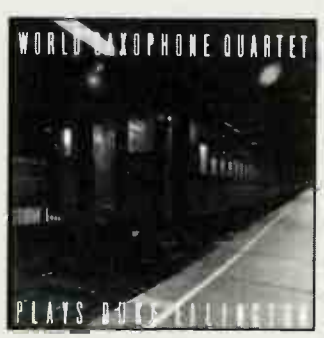

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ity (by 1950 his career seemed shot), emblemized as much by a quavering, off-kilter big band rendition of "Should I" as the air of manly resignation which already informed his signature "saloon songs" and surprisingly tender ballads.

Sarah Vaughan's appeal is considerably more catholic—perfect voice, perfect inflections, perfect accompaniment, perfect songs. She doesn't gild the lily here with "Send In The Clowns" razzle-dazzle, either. No innovator on the order of Ella, and too silky to break your heart, her performances here are warm, supple, occasionally irreverent (on Vol. 3's live rendition of "How High The Moon," she makes up the words as she goes along) and dreamily romantic—in other words, perfect (so is the virgin vinyl sound quality). Unlike the ingeniously arranged Sinatra set, which divides six LPs by theme, the three Vaughan volumes are arranged chronologically, fairly interchangeable sets of five to six records each. *Vol. 3—Great Show On Stage, 1957-59*, for example, seems a lot jazzier than *Vol. 1—The Jazz Years, 1954-56*, perhaps because it so often features accompaniment from Count Basie's band. But these collections all exude a rare and timeless beauty.

– **Mark Rowland**

LYLE LOVETT

Lyle Lovett
(MCA/Curb)

Lyle Lovett's first album is one of the strongest "creative country" debuts since Joe Ely made his eponymous premier back in 1977. Lovett's tales of Texas, romance and human foibles invite loose comparison with such great songwriters as Ely, Butch Hancock, Guy Clark and Rodney Crowell. But citing such similarities goes only so far; Lovett stands on his own as a mature, original talent.

A poetically earthy lyricist, Lovett applies his eloquence to a wide range of emotional settings. "God Will," a painfully blunt confrontation, balances nicely with the pretension-deflating humor of "Why I Don't Know." The light-hearted, lusty "Cowboy Man" contrasts the vulnerability of "If I Were The Man That You Wanted." Lovett's Texas roots become apparent in the vivid imagery of "This Old Porch" and "Farther Down The Line"; his regional sensibility shuns twangy clichés in favor of authentic, evocative details.

Lovett is also an outstanding singer. He has a fine sense of suspenseful phrasing, knows when to throw in the occasional bluesy growl, and emotes sincerely without becoming maudlin. Lovett's rich, dark-edged voice is well served here by his crisp co-production with Tony Brown. The uncluttered small-band arrangements lean towards bright, contemporary country, but work equally well with rock, swing and soft-funk grooves. The sum of these varied components is an honest, inspired and fully-realized gem. – **Ben Sandmel**

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Plan 9 – *Anytime, Anyplace, Anywhere* (Pink Dust)
Dagmar Krause – *Supply And Demand* (Hannibal)
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LOS LOBOS

By The Light Of The Moon
(Slash/Warner Bros.)

How Will The Wolf Survive?, the surprise success of 1985 from the East Los Angeles band Los Lobos, was one tough act to follow. Drawing on a decade of experience, the Latino-American band swung hard on their first full-length album, offering a seamless blend of surging roots-rock and Latin folk. Happily, its sequel ups the band's already sizable creative ante: if anything, *By The Light Of The Moon* surpasses its predecessor in fervor and songwriting craft.

It's plain from the record's first track, singer/guitarist David Hidalgo and drummer Louie Perez's "One Time One Night," that the dark lyrical seams mined in such songs from *Wolf* as "A Matter Of Time" and "Will The Wolf Survive" will again prevail. The new song, a catalog of Mexican-American catastrophe in "the home of the brave," is moved along by a deceptively bouncy beat, augmented by Hidalgo's sprightly accordion; as on John Fogerty's "Bad Moon Rising," the propulsive playing on the track disguises, or at least sweetens, its caustic sociopolitical message.

Several other potent Hidalgo/Perez compositions—"Is This All There Is?," "The Hardest Time," "River Of Fools"—also confront the rugged realities of Mexican-American life with uncommon force. All are hammered home by Hidalgo's soaring tenor voice and his brittle, blues-inflected guitar style (his solo on "Is This All There Is?" conjures memories of Otis Rush's Cobra recordings), complementing the toughness and maturity of Los Lobos' vision.

If the Hidalgo/Perez numbers are noteworthy for their gravity and penetrating viewpoint, guitarist Cesar Rosas provides requisite balance with his upbeat dance numbers. Taking a page from Richie Valens (whose film biography is being set to a Los Lobos soundtrack), Rosas supplies a party-time element on such unquenchable rockers as "Shakin' Shakin' Shakes," "Set Me Free (Rosa Lee)," and "My Baby's Gone." The result is an unusually smooth blending of darkness and light; few American rock records in recent memory are quite so eloquently poised.

While *By The Light Of The Moon* usually cleaves to a traditionalist sound, hinging on dual lead guitars and occasional saxophone (courtesy of the group's sole Angio, Steve Berlin), the Lobos and producer T-Bone Burnett do experiment with a few fresh sonic fillips. Marimbas, keyboards, even a taste of electronic drums can be heard, and it's a tribute to the band's taste that the additional instruments don't detract from their romping hard-edged style.

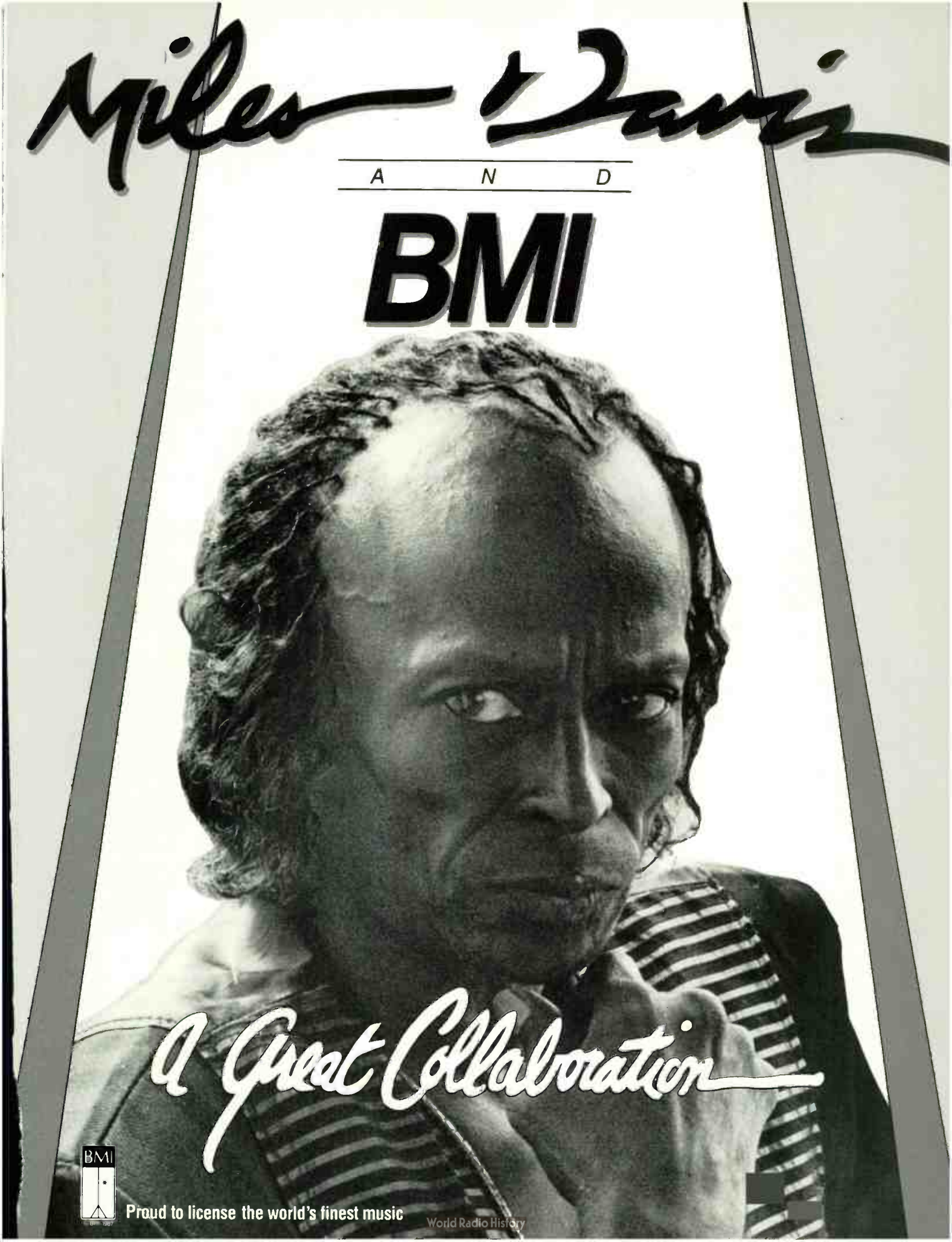
By The Light Of The Moon presents convincing evidence that there is still plenty of hitherto unexplored terrain in American roots music, and that Los Lobos' past achievements weren't flukes. On the contrary: The electricity and depth of this album reaffirm the exceptional nature and range of this band's musical gifts. – **Chris Morris**

THELONIOUS MONK

The Complete Riverside Recordings
(Fantasy)

I shouldn't, given my job, but still I find it odd that music has the power to change the way we think, that music can find itself reified in the way people walk, the way cars look, the ways buildings are designed, the way

people write or make movies. But there is a problem with listening to historical recordings, since musical innovations (and their social contexts) can become so thoroughly assimilated that their original weight vanishes, and if music sticks around long enough, it picks up a different kind of importance. But Thelonious Monk is still close enough for us to hear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and some keyboards. "My nephew practices here," he explains. More than a dozen of Miles' paintings are casually stacked against the base of the walls, some lying on the floor. (Does this guy ever sleep?) Miles picks up a couple and shows them to his visitor. A sketched self-portrait lies on top of the drum kit. He flips it face down before leaving the room.

He puts on a concert tape recorded in Copenhagen. The sound is lush, beautiful. It's slated to come out on Columbia, he says, his last contracted LP for the label after a relationship spanning nearly thirty years.

Why did he leave? "Different reasons. When we did this I wanted $1400 for a digital remix and Columbia wouldn't pay it. And then [Columbia jazz vice-president] George Butler calls me up. He says to me, 'Why don't you call Wynton?' I say, 'Why?' He says, "Cause it's his birthday.'" Miles gives a look that could wither a stone. "That's why I left Columbia."

Moments later, Miles is blasting out a particularly funky concert tape. His sister looks up from her seat on the back terrace with an expression of recognition and delight. She and Miles start making faces at each other. Miles' moods are like New England's weather: variable and subject to sudden change.

When I relay Teo Macero's observation that Miles' music can be traced to the nature of his relationships to different women [see interview], he laughs disparagingly: "That has nothing to do with it. There's worse things that can happen to you than a woman, you know; things that make your heart race. Music can help that. That's why they put it in hospitals, offices, elevators—why a woman sings when she puts a child to sleep. Somebody asked me, 'What would you do if your wife left? What would happen?' And I told him, 'I'd play a B-flat major seventh. And then I'd feel alright.'"

He turns on the TV, which happens to be featuring a news program about the racially-motivated attack of three black men by whites in Howard Beach, Queens, New York. Anyone who has spoken with Miles soon discovers that he's a very race-conscious (*not* racist) individual. He chooses friends and associates on their merits, but his experiences with racial prejudice—including police beatings—are a lasting source of bitterness. He watches the news with grave attention, then calls his sister over. Neither speaks at first, but seem to bear witness to the account of this latest outrage. "Musically, I think things are a lot better," he says after a spell. "But you know," he gestures toward the TV screen, "this is New York. And then the police use that electric thing [the stun gun]...I think some things are going to blow this summer. Almost like it has to. Terrorists aren't doing their shit for nothing."

"What would I do if my wife left? I'd play a B flat major seventh. And then I'd feel alright."

I ask Miles if he has any personal heroes outside the music world, such as politicians who speak for him. He shakes his head no. "I listen to Jesse Jackson, Benjamin Hooks, James Baldwin, people like that. If they say the wrong thing, it just bounces off me. But I don't believe in non-violence. It never works; they just take advantage of us.

"Not all the time, you understand. But I wouldn't sit still to see a friend hurt—be they black or white."

excerpt from the album In A Silent Way *placed on side two, or the brass section at the end. Is it true that album was basically just a jam John McLaughlin started in the studio with Billy Cobham and Michael Henderson, when Miles wasn't there?*

MACERO: You know, that *Jack Johnson* album never existed! It wasn't a movie soundtrack. It was a series of sessions done around that time which had no relation to anything—including that McLaughlin jam you're talking about. Anyway, Miles got an assignment to do a movie, *Jack Johnson*. They were going to give him two thousand dollars for it, and he called me and said, "I'll give you a thousand. I'm leaving for California tomorrow, so go to these people and put some music in the picture." I took things done at the time and put it together. It was all splicing. Much of the album is very short pieces put together into one continuous whole. When I found a vamp I cut the vamp and put something around it. Much of the album *Get Up With It* was done that way too. I'd isolate the trumpet, find a groovy passage, and put it right in. I've always recorded Miles on one track so I could take him out and put him where it fit best. The musicians would go into the studio with him and just play. They never knew where they were going. I had to weed it all out. Just ask them. [*Note: John McLaughlin, Billy Cobham and Herbie Hancock confirm this.*] I even had to do a lot of editing and splicing on all those live albums. The only time we left it in was for those Japanese concerts [*Agharta* and *Pangaea*], because the Japanese specifically wanted me to leave in the spacy things. A lot of the electronic things I invented were for Miles albums, especially on *Get Up With It* and *Big Fun*. But Miles sometimes didn't want to use them. I'd say, "Miles, we're in the age of electronics."

MUSICIAN: *Do you like Miles' albums since 1983?*

MACERO: The producer's role is to encourage the musician to do whatever he wants, and to help him. You do it automatically. You don't analyze it. Miles was never content, and always wanted to grow.

MUSICIAN: *Why did you leave Columbia in 1975?*

MACERO: When all my friends were at Columbia I was untouchable. Once they were gone people were waiting to assassinate me. Artists I'd had gold records with, like Ramsey Lewis, were taken away from me and given to someone else. Jealousy, power struggles, I don't know why. But I knew it was time to go.

MUSICIAN: *Since then, you've produced the Lounge Lizards, among others....*

MACERO: They're serious young musicians. They have a sound of their own. I was so impressed with them that I spent my own money to record them with the London Philharmonic on my composition "Fusion."

MUSICIAN: *What do you think of the way jazz records sound today? Or for that matter, recorded music in general?*

MACERO: People are so brainwashed today by years of very dryly recorded jazz albums—very little echo. Everything is isolated, recorded separately through headphones. Track by track, be it pop or jazz. Why do you go to a concert? You hear it as a wall of sound coming at you—it's not all separate and clear like an album. People are so used to a contemporary sound now that a live sound confuses people.

Recordings don't sound real, they sound synthetic—they don't have vitality. On Miles' albums there was always a bit of distortion—because the albums were so lengthy; but so what? That's why I can't stand to listen to those Blue Note

and they need a trumpet player who can read, and I asked your mother if you could play and she said okay.' School was out and it was only a week's work. They gave me $110. I played with all the trumpet players in St. Louis—Eddie Brown and Bruz Roberts. He had the cutest sound. He always wanted me to play but I wanted to hear him. They'd all tell me don't play like this"—Miles imitates Dizzy Gillespie—"do like this." Miles imitates Miles. "So that's the way it was in St. Louis. You hear that and it's in your body. You can only play what you hear.

"By then all the cats had heard about me—but I didn't know it. They were coming into clubs where Terry and I used to jam. I learned real fast, though. My father's best friend—he was a real estate broker but they'd both worked their way through college playing music—heard me practice and he brought me a book. Said, 'See this? These are chromatic scales, and you can't do nuthin' till you learn that.'" He laughs. "So I learned it overnight. Robby Danson, one of my best friends, would say, 'Check this record out,' and we'd copy the solos. When a new band came to town we'd watch the drummer set up, and if he didn't set up right, we'd leave. Robby'd just say, 'Let's go.'

"But all the great players came through St. Louis, you see. Billy Eckstine had Bird and Dizzy. We heard Jimmie Lunceford, Freddie Webster. When McKinney's Cotton Pickers came they offered me $25 a night to go with them, but my mother wouldn't let me go. They came to the clubs where I was working, but I didn't know till much later *why*. Illinois Jacquet came, and Howard McGhee would say, 'Go on up there.' I'd say, 'You go up!' I always wanted to hear him play. So I knew everyone before I went to New York. When I told my father I wanted to go to Juilliard, he said, 'You can go. Do what you want to do—but *good*.'

"When I got to New York all the bands had disbanded be-

Heavy Coleman Hawkins and hungry young Miles.

TEO MACERO

"Give the producer some!"

By Jerome Reese

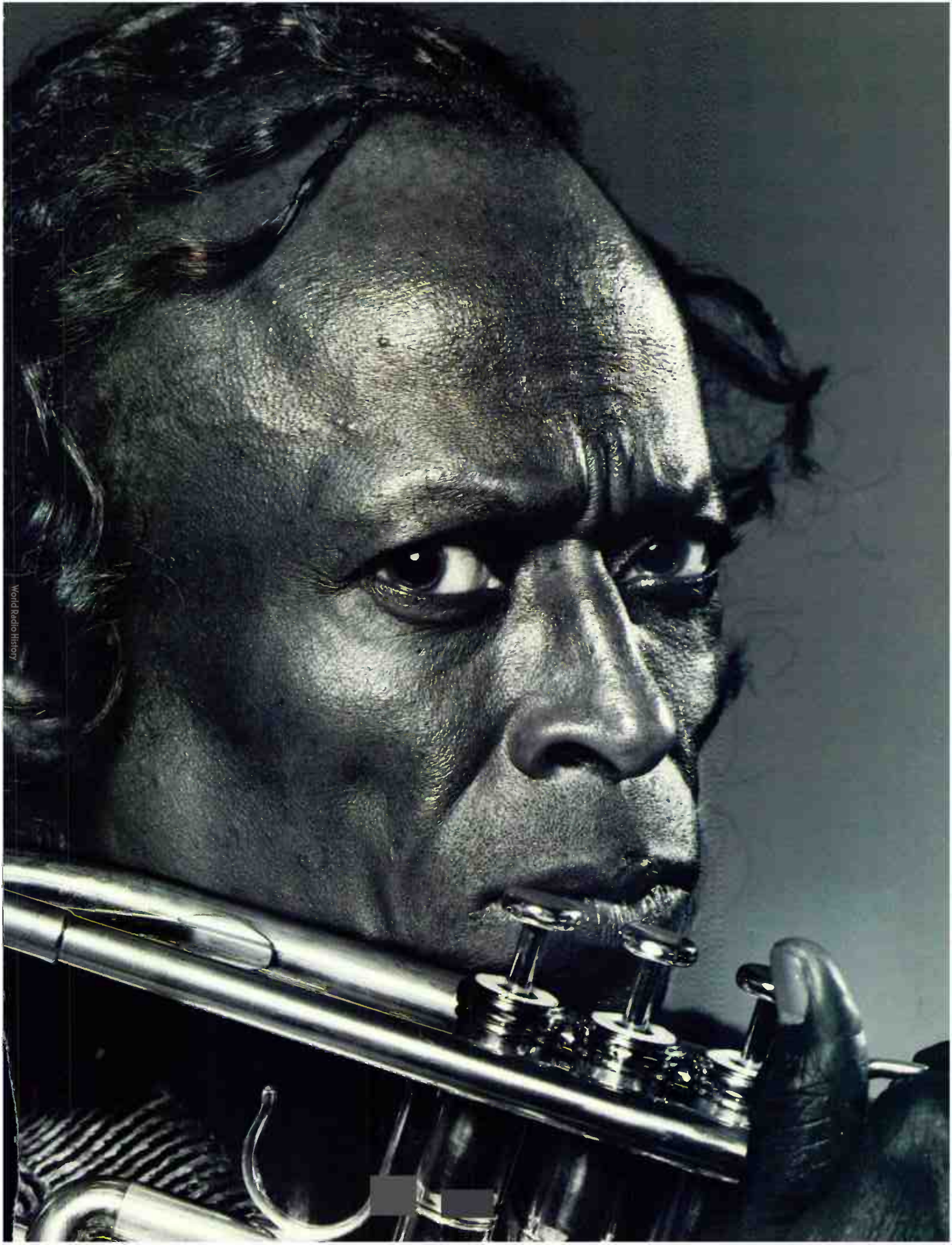
OLIVIER BREMOND

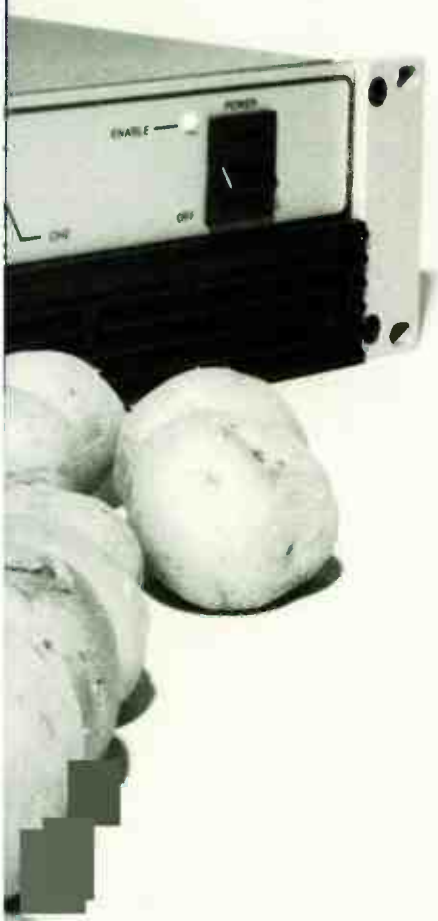
Teo Macero. It is a strange, exotic-sounding musical moniker. It sounds like something Miles Davis would play on the trumpet. And except for a few records produced by Irving Townsend, Teo and Miles collaborated for twenty-five years, from the late 50s until 1983, from *Porgy And Bess* through *Star People*—a quarter-century of some of the greatest records in the history of jazz and jazz-rock. At the end of many of the tunes on those records one can hear Miles calling out Teo's name and rasping instructions (a wonderful example is "Summer Night" from the *Quiet Nights* album). Miles also dedicated several compositions to him: "Teo" and "Teo's Bag," and there is a photograph of the two together in that groundbreaking album, *Bitches Brew*. The combination of the thin, elegant black star and the short, stocky sound technician of Italian-born parents was an unusual one. Born seven months apart, both studied at Juilliard (though not at the same time). They shared a stormy working relationship, including periods when they weren't on speaking terms. Since *Star People*, Miles stopped calling....

But there is more to Teo Macero than Miles. The artists he's produced during his tenure at CBS include Thelonious Monk, Duke Ellington, Dave Brubeck and Charles Mingus. He is also a highly individualistic composer and saxophonist who recorded with his close friend Mingus in the early 50s, and studied with legendary avant-garde composer Edgard Varèse. Teo's lush-yet-jarring works incorporated jazz and twentieth-century classical developments; an early example, "Fusion" (1951), was the first time that now-dreaded word was used to describe a musical concept.

Macero, sixty-one, lives quietly with his family in Long Island, New York; we met in the Manhattan office where he works as an independent producer, the walls lined with some of his gold records (*Bitches Brew*, *West Side Story*, etc.). Gil Evans, who has also worked with Teo off and on for twenty-five years, said: "Teo is definitely one of the

WILLIAM GOTTLIEB/RETNA





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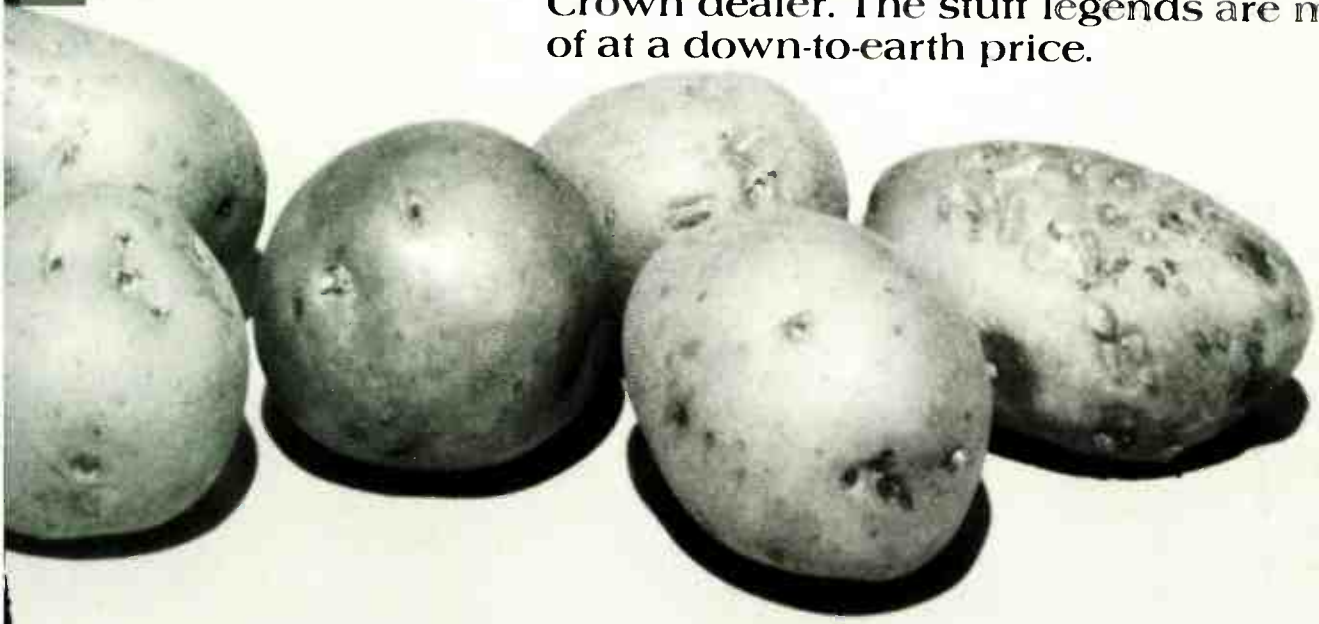

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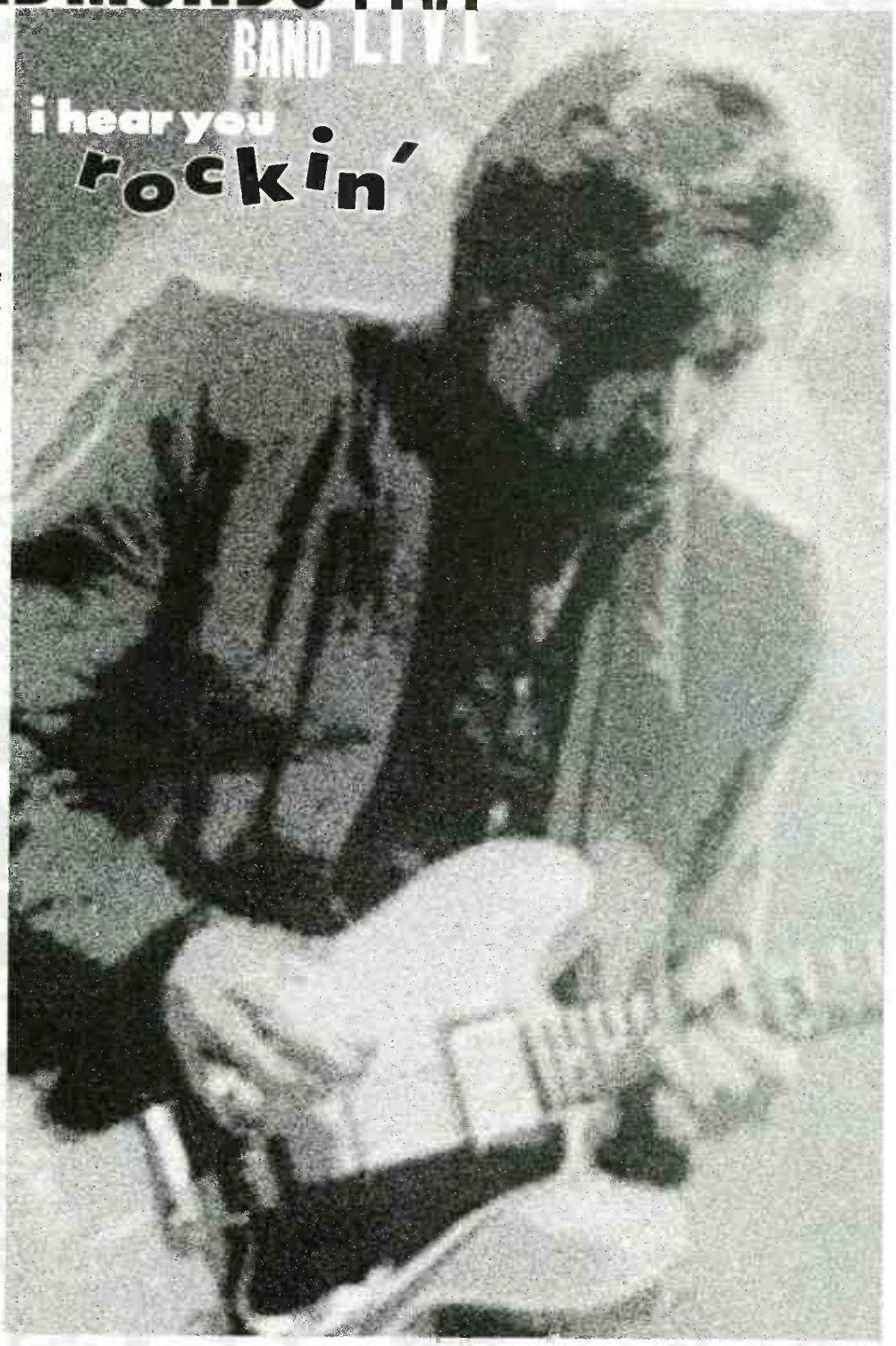

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But the really big news in expanded storage capacity is the DX7IIFD's built-in 3.5" disk drive. One 3.5" disk equals the storage capacity of 40 RAM4 cartridges. So you can have a massive voice, performance, micro-tuning and fractional scaling library ready for virtually instant use and access. And a MIDI data recorder for recording and storing external MIDI equipment information.

Speaking of MIDI, the new DX7IIs have much more complete MIDI implementation than ever before for extensive system control capability. Much more than we have room to talk about here.

And speaking of room, the new larger 40-character by 2-line backlit LCD and two alpha-numeric LEDs make operating and programming the II a lot easier. You get a full status display of current modes and names while playing and simultaneous display of all parameters while programming.

How about if you've ever wanted to explore quarter or eighth tone tunings instead of the usual half tone tuning? Play Bach in the tuning of his era? Or combine two voices with slightly different tunings for a natural detune effect across the keyboard? The II's new micro-tuning feature lets you do all that and more. There are 10 preset alternate tunings besides the standard. And two on-board memories let you create and store your own.

The II's all-new fractional level scaling function lets you precisely adjust the output level of each operator in three-key groups. This gives you unheard-of control over volume and/or timbre. So voices such as piano and woodwinds sound much more authentic.

Also adding to acoustic voice authenticity (as well as being able to create a thicker, fuller sound) is the new random pitch shift feature.

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In the multiple LFO trigger mode, for instance, a totally independent LFO cycle can be started for each note to create incredibly realistic vibrato and tremolo or subtle voice thickening effects. The new Unison Poly mode combines four tone generators for each key so you can detune to achieve a fatter sound. Assignable controllers now include foot controllers and switches, continuous sliders and control wheels. The optional BC1 breath controller adds pitch and EG bias as well as amplitude modulation to the original pitch modulation. Aftertouch can also now control EG bias and pitch bend.

And both the DX7IIFD and DX7IID benefit from greatly improved fidelity. This is a result of an all new FM tone generator system which uses advanced high-speed digital circuitry to provide significant improvements in frequency response and dynamic range.

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voices can be combined and played as one in the dual mode. Combining similar voices with slightly different timbres can greatly enhance vibrance and realism as well as adding thickness to the sound. Combining completely different voices can make for some very interesting and novel effects. Split mode, of course, lets you assign different voices to the right and left sides of the keyboard.

The dual FM tone generators in the II give true stereo output. This allows you to expand the sound field. It also opens up some exciting new digital pan possibilities. The parameters for this new pan feature let you determine the position of the voices in the stereo field according to velocity, LFO and key number. There is also a pan envelope for reshaping the dynamics to create even more special effects.

More memory was an important consideration in the new DX7II. So we doubled the on-board single voices to 64.

But perhaps more important, we added 32 internal performance memories to the II. These memories store voice position data with function (or what we now call performance) parameter data including modulation, pan, aftertouch, foot controllers and continuous sliders as well as dual, split and single play modes.

We've also greatly expanded the new DX7II's data storage capacity. In two ways.

Introducing the ne

You said you wanted a DX7 with more voice memory. And function memory. We heard you. You also wanted a split and dual tone system. And much more extensive MIDI implementation. We heard you. Micro-tuning and a larger backlit LCD? We heard that, too.

We also did some listening on our own and came up with improvements like random pitch shift, assignable controllers and after-touch for real-time parameter changes, digital pan, two-channel design for dual and split play modes as well as true stereo output, and two models, one with a built-in 3.5" floppy disk drive, one without. And greatly improved fidelity.

If that's not enough on the new DX7IIFD (and minus the disk drive, the new DX7IID) to get you out of this ad and into the store to do some listening of your own, read on. There's more.

One of the most important considerations in making a new DX7 was making it compatible with the current one. So even though there are a lot of new things going on with the DX7II, there are still six operators waiting to hear the sound of your voice. You don't have to tear things down and start over. Just build on what you already have and know.

Compatible as it is with the original, the II has taken on a whole new personality. Dual and split play modes give you the power and sound of two DX7s. Any two

While you were playing, we were listening.

PSYCHEDELIC FURS

THE CHEMISTRY OF COMPROMISE

BY J.D. CONSIDINE

It's well past midnight on a cool, November Friday in Los Angeles as the Psychedelic Furs, resplendent in their best black leathers, stroll jauntily down Broadway.

Ten minutes later, they wander by again, wearing the same leathers and the same smiles, past the same darkened shops. Then, after a brief discussion, the band traipses back up the block, and repeats its street-savvy swagger.

This has been going on for the better part of an hour now, with no immediate end in sight. It isn't that the Furs are fascinated by this particular block; the band is making a video for its new single, "Heartbreak Beat," and director Jim Shea is determined to get his street scenes right. Unfortunately, in addition to choreographing the movement of the five musicians, eight extras and his camera crew, Shea also has to contend with unplanned cameos by street people wandering oblivious through the action.

This segment of the shoot finally takes just under two hours, and results in about three and a half seconds of the actual video, none of which features the band.

No wonder rock stars look so haggard.

It's shortly after five the following afternoon, and Richard Butler, lead singer and founder of the Psychedelic Furs, is lounging in his suite on the top floor of a posh Beverly Hills hotel. The subject is videos, or more pointedly, how anyone can stand the tedium of making them.

"I guess the only thing that keeps you going is that so many people are going to see it," he says wearily. "More people than will see any one concert. And in spite of the boredom of doing it, and in spite of the fact that you feel an absolute fool...."

His voice trails off.

Richard Butler, after all, is a man who understands the chemistry of compromise. On the one hand, the Psychedelic Furs are one of the brightest bands to have risen up

PHOTOGRAPH BY DAVID STEWART

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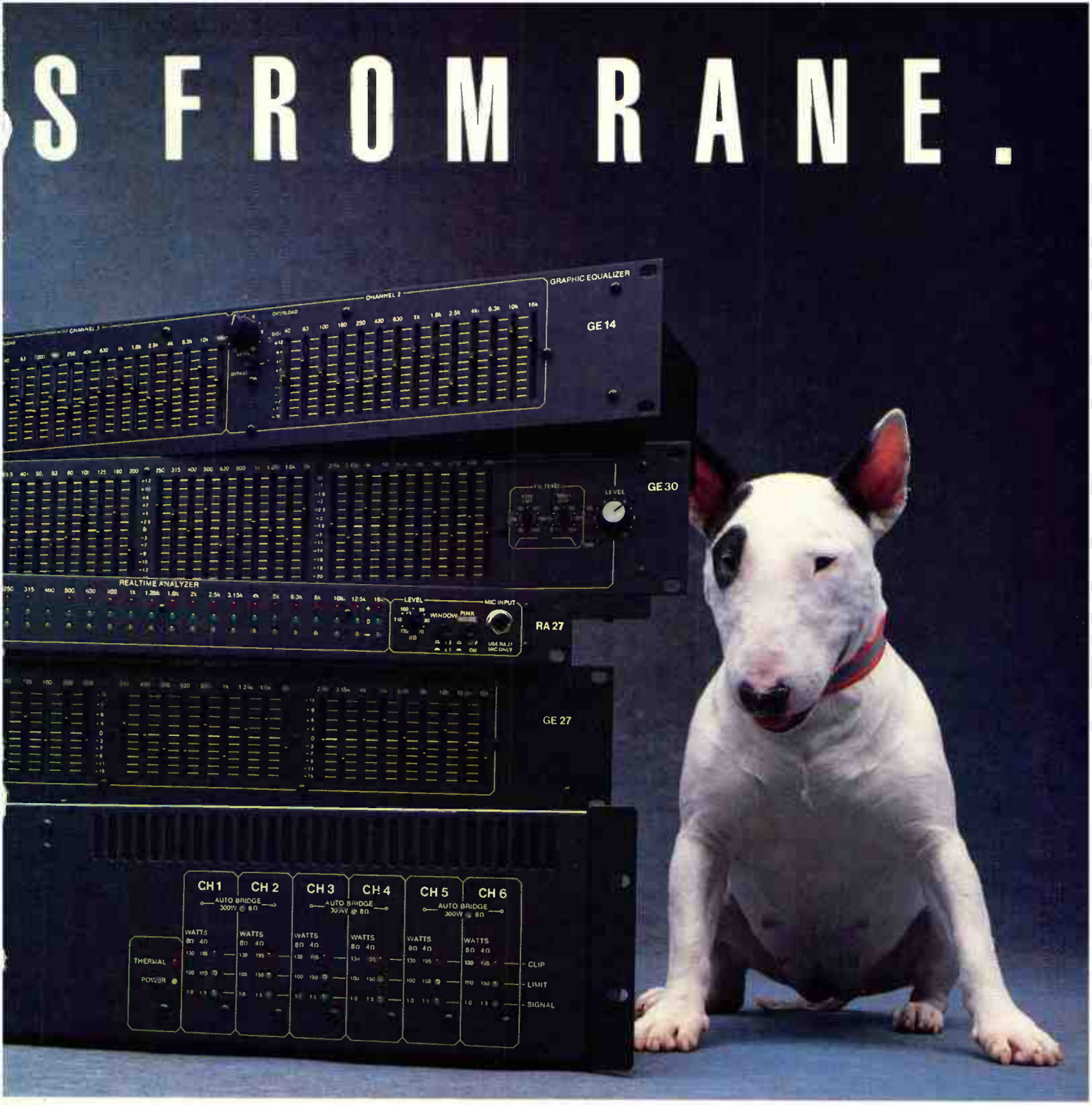

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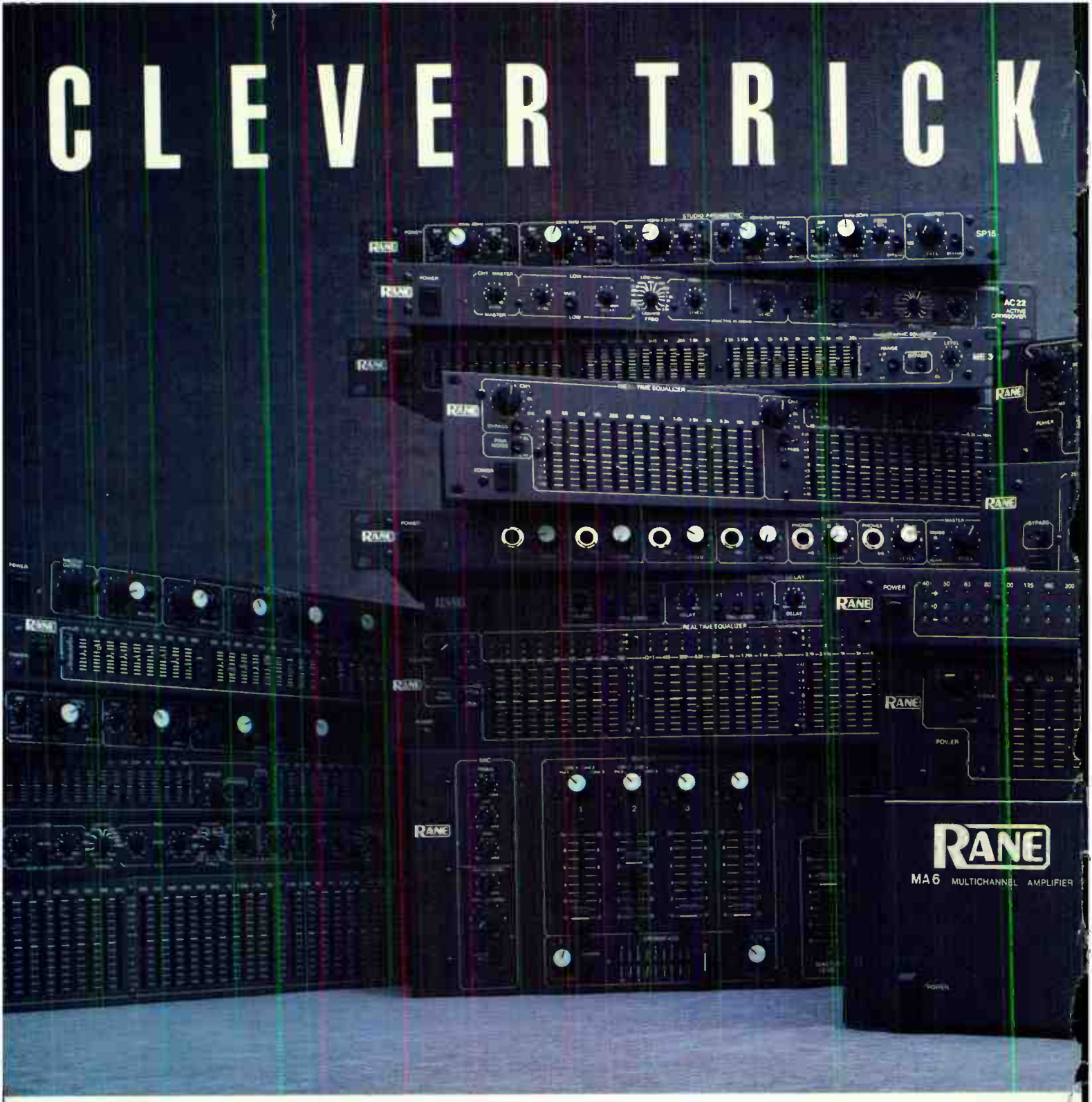

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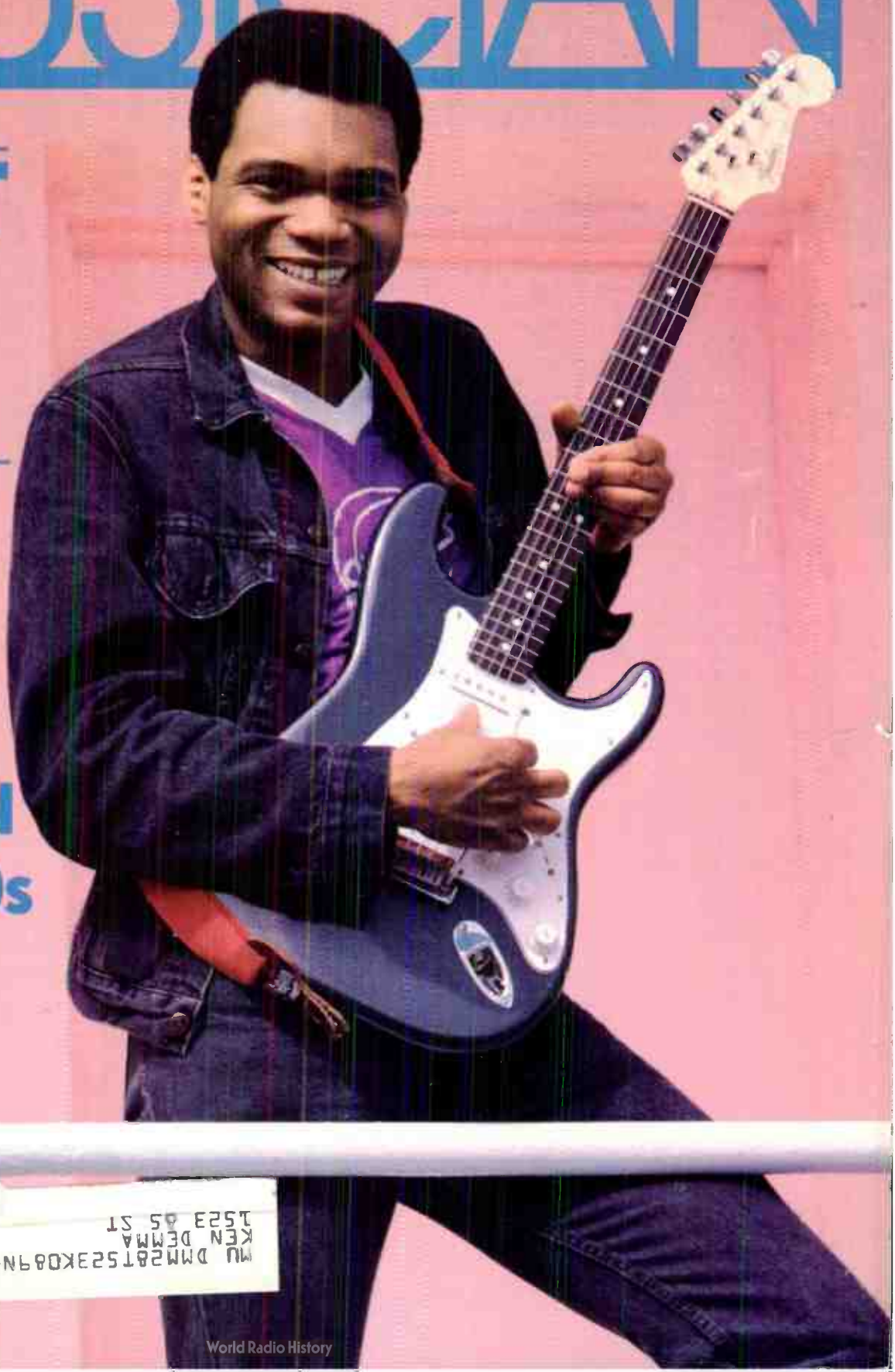

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CONTENTS

APRIL 1987 NO. 402

GARY GERSHOFF RETNA

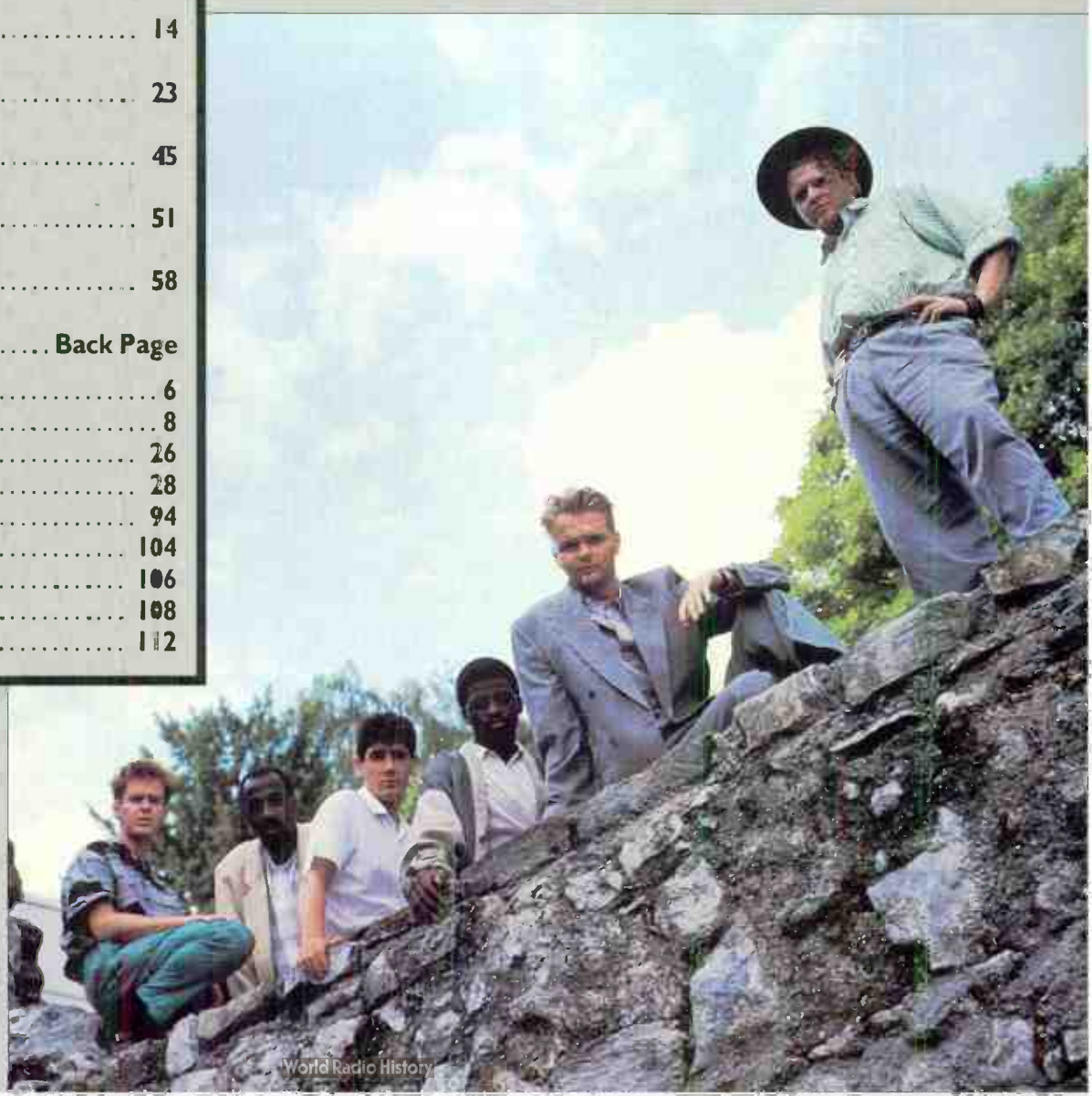
Robert Cray: No one was predicting a blues revival, but then this young upscale picker is no revivalist. He's boldly taken the venerable form where no one has before: the present.
By J.D. Considine **70**

COVER PHOTOGRAPHS
ROBERT CRAY BY STEVE MARSEL
LOS LOBOS BY PAUL HARRIS OUTLINE

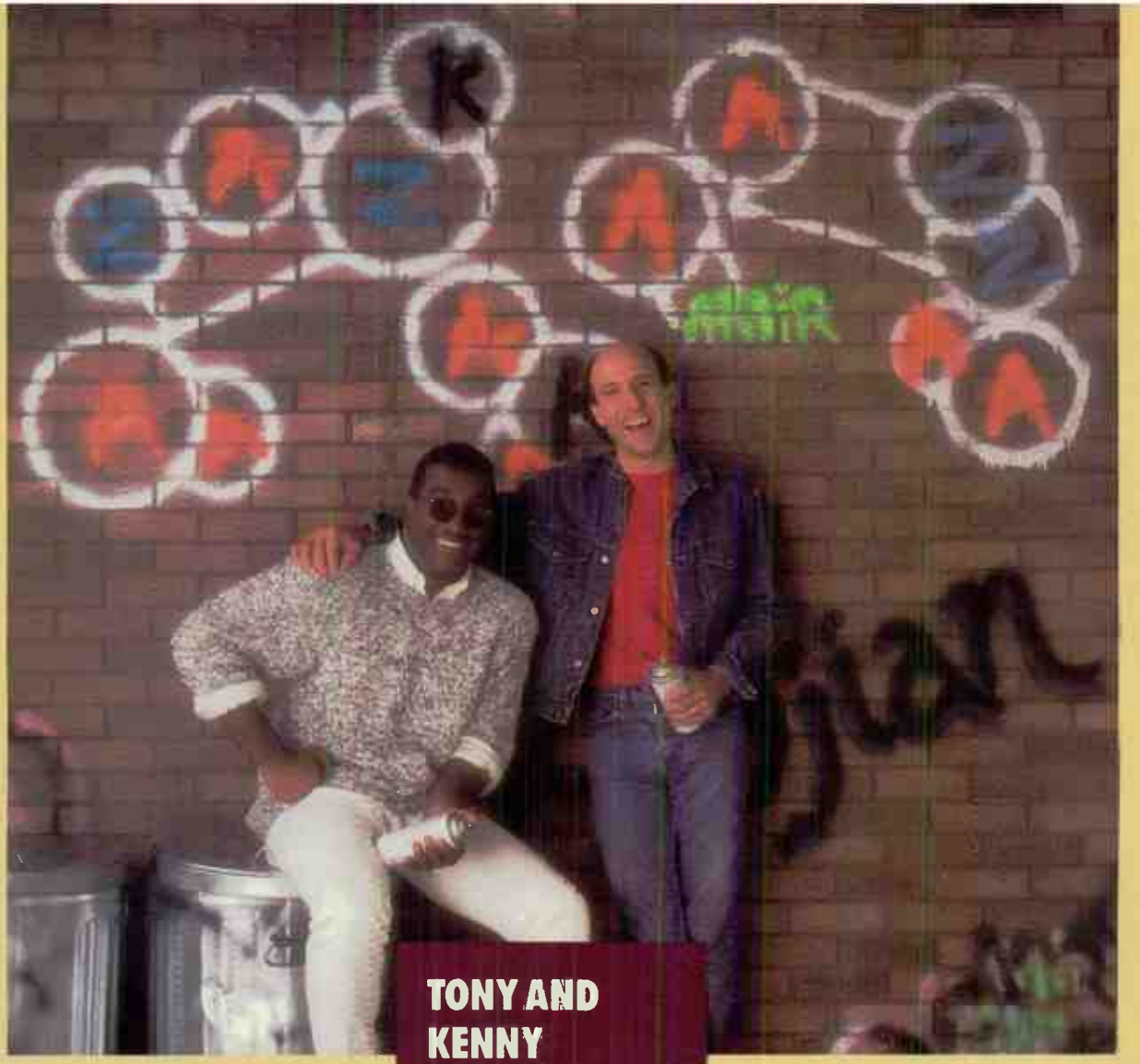
Los Lobos: Not just another band from East L.A., they've gone from rock to Mexican to folk to rock. Moral: You *can* have your *bizcocho* and eat it too.
By Mark Rowland . **82**

AARON RAPAPORT ONYX

Simply Red: He grew up without hot water, so Mick Hucknall learned to bring things to a boil all by himself. Of course, it doesn't hurt to have a band to keep him simmering.
By Fred Schruers **34**



DAVIES & STARR



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DON DIXON

BY LOU PAPINEAU

PRODUCER/PLAYER TURNS PLAYER/PRODUCER

I'm trying to figure out ways to be unpopular so people don't ask me to produce their records," Don Dixon smiles. Every producer should have such problems? Well, not every producer is also an accomplished songwriter, multi-instrumentalist and recording artist. The time Dixon spends working on other people's projects is time he can't spend on his own. Right now Artist Don and Producer Don are trying to balance their schedules.

Most Of The Girls Like To Dance But Only Some Of The Boys Like To, a collection of demos which showcase Dixon's soulful voice and offbeat, catchy songs, was released by Enigma last August. The playful, funky single "Praying Mantis" garnered AOR airplay and medium rotation on MTV. Dixon contributed a strong vocal and guitar work to "Faithless Heart," a track on the Golden Palominos' *Blast Of Silence/Axed My Baby For A Nickel*. And his first "real" record, *Romeo At Juilliard*, is due out immediately. The thirty-five-year-old from Chatham County, North Carolina is getting used to alternating his different roles.

"You have to be real sensitive," Dixon says of producing, "particularly when you write and play and sing—to not take your ideas and *jam* them down people's throats, but to let them bounce things off you and help them figure out why they're having a problem, give them some options and let them decide which direction it's gonna be. If they've been signed in the first place based on something they already have, you don't want to throw the baby out with the bathwater—which a lot of people do. I've seen bands that I *love* make completely generic records that are lost in the shuffle with all this other generic crap, with producers and engineers that are just *scratching* at the blackboard trying to make their mark instead of worrying about the music.

"It's all tied up with being happy and doing a good job and being creative and maintaining that creative energy. A lot of producers come in with a sledgehammer and think that they've been hired to be construction consultants. They go in with this idea of breaking everything apart and building it back together and I think that's absurd. The job of producing is to bring out the good elements and lay them on the table, not just take those elements and smash them into people's faces."

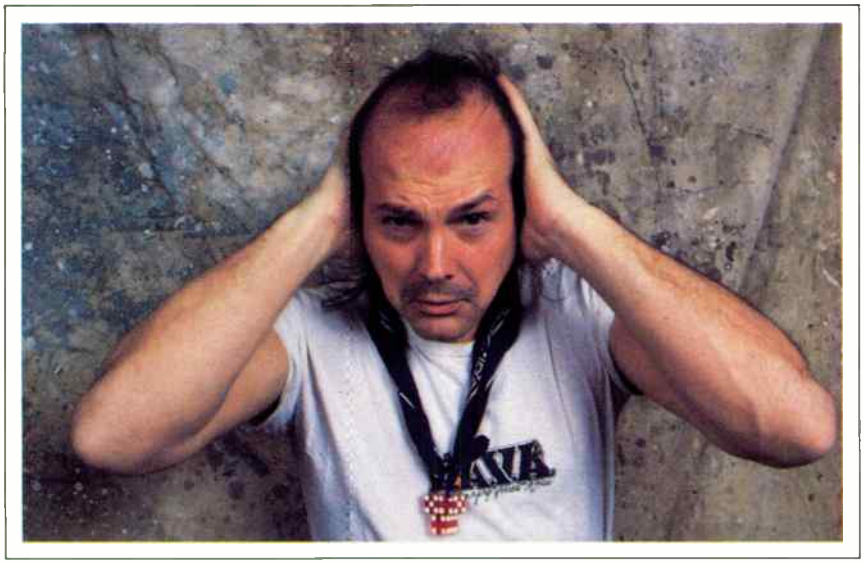
The bands Dixon produces are grateful to find a producer with a player's sensibility. Of course, he was a musician long before he ever sat at a console. "Essentially I consider myself a bass player," Dixon says with a slight drawl. "I never had guitar aspirations much as a kid. I played guitar, but there's a certain control to the bass that appealed to my compositional sense. There were two records that I liked and learned to play bass with—*Meet The Beatles* and the first Kingsmen record that had 'Louie Louie' on it." He played bass and trombone in jazz and rock bands throughout high school and fell under the influence of Jimi Hendrix in '69. "By then I had electric guitars and fuzzboxes, so I put together your classic four-piece group, wrote songs and did Hendrix covers. Then I went to college; Arrogance got together later in '69, when I was a freshman."

The band called Arrogance—formed at the University of North Carolina in Chapel Hill—was Dixon's "primary means of income" for nearly fourteen years. They released a Dixon-produced and self-distributed single entitled "Black Death" in '69. Albums followed in '72 and '73—a bold move in those pre-DIY days. "There was no network like you have for independent stuff now," Dixon recalls. "It was horrible. We had to educate the clubowners to the fact that they could get human beings to come in and hear original songs."

Now it can be told: while rocking with Arrogance Dixon led a secret life. "The band played a lot but I had to make ends meet. I did as much session work as I could; I sang and played and wrote jingles, mostly local stuff, just $100-a-pop kind of singing. We were trying to keep it as quiet as possible, 'cause we were Kansas City stars, so we didn't want to sully our image as rockers with the fact that we sang on these jingles."

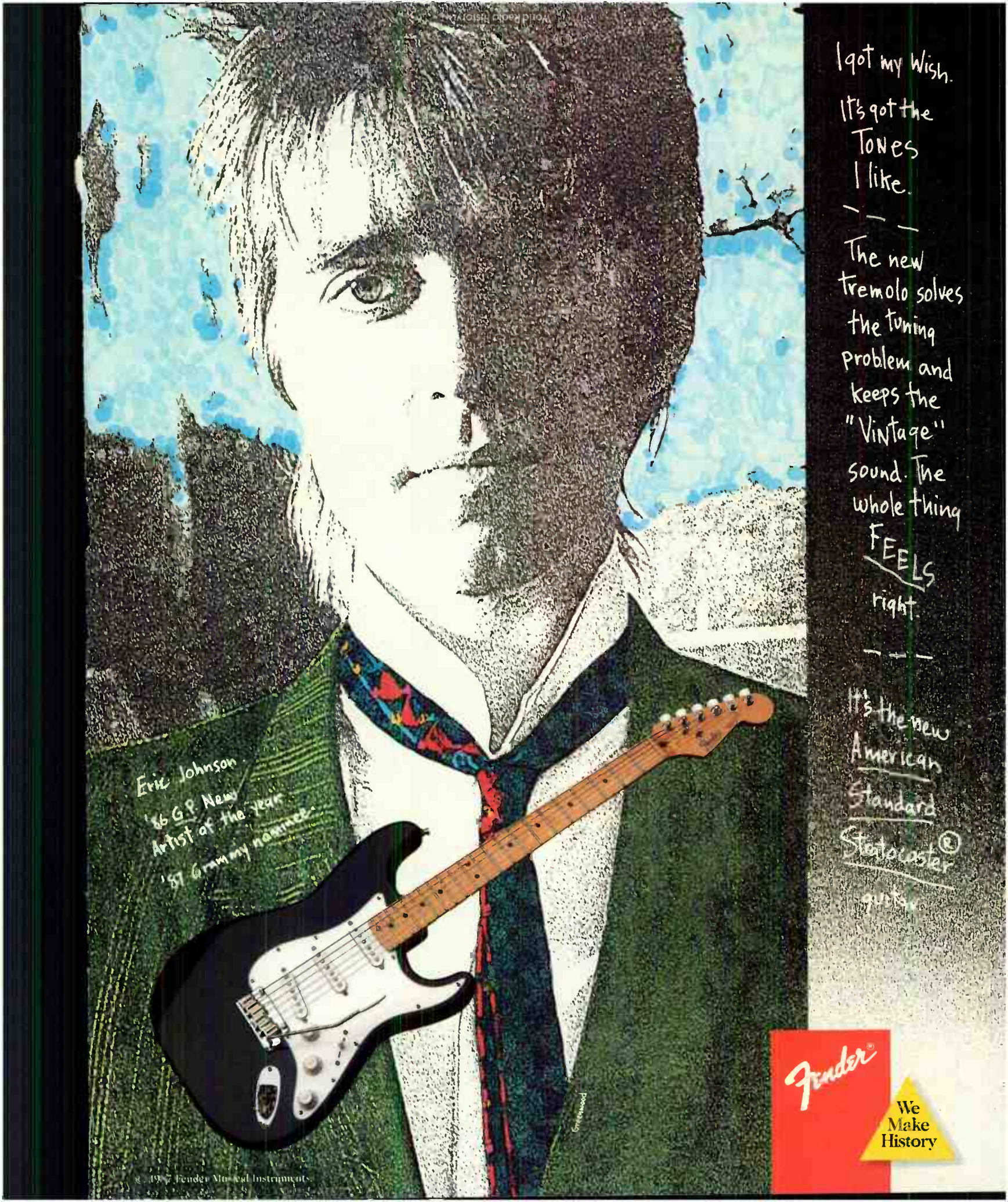
Arrogance toured extensively in the East and Midwest. Through the years the band's aggressive edge yielded to "what you would refer to as folk-rock, though we were more like *Rubber Soul* than the Byrds." They signed with Vanguard and released *Rumors* in '76 (a year before the Fleetwood Mac album of the same name).

The album swiftly disappeared. The quintet got a second chance with *Suddenly*, issued by Curb/Warner Bros. in 1980. It was another frustrating experience. "The guy who produced the record (Phil Gernhard) pushed the band in the coliseum rock vein and took away some of the pop materials, the things that would've been hipper in the long



Don Dixon hears no evil.

JIMI STRATTON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can help, whether they're so different from the way I view music that it'd be ridiculous to work on 'em. And the other thing is how much I like it—if I really like the way the guy sings and if I really like the songs. Because to be as blunt about it as I could be, if you've got two guitars, bass and drums onstage and somebody wailing, in the big picture they're all kind of the same. So the songs have to be good and the singer's obviously real important. My idea of who's a good singer and who isn't varies; I try not to let that be as important as the songs."

Now that Dixon is finally reaping attention for his own music, he is "trying to cut back to fewer projects so I can really concentrate on those projects and still have time to be a human being. My jones for getting to perform has somewhat abated by doing the tour (a short trek in late '86) and by getting to work on the new album. So I got my looking in the mirror out of the way." He can be more selective about his production work these days, "but picking and choosing is the most difficult thing as far as I'm concerned—I hate saying no, and there are

continued on next page

DIXON'S FIXIN'S

Dixon uses three basses: "A Fender Jazz, a Hofner Beatle-type and occasionally one of the old Danelectric Silvertones." His favorite electric guitar is a Framus Nashville (made in Germany). "Acoustic guitars vary. I use one of those little skinny Ibanezes, the AC-410, or an old Gibson J-45 with the G-string tuned up an octave." He favors Vox AC-30 amps.

Dixon usually works at Reflection Studios in Charlotte, North Carolina and Mitch Easter's Drive-In Studio in Winston-Salem, North Carolina. "Reflection has things the Drive-In doesn't that makes it better for some things. It's real high-tech, with two 24-track studios in one building. They're in better shape than a lot of studios in L.A. or New York 'cause the guy that owns it also has a business that sells studio equipment, so he turns the stuff over a lot more than normal studios can afford to."

But Dixon has been branching out lately: Crenshaw's LP was done at Bearsville and mixed at Reflection; Jones' *Match Game* was recorded at R.P.M. in New York and the Smithereens' *Especially For You* emerged from NYC's Record Plant. At home, Dixon captures rough ideas with a Teac 3340 four-track and a Drumulator.

In the trivia department, Dixon "sang several of the vocals (on *Most Of The Girls...*) into the very same Neumann U-47 tube mike that James Brown used on 'Cold Sweat.'"

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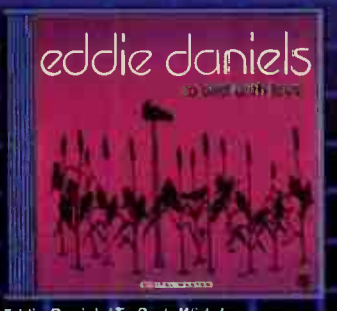

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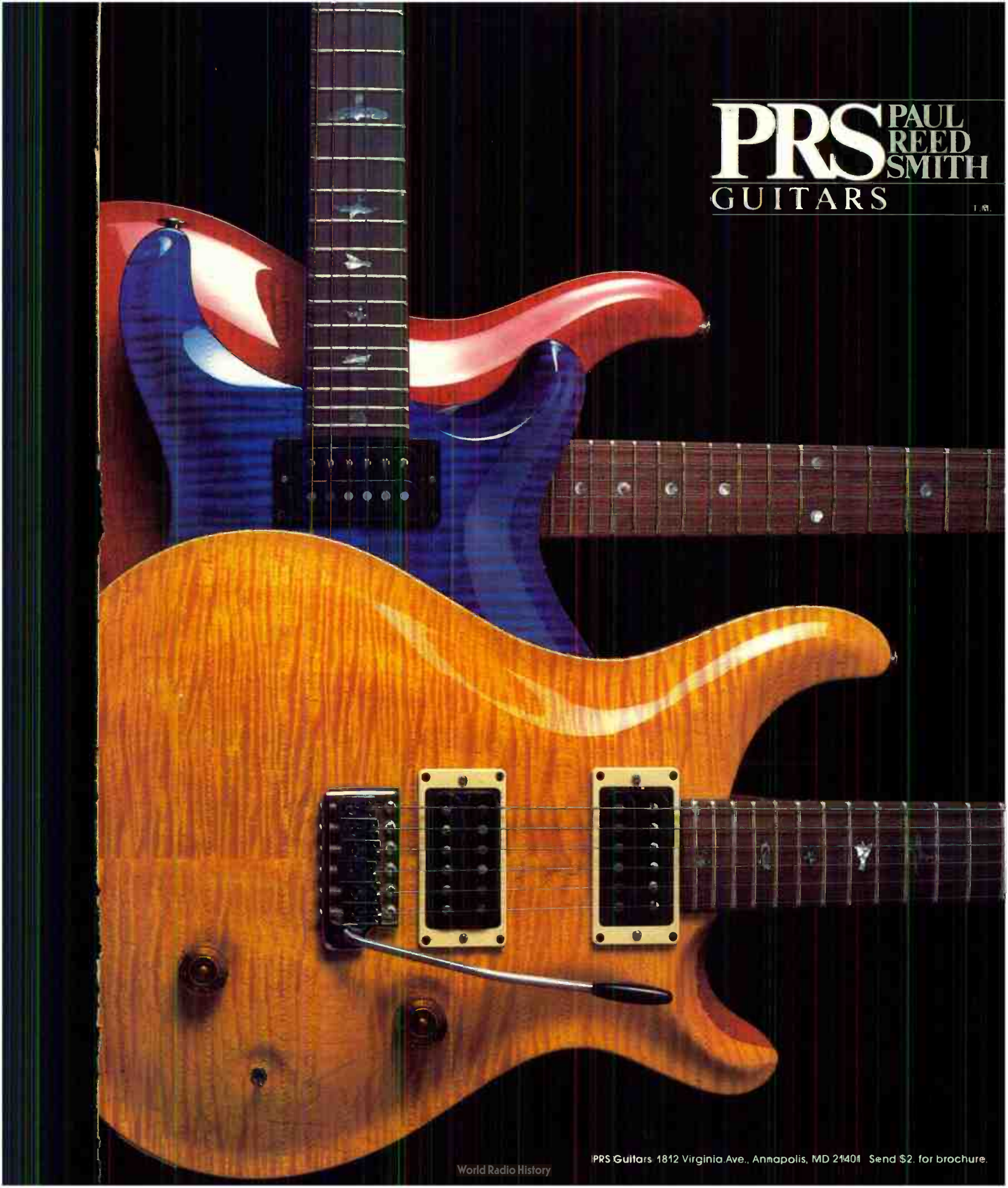

Tight (To Mention)." As an album track, it seemed a proper tribute to what had already been a clubland hit in Great Britain; as a single, it exposed them to charges of ripping off their soul betters. "Where [Hucknall's voice] falls is in its tone," scolded the *New Musical Express*. "God devised him as an 80s Gene Pitney, not a Junior Valentine." "Hucknall is now that most difficult of propositions," said the *Face* sympathetically, "a pop star without honor in his own land who has found profit abroad and feels thoroughly vindicated." And Hucknall fences back; "People don't realize it here," he told one British interviewer, "but we're enormous in Europe." And to the *Record Mirror* last spring: "Basically, to stop pissing about, we're fucking huge in America."

When his food comes, the singer is still mad with the middle class: "The middle-class people who pretend to be streetwise and poor but always go back to their bank account," Hucknall says, "are the people who now slag us off for having money. It's not the working-class people, 'cause they say, 'I'm glad you got out, good luck to ya.'" In fact, says Rashman, Hucknall is unheedful of the bags of money that have begun to come his way. "He was totally poverty-stricken when he was writing; he's a star now and all he owns is records. He's just bought like a $50,000 house, which is his idea of a mansion. He has no interests that way except buying records, probably 3,000 of them in the last two years. He's obsessive about music, and when he's not listening, he's singing somebody else's songs, or talking about it. And that's genuine."

"There's unlimited possibilities for this band," says Hucknall. "We all have a knowledge of different musical forms, different periods of R&B, jazz, reggae...it's as important to me to keep doing other people's songs as to do my own. I didn't know what I was gonna turn out when I first started writing—didn't even know if I could write. Now I might be fresh to the business, but I'm not fresh to writing. It's a mystery to me where the hell it came from. All I know is ever since I was a child, it's been music."

It's time for Hucknall to report upstairs to a photo session with his bandmates, which he does with his usual promptness. "The best way of being," he says, "is almost businesslike; it gives you artistic freedom to find your own space. You say, 'Look, I want some control as well,' and fight for it. And you get it."

The rest of the group, used to being tyrannized by his punctuality, are already arrayed. Hucknall parks himself by them and peers out at the inevitable couple of female lookers who seem to turn up for any rock—er, musical—event. He's humming something, maybe looking to cast some sort of "men and women" spell, and on the way out, one wonders what the tune will be. As it rises in volume, the choice—at least in the Hucknallian world—is no surprise. "I've got you," he purrs, "under my skin, I've got you/ Deep in the heart of me...." M

M.I. TOO TIGHT TO MENTION

Drummer **Chris Joyce** uses a Yamaha Series 9000RA kit with Ludwig snares and Paiste 2002 cymbals. Bassist **Tony Bowers**, though he's learning to play sax, still confines himself to his Steinberger XL2 bass. Keyboardist **Fritz McIntyre** plays a Yamaha KX-88 electric piano. Guitarist **Sylvan Richardson** plays a Gibson ES-335 and a Sadowsky. Singer **Mick Hucknall** uses a Shure SM-58 mike with a Nady wireless mount. Trumpeter **Tim Kellett** shares a rack of eight Yamaha DX7s with McIntyre. Fritz controls six, Tim two.

gineer can't hear the benefits straight away he'll usually keep working on it until it makes a good sound."

Alex Sadkin's "anything goes" approach to his work, and the ensuing success that it has brought about, is a major factor on which he has built his reputation. Clear sonic evidence of this lies in the tracks of his collaborations with the likes of Grace Jones—*Warm Leatherette*, *Night Clubbing* and *Living My Life*—Duran Duran—*Seven And The Ragged Tiger*—and the Thompson Twins—*Quick Step And Side Kick* and *Into The Gap*. Noises that jar with convention appear out of the woodwork, and sporadically toy with the sensibilities of the listener. "Spot the device" is a popular pastime, but the finished sound is always a carefully laid mosaic in which no stone lays loose (even though some may appear to have been somewhat squeezed into place).

"With the Thompson Twins and Duran Duran you could suggest to pull the ceiling down and record it and they'll go for it! Especially Duran—Nick loves to destroy a room for the sake of sound! We've hit every conceivable thing and sampled it to try to make a new sound. We've taken a classical harp player, had him play a sort of angelic sound and then treated this so that it sounded really hard and metallic, like nothing you've ever heard before. It had been played with the technique of a harp player, and it ended up sounding like a piece of steel being struck across some heavy cables, but in tune. All done with a lot of compression, a lot of eq and a lot of flanging. That was done for one of the tracks on the *Arcadia* album. We've also melted plastic bags, which make a really strange sound, and recorded that. There's a percussionist named David Van Tieghem who I've worked with on several things, and he takes his instruments and puts them in water and hits them, so they'll make strange sounds and vibrate like a gong and sound like a wolfman or something!

"With the Thompson Twins you can sample anything that sounds like it would add to the mood of the song, whether it's a fire extinguisher, a lawn mower, cattle.... There was one B-side where we took the sounds of sheep and lots of animals and fed those into the mix at times. It just seemed to work. A lot of the time those things become hits, just because they sound different. So if you just realize what you enjoy and start trying it, a lot of times it works. If you hate it, then probably everyone else will hate it too!"

Apart from his ingenuity another of Sadkin's strengths is his adaptability,

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sunn

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Sold Out" by putting Charlie [Watts] in an elevator and running the elevator up and down and recording it on two floors.' It's a great story. That's almost as good as some true ones."

"Andrew's idea," ABKCO president Allen Klein says of the CD project, "was, 'We've got to give people what they heard!' We didn't try to remake a record. Since everyone's concern at the time was what the single sounded like, we used that as a reference." Or at least a starting point: "We always mastered the singles bright," Oldham says, and with a lot of compression for radio.

ABKCO announced its Stones CD series (records and cassettes were overhauled too) in grand style. "THROW AWAY ALL YOUR ROLLING STONES ALBUMS. NOW" trumpeted the headline to a lavish eighteen-page trade magazine insert published last fall. But Stones fans with CD players might already have seen compact discs by their heroes well over a year before. Atlantic Records, the former distributor of Rolling Stones Records, issued CDs of the *Rewind* compilation and *Still Life*, the 1982 live album. More intriguingly, compact discs of the Stones' 60s albums had been dribbling into the U.S. as European imports. Klein was not happy.

"Those albums are not as good as ours," Klein says of the import Stones CDs, released by the British Decca Record Company with an ABKCO trademark. "We're both starting from the same two-track masters. They're missing an in-between step"—that of equalizing the master tape to yield a powerful sound equivalent to the vinyl counterpart. Master tapes *are* original source material, but not necessarily the final word (or sound). Engineers commonly fiddle with multi-track masters in preparing the two-track tape that will be used as the source for LPs and cassettes—to compensate for sonic shortcomings in those media and/or to correct problems at the recording session.

The British CDs have their origins in a lavish boxed set of ABKCO Stones LPs distributed by the audiophile-oriented Mobile Fidelity Sound Lab in 1984. MFSL, Inc. president Herb Belkin says his company produced a set of digital masters, at ABKCO's request, while MFSL was in possession of the stereo master tapes. The digital masters went to Decca Records in England for a series of LPs and CDs; MFSL itself didn't have CD rights.

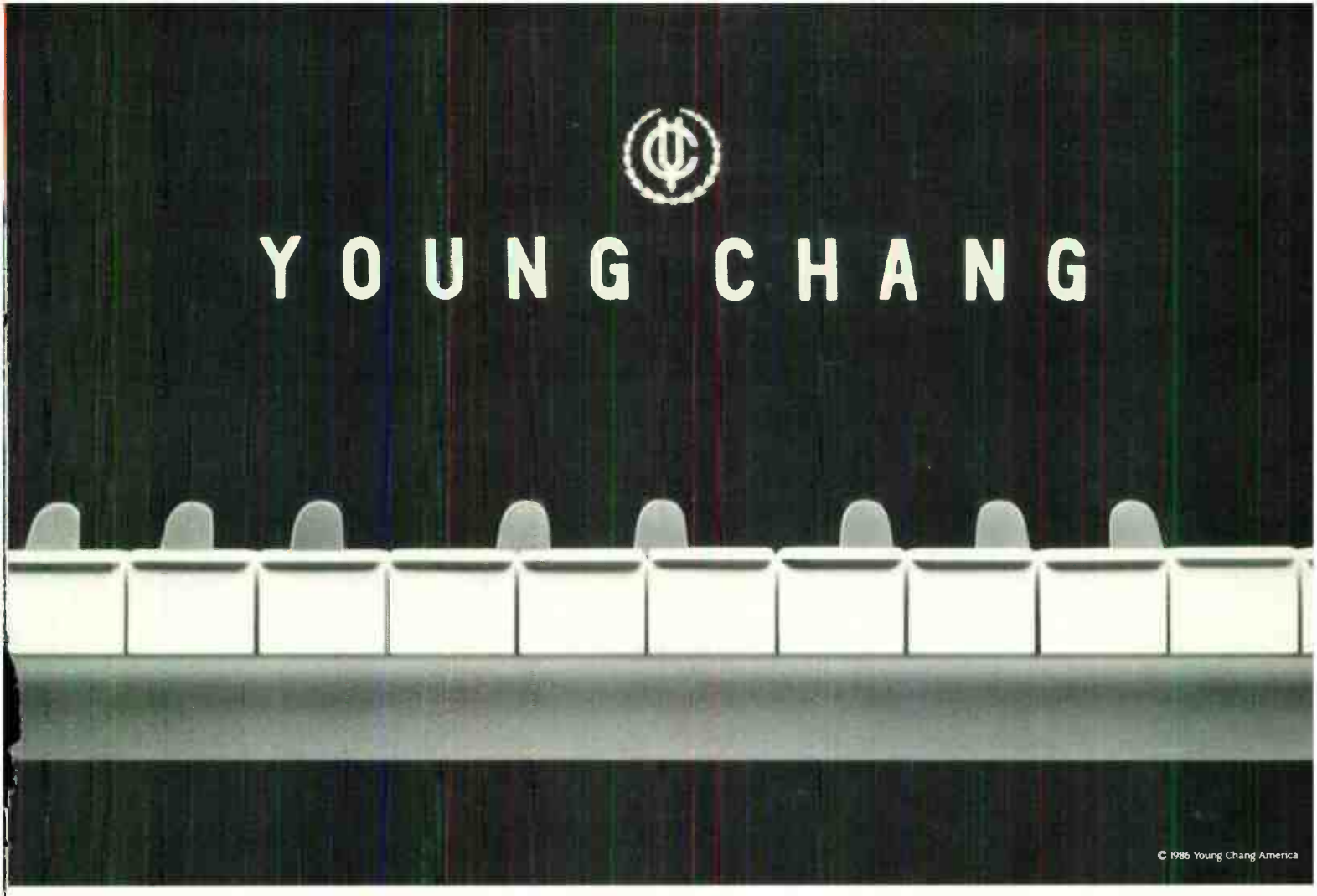
Belkin claims that Decca ran Mobile Fidelity's digital tapes through the Decca Digital System, "which changed the

sound." He was so chagrined by the result that he asked Decca to remove the credit line—"Analogue to Digital mastering by Mobile Fidelity Sound"—from the CD packaging. Tony Hawkins, manager of the transcription department at Decca Recording Services in London, remembers receiving the digital tapes from MFSL. He says, though, that the tapes went straight through to Hanover for CD mastering. (PolyGram manufactured the British as well as the U.S. CDs.) Hawkins acknowledges that Decca Digital is an "in-house" system not compatible with the more standard Sony technology used by MFSL. However, "we couldn't even play [the Mobile Fidelity tapes] at that time 'cause we didn't have Sony equipment."

There are differences between the British and U.S. Stones CDs, largely attributable to Oldham's supervision of the domestic product. The awkward stereo separation that always marked *Aftermath* and *Between The Buttons*—and is even more obvious on the British CD than on LP—has been integrated into a more cohesive, forceful sound. "Let's Spend The Night Together" sports a brighter, louder vocal. On the other hand, some instrumental parts are buried, e.g. the piano on "Amanda Jones" and the acoustic guitar on "Complicated." The two electric-guitar parts on "Goin' Home" are melded into one.

The British *Hot Rocks I* (sold, unlike the U.S. version, as two separate CDs) has stereo mixes of "Time Is On My Side," "Get Off My Cloud," "Play With Fire" and "Satisfaction"; we get mono. The U.S. *Their Satanic Majesties Request*—one of the best recorded of all the early Stones albums, despite its chaotic creation—lops off the opening two notes of "Sing This All Together (See What Happens)," and programs that cut's "We Wish You A Merry Christmas" finale as the beginning of "She's A Rainbow." In its defense, the CD's insert sheet includes all the cover art of the original gatefold album; the British CD prints only the front cover on a chintzy slip of paper. (Ditto for the British *Let It Bleed*, lacking personnel credits.)

Well, trivial pursuit is a fascinating game, and doubtless there are other examples. A more substantial difference concerns the *Aftermath* album: The British CD reproduces the cover art and track line-up of the fourteen-song British LP; the U.S. version retains the stateside order of eleven songs, and is ten minutes shorter. The other British CDs, unlike their vinyl cousins, conform to the U.S. albums in song selection.



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YOUNG CHANG

Okay, enough pop economics. Here are some of those rugged American musical entrepreneurs who stole the limelight at Anaheim this January. Cue the fireworks, Ray Charles and the Chevy commercial—we're going to hit the NAMM show floor.

Michael Stewart's main profession is not inventor, but producer—he did *Piano Man* for Billy Joel before Joel moved back East. Though convinced of the worth of MIDI sequencers and digital drummers, he felt their lockstep tempos too rigid for the rough and tumble world of stage and studio. Rather than make his drummer play to the click or die, Stewart invented a box that would take the tempo from a live drummer and send it out as a MIDI sync pulse, thereby making the sequencer follow—gasp—the drummer. It was an idea as revolutionary as it was simple, because it throws off the mechanical monkey that's always been on MIDI's back. Of course, it wasn't completely new—Dan Garfield's boxes use what he calls Click to manually send tempo, but the drummer has to play only naked tempo—anything more would confuse it. The innovative thing about Stewart's invention is that once it's going, a drummer can play all kinds of things on the sending pad and the machine won't be misled. And at the NAMM demo, Stewart had his drummer do some confoundingly confusing kick solos and the thing never blinked.

Michael Stewart decided to let Gary Kahler manufacture and sell his invention. This is no coincidence to the theme of this story, for Kahler's American Precision Metal Works has long been the nation's most militantly patriotic MI manufacturer. It began when Kahler invented and sold one of the best whammy bars in the world and watched in amazement as thousands of Japanese copies suddenly flooded the market. Ned Steinberger gradually converted his imitators into licensers, but Kahler fought—and took no prisoners. It was expensive and absorbed Kahler's natural combative energies for years, but unlike many American inventors, he has harvested most of the fruits of his own invention. Kahler underscored this last point by naming Stewart's wonder box "the Human Clock, an American Invention."

The Clock is designed primarily for drummers, but has what's called a Sustain mode that will work with other instruments if the player gives it a moment of silence before each *one*. To set a tempo you hit on the first beat of two bars and the Human Clock'll send a MIDI start command on bar three. From that point on, it'll use what Kahler calls Real Time Prediction to calculate live tempo. You can set its sensitivity to rhythm changes, so it will either stick to your change like glue or figure maybe you were a little off and adjust more slowly—sort of like an extremely friendly click track. It also has feel and advancement controls to move the sequencer ahead or behind the beat, excellent for squeezing out any MIDI lags. Stewart put the Human Clock through an obstacle course of tempo changes and it followed each one. It's not hard to see big implications:

Drummer-to-MIDI: the Human Clock

the mass humanization of MIDI'd music, an increase in the dignity of the drummer and new possibilities for using sequencers in live performance. Beyond that, it could become a more reliable sync-to-tape method than tones like FSK, which tend to disappear when the tape degrades. You could even add MIDI sequencers to existing tapes. For $600, that's a lot of implications.

Of course, when it comes to comebacks, no one's been down as long as the classic American guitar companies, and Gibson has probably come back the farthest. It was sad for many of us sentimental Gibson owners to see the company lie fallow in recent years as a corporate stepchild of Norlin, and sadder still to play their new guitars and feel something lacking. But Gibson's woes caught the attention of three young Harvard Business School roommates, Henry Juszkiewicz, Dave Berryman and Ben Rhodes, who had upon graduation

bought a high-tech Oklahoma City company called Phi Technologies and turned it into a winner—among its products were tape recorders for defense use. The three then looked about for an undervalued company with untapped name recognition, and jumped at Gibson, no doubt spurred on by the blues-playing habits of Juszkiewicz. The sale went down last summer, and after six months of new management, Gibson has gotten a good shot of Phi Tech high-tech.

The first Phi Tech music product is a trigger-to-MIDI drum interface called the Translator 2. It's fairly straightforward but does quite a bit, and at $250 is going to put a lot of hitherto reluctant drummers into the MIDI universe. The Translator 2 will either MIDIfy any existing non-MIDI electronic drum kit, or can be matched with a new solid metal drum mike/trigger system that will enable a drummer to MIDIfy an acoustic kit for under $500. There's actually a lot in the box: It'll take six inputs as well as MIDI in, it'll control pad sensitivity and change the channel assignment, and it even has a panic (all MIDI notes off) button. The Translator 2 can also rearrange MIDI note assignments, but you're limited to a choice of eight pre-programmed sets. This is a textbook example of finding a viable niche in the marketplace and coming up with exactly the right product.

Phi Tech's Translator 2 MIDI interface

The new Gibson management team also entered into a new joint venture with K-Muse to manufacture and distribute the Photon MIDI guitar converter (another American invention by Maryland's Bing McCoy). The Photon has emerged as perhaps the best of the under-$2000 add-on systems, but has had trouble meeting demand and shaking the K-Who? factor. The new venture is called K-Phi USA (rah rah!) and seems like a deal that will significantly improve the fortunes of both parties. But maybe most important to Gibson's new fortunes, whatever was lacking in those recent-year guitars is back—they really do feel and play more like the old ones.

Guild is another one of those seminal U.S. guitar firms that has seen better days. Although there had been no quality drop in their mostly acoustic line of guitars, there was a curious lethargy in distribution and marketing. A year or so ago, a turnaround was begun, and an impressive new line of electrics was launched, but some of the old habits remained. Then in 1986, Guild was purchased by a Chattanooga guitar-picking investment banker named Jerre Haskew, who saw in Guild almost exactly what the Phi Tech trio saw in Gibson: a great resource with high brand loyalty not being used to its full potential. Haskew immediately hired legendary Nashville luthier George Gruhn and tightened up his company from shop to reps. Haskew feels Guild guitars are the only guitars in the U.S. now being made by union labor (a claim we were unable to verify), and notes that a certain New Jerseyite who was also born in the U.S.A. was impressed both by that fact and by the guitars Haskew sent him.

The cream of the line has been its acoustic guitars, and Guild plans to get them into more stores. But the big push will be in electric guitars (without, however, the Brian May model—so it goes). Any company joining such a well-hoed field in 1987 will be asked what noteworthy new approaches they offer, and Haskew came equipped with a damn good answer, the Ashbory bass. Because it's a miniature fretless bass that uses rubber-like strings (one wag called them "Gummi Bear strings"), it's tempting to call the Ashbory a gimmick or practice bass. It's not, and not just because no one would pay $500 for a gimmick. It plays wonderfully, has all the speed and grab you could want and is also perfect for guitarists who can't adjust to the long bass scale. And the active-electronics-boosted sound is really unusual. I repeat, this is not a toy, a gimmick, or Son of Gittler. All I can say is you gotta play it!

The most-cited example of MI corporate neglect has always been Fender under CBS, and it's been several years now since Bill Schultz and his merry band have been shining the firm up. What's most interesting about Fender's fortunes this January is a shift away from the cheapo Japanese-made Squier series and a new thrust into the so-called midline ($700) range. Fender has opened a new plant in Oregon and is there assembling two new lines of Strats called the American Standard and the Strat Plus. Oh sure, you may say, a Strat is a

Guild's rubber-stringed Ashbory bass

Strat is a Strat—how different can it be? Pretty different, actually. The new guitars use a slightly less curved neck (9½-inch radius vs. the classic Fender 7½-inch), a new whammy bar with more range, all-new pickups that have less magnetic damping effect on the string, and a tone control that can literally take itself out of the signal path and give you nothing but the naked pickup without ripping it out à la Van Halen. The Strat Plus has all this and adds a new two-pin roller nut and locking tuning machines that obviate the need for a locking nut. Individually these improvements may not seem earth-shaking, but they add up to one giant leap of a Strat.

Fender is also deep into its Signature series, guitars made exactly for all-star artists. Most significant of these is a Yngwie Malmsteen model that may be the first commercially available guitar with a scalloped-out fretboard. Fender also brought out a new high-quality bass speaker system called the B.X.R., brought in a new line of so-called "Special Products" that includes some nice headphones and mixing boards, and added full MIDI implementation to one of its Sunn programmable lighting controllers, the PLC 816.

Not all of the guitar news was domestic: Yamaha, flush from last summer's reorganization into new product divisions, launched an ambitious new line of Gibson-scale solid-bodies, the RGX "power guitar" series, and refined its Strat-like SE series. This gives Yamaha a guitar at every price point from $200 to $1000, all with whammy bars. The styling on the RGX series is swell—I especially like the "Access Angle" neck-body joint and the cutaway phone jack—and even the cheaper models have a smooth feel. There's also an RBX bass line, similar in many ways to the classic BB series, and a new short-scale Motion bass that's already won over Duran's John Taylor and Mister's Richard Page. And Yamaha is even intruding on the sacred soil of the Gibson L5, offering a superb version at considerably less than collector prices.

Okay, okay, I hear the mutterings. What's with all these old-line guitar companies hogging the stage? What about the MIDI guitar explosion you got so worked up about last summer? Perhaps the biggest surprise at NAMM was the degree to which MIDI guitar was a non-issue. The only major innovation was the Stepp DG1, which really was impressive. Although the strings setup is not orthodox, it was no problem at all making a transition. There may be some question about whether the digital synth section is hefty enough—some time developing new patches may resolve that—but on playability the Stepp gets an A. Other than that and the Photon, things were muted. Ibanez decidedly played down its controller, concentrating instead on some new electrics and a whole new line of Tama drums. Voyetra reportedly decided not to produce its impressive prototype—for now. Charvel, as well as fellow IMC brand Akai, did not even come to NAMM, deciding one show a year was enough.

That left Kaman (Ovation/Takamine) carrying the flag at Anaheim, with Roland quietly showing the GM70 converter it debuted in Chicago, and DOD taking over the IVL system from Kramer. The only other MIDI guitar action worthy of note was a new $700 add-on system from Beetle, who also makes the PR-7 DX hardware programmer. Called the Vortex, the Beetle system does not read pitch at all but uses a "radar scanning detector" to locate the position of your fingers (the literature claims it to be a thousand times faster than the competition with no glitches—hmmm). Unfortunately, what they showed was so preliminary, a real evaluation must wait. Does all this mean I'll have to calm down

Yamaha's sharp-cutaway RGX axe

and face the fact that America may not be ready for MIDI guitar? Could be, but don't count on it.

The other big high-tech glamour issue of 1986 was sampling, and no such rollback was evident. The only totally new entry was the Casio FZ1, a $2200 16-bit sampling keyboard that adds a number of impressive new wrinkles to the familiar sampling repertoire. First and foremost is its display, which is actually a small 64x96-dot video screen which graphically displays the waveform—it scrolls back and forth and can zoom in for close-ups. Other killer FZ-1 extras include the ability to set eight loop points, crossfade, reverse, fade or mute on a velocity cross-point, do waveform or additive synthesis, cut samples into cyclical waveforms, hand draw them, and put up to 64 sounds on a keyboard. It's even got a high-speed data interface to dump samples, and a $400 expansion board that takes the onboard memory to three megabytes. Even more provocative, it has changeable software, so optional programs could temporarily turn the FZ-1 into a sequencer or phase distortion synth—yes, this'll be open to third parties. Casio really did their homework on this one, folks.

Shrewd readers will note I slipped in another Japanese company, but there was still plenty of American sampling action. Ensoniq, still sitting on the most affordable sampler, the Mirage DKS, chose to make the point more emphatically by dropping the price to $1300—$1100 for a rack-mount. By now, many techno-handicappers are asking if in this brave new world of 12- and 16-bit samplers, the good old 8-bit Mirage has what it takes, but the answer to that may be in the incredible number of new computer visual editing programs for the Mirage that were on the show floor. The *vox populi* seems to be saying we'll find ways around the limitations to get the price break. And the ESQ-1 is also starting to get its share of editor/librarian programs. Other Ensoniq action saw the release of rack mount versions of both the ESQ-1 ($1000) and the SPM-1 sampled piano ($900).

At the other end of the dollar spectrum, Kurzweil did a little price cutting of their own, bringing the price of their flagship 250 under ten grand—this includes the sound modeling program for user sampling that used to be optional, and a new high-speed data interface known as the QLS. Kurzweil also brought out a new $8500 rack-mount expander version, the 250 RMX. Both include a new software operating system and a 12-track, 12,000-note sequencer. But even

UNIVERSAL FM & OTHER GOOD NEWS

Some synthesis technologies come and go before anyone's had a chance to finish reading the manuals, but it doesn't look like that's going to happen with FM digital. In fact, the Winter '87 NAMM show could have been aptly subtitled: "FM: The Saga Continues." Part of the story, of course, was Yamaha's introduction of their new DX7s (the DX7 IID and IIFD) and the TX81Z tone rack. And to answer everyone's number one question, yes, all your existing DX sounds will work on the new machines. All it takes is a very simple, and presumably inexpensive, adaptor called the ADP1 for your old DX7 RAM cartridges. (And no, the rumors are false! The model letters have *nothing* to do with the initials of everybody's favorite techno writer).

Also false, obviously, were the vile canards floating around NAMM to the effect that Yamaha introduced the new DXs to cut third-party developers of DX voicing programs out of the picture. How could that be the case when the old and new units are fully compatible? And if Yamaha were hostile to third-party developers, how come the Bäcchus Systems IBM-PC editing program for the TX81Z made its debut simultaneously with the 81Z itself? Incidentally, if you're curious about what *you* can do with those seven new waveforms in the 81Z, the Bäcchus program seems a good place to start.

But Yamaha is now only part of the FM saga. Korg also introduced an FM machine of their own: the DS-8. Nippon Gakki, Yamaha's parent company, now has an interest in Korg's Japanese parent company, and has licensed one of their 4-operator FM systems (with 2 algorithms) to Korg for use in the DS-8. It's an 8-voice, multitimbral machine which is easier for some to program than the DX7 because it translates the language of algorithms and operators into conventional analog-related parameters and controls. The 40-character display doesn't hurt either. From what I could tell in a crowded, noisy NAMM display room, the DS-8 also has the articulate clarity of FM without sounding like a DX ripoff.

Even seasoned DX owners have at times felt the need for some hardware programming aids, and a new box from Symphony doubles as a user-friendly editor panel and a 512-voice memory expander. How friendly? It has an "FM EQ" feature that'll turn requests like "make this brighter, will ya?" into the necessary parameter changes. It also has all kinds of global editing, MIDI signal clean-up and software update capabilities. The voice storage section has very hip data base software, which can sort voices alphabetically, by parameter, by synth or other esoteric criteria. It has a high-speed RS232 interface to work with computers, does printouts and works for everything from an exalted TX816 rack to a lowly FB-01. The Symphony VX7 sells in the high seven-hundreds. The Salt Lake City operation also has a new 16x16 MIDI processor. The equivalent of four MEP4s, the Concert Series will map, merge, process and do laundry, and four can be chained together to be 64x64.

Of course, there's more to keyboard life than FM. Roland debuted their D-50 digital synthesizer at NAMM. It boasts their latest sound-generating scheme: Linear Arithmetic (L/A) Synthesis. Essentially, partial timbres drawn from digitally synthesized waveforms are combined with partials derived from PCM samples to produce the D-50's sound. Partials from these two sources can be blended via a joy stick. As on-site demonstrations made clear, this dynamic relationship among partials can produce much more dramatic results than simply stacking samples and digital synth sounds via MIDI. And the D-50's voice architecture even includes onboard digital parametric eq, chorus and reverb.

Playback-only sample devices also made a strong showing at NAMM. Of course the concept is as old as the digital drum machine itself. And one of the pioneers in playback-only sample technology, 360 Systems, unveiled two new products. One is the Professional MIDI Bass, a rack-mount version of 360's classic MIDI Bass with more onboard sounds, and a Modify section for customizing samples. The company also debuted the new 360 Voice Module, a rack-mount unit which can hold 128 lead and percussion samples, thanks to 360's Silicon Audio™ LSI chips.

Elsewhere, Oberheim unveiled their DPX-1, which can play back library discs for the EII, Prophet 2000/2002 and Ensoniq Mirage. Generic playback devices like this could very well become the biggest thing since sliced waveforms. Hybrid Arts' ADAP digital recording/sampling system for the Atari 1040 ST, for example, can play back and edit discs for the Ensoniq Mirage, Prophet 2000/2002, Roland S-10/S-50, E-max, Korg DSS-1, and the Akai S900.

The new developments in FM and sample technology at NAMM bring up one important point. As technologies become more universal—i.e., not the sole domain of one manufacturer—they become more immune to obsolescence. And that's good news for both musicians and manufacturers. – **Alan di Perna**

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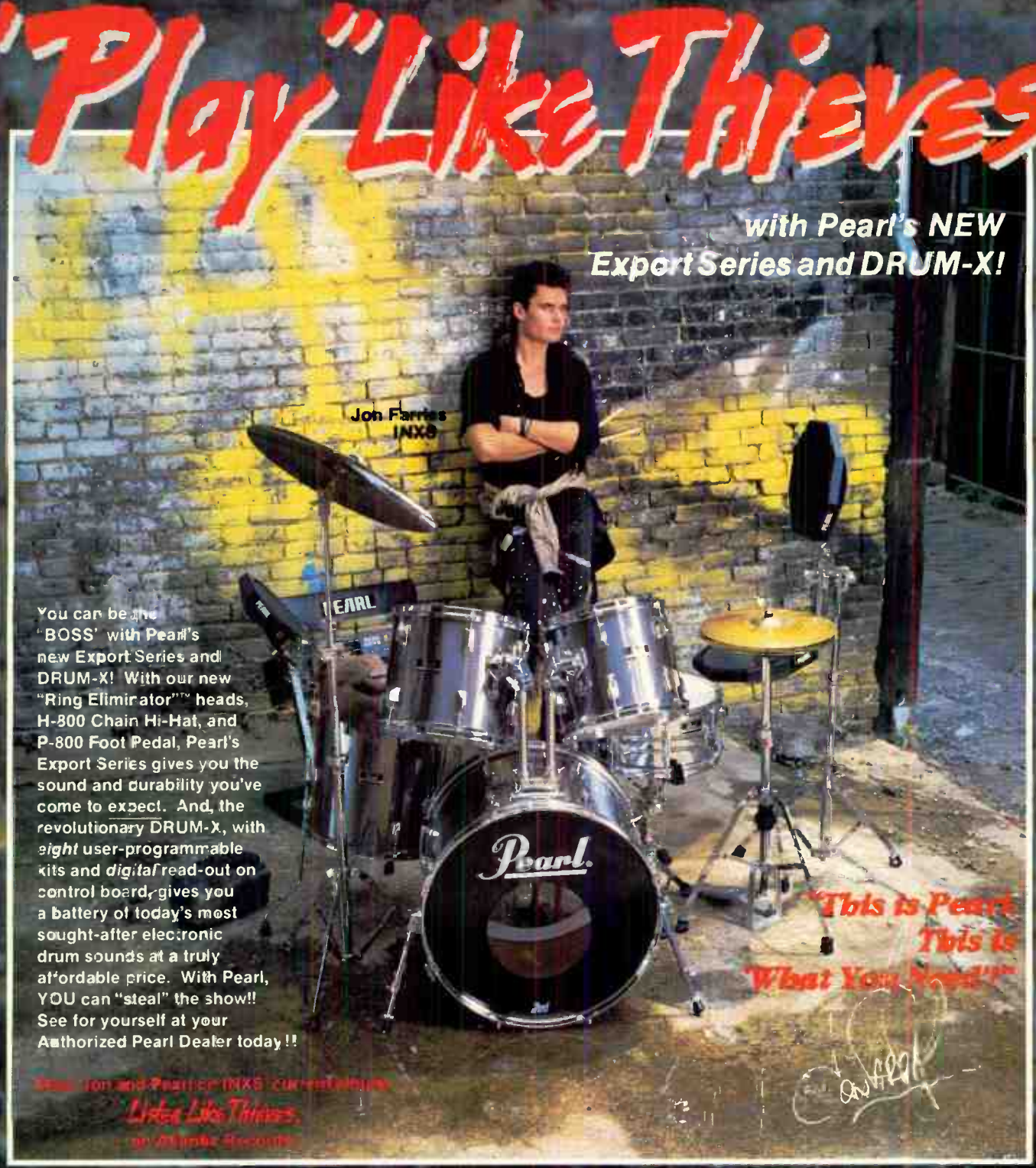

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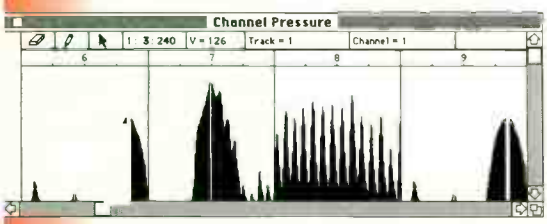
more activity surrounds their under-$3000 150 Fourier Synthesizer, which is based on harmonic frequencies rather than waveforms. Where once it only took ROM sound blocks, now a new Apple software program called the 150 Sound Lab enables users to design and store their own patches. And there's also a Mark II version of their fancy home keyboard, the Ensemble Grand. It's been a tough last few years for the company, but internal restructuring, including a public stock offering, have made 1987 look considerably brighter.

One way U.S. firms are getting a leg up is to join forces in new product ventures. Witness Zildjian's new ZMC-1 cymbal miking system, developed in conjunction with Barcus Berry. The system uses up to six box-like condenser/electret mikes that go under the cymbals, thereby minimizing leakage. The six cymbals are then fed into a basic stereo mixer, which also has eq and effects loops. Six mikes and the mixer go for a grand. Considering how long cymbals have been immune from the drive to electrify, this seems overdue.



Passport Master Tracks Pro window displays complex MIDI controller data.

Another link-up of great Americans involves the latest version of Samson's stage wireless system. Feeling that the last frontier of wireless was noise, Samson put a dbx noise reduction system in their Concert TD series, which runs from $800 to $1200 in price (TD stands for True Diversity, natch). It banishes breathing and pumping symptoms as well as transmission noise, but still packs a 115 dB dynamic range. The Samson unit is also the only wireless setup in which you can get the Electro-Voice N/D 757 mike element. And Samson took over the distribution of the aluminum Hartke speaker system.

Not all our fellow countrymen are into cooperation, though. Alesis and ART seem to be having their own private preset reverb war. Digital reverbs and effects with no user-programmable patches can cost a lot less and still sound excellent, as Alesis demonstrated with its MIDIVerb and MIDIFex units. This show, MIDIVerb died and went to MIDI heaven, replaced by the $400 MIDIVerb II, a 16-bit rack-mount unit that has all manner of reverbs (including gated), delays, chorusing and flanging among its 99 programs. Bandwidth is 15kHz, a notable improvemant on MIDIVerb. And Alesis got much of the same processing system into their $250, 16-preset MicroVerb, which packs three to a rack but has a big, big sound. Alesis also showed a cute hand-calculator-size MIDI patch transmitter, the $99 MPX.

ART, meanwhile, was running straight at Alesis in ads for its new $400 ProVerb, a rack-mount 99-preset MIDI-accessible digital reverb unit. Should we set MIDIVerb II and ProVerb up across from each other and just let them flange it out? ART's other big NAMM release was more unique: a MIDI eq system that completely rethinks equalizers as we know them. How? A slider on your typical eq does not work in isolation—a "skirt" effect tends to drag its adjacent bands along, giving you more a rounded hill, let's say, than a spiky peak. What ART did was figure out a way to adjust the adjacent bands to compensate for band interaction, so that what you set is what you get. They call this Smartcurve and put in it a professional ⅔-octave eq system with 120 patch locations, then added a composite video output to graphically display the frequency curve, slider positions and MIDI info on any TV. The IEQ, or Intelligent Equalizer, is available in a $600 master rack-mount unit, with controls on the front panel, and a $350 satellite box, up to fifteen of which can be slaved to one master.

Other good Americans who were feeling no pain included Sequential Circuits, true to their word in having their vaunted Model 440 sequencer/sampler/sync-box/digital drummer up and pumping. Tom Scholz's SR&D showed a prototype of a new modular amplifier that works in a system along with the RockModules. (Scholz is also sitting on the most advanced effects/amp-switching pedal design around.) And Whirlwind caused quite a stir when it was learned the cable/hardware firm had been importing European product—until it turned out to be two Porsche 944s for their dealer/customer Leader cord sweepstakes, won by some very happy guys from Schenectady, New York's Drome Sound.

Actually, the biggest single American winner at winter NAMM was probably not a music manufacturer at all, but a computer maker: Jack Tramiel, the Holocaust survivor who turned Atari around. Tramiel's baby is the incredibly affordable Atari ST, which is so close to the Macintosh in operation it's known as

Simmons' amazing flagship SDX

the "Jackintosh." Word was out that several established software houses were adapting their programs to the ST, but this didn't prepare us for the astonishing number of available music programs. For instance, there were five very impressive pro-level sequencers (Hybrid, Dr. T, Sonus, Beam Team and Steinberg), a couple of fine starter sequencers, editor/librarians for not only the familiar DX/CZ/Mirage clique, but even new machines like the Akai S900 sampler and Kawai's R-1000 drum box. We're also seeing some new approaches: Beam Team's Xsyn, for instance, is actually a five-part integrated editor/librarian that includes a bare-bones sequencer, full service editing (including performance functions on the DX7) and even a program the lets the computer generate sounds for you, all for $99. And as long as we're talking ST, Hybrid Arts' sensational ADAP sampling system is finally coming out. If 1986 was dubbed "the year of sampling," my call is for '87 to be "the year of Atari." Nice job, Jack.

Another U.S. computer company, Apple, has had some recent problems but is now feeling its oats. When Steven Jobs left to build the ultimate educational computer (the Next), many wondered whether Apple chief John Scully could keep the Macintosh competitive. Scully was able to make strong inroads on IBM's lock on the business market and as a result, there are more Macs than ever out there. And more Mac music programs than ever. Witness Passport's new Master Tracks Pro, written by Don Williams, who did the non-MIDI Music Shop for Broderbund. This has some terrific features, including graphic plots of aftertouch, key pressure, modulations and whatnot, a sysex librarian, 64 tracks, a fine bar-graph edit window, a keyboard mapper that allows you to control the sequencer from a piano keyboard, and one of the most flexible song/chain editors going. Passport also has the first se-

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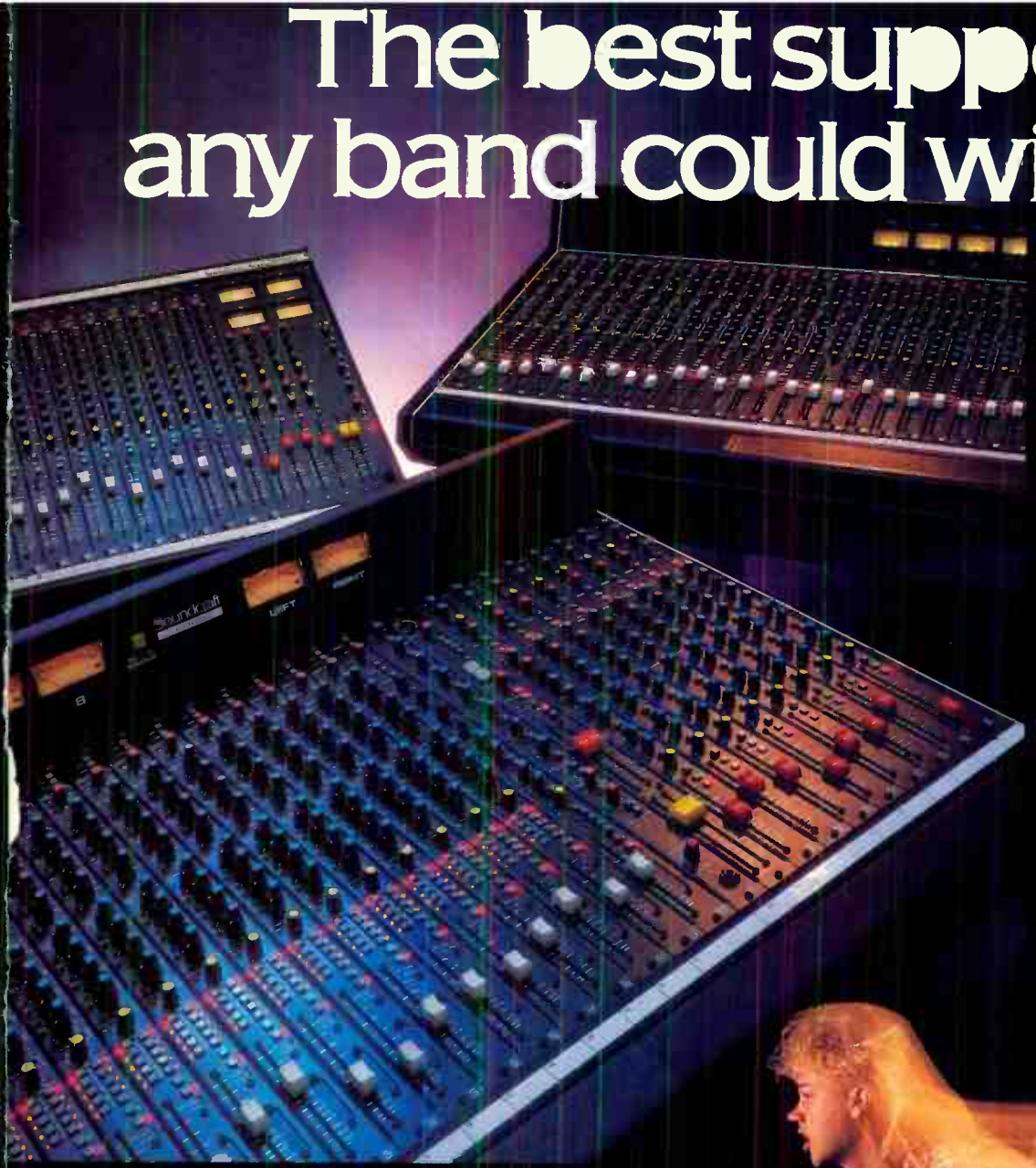

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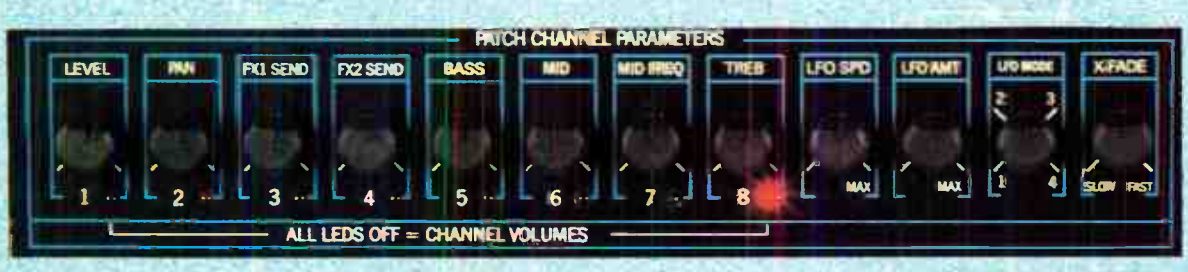

SPM 8:2

A Conventional Mixer?

The SPM 8:2 from Simmons is anything but a conventional audio mixer. There are, however, some similarities: Eight channels, each with bass, treble and parametric mid-range equalization, two effects sends, pan and level controls. Two effects returns. A headphone/monitor output and left and right master outputs.

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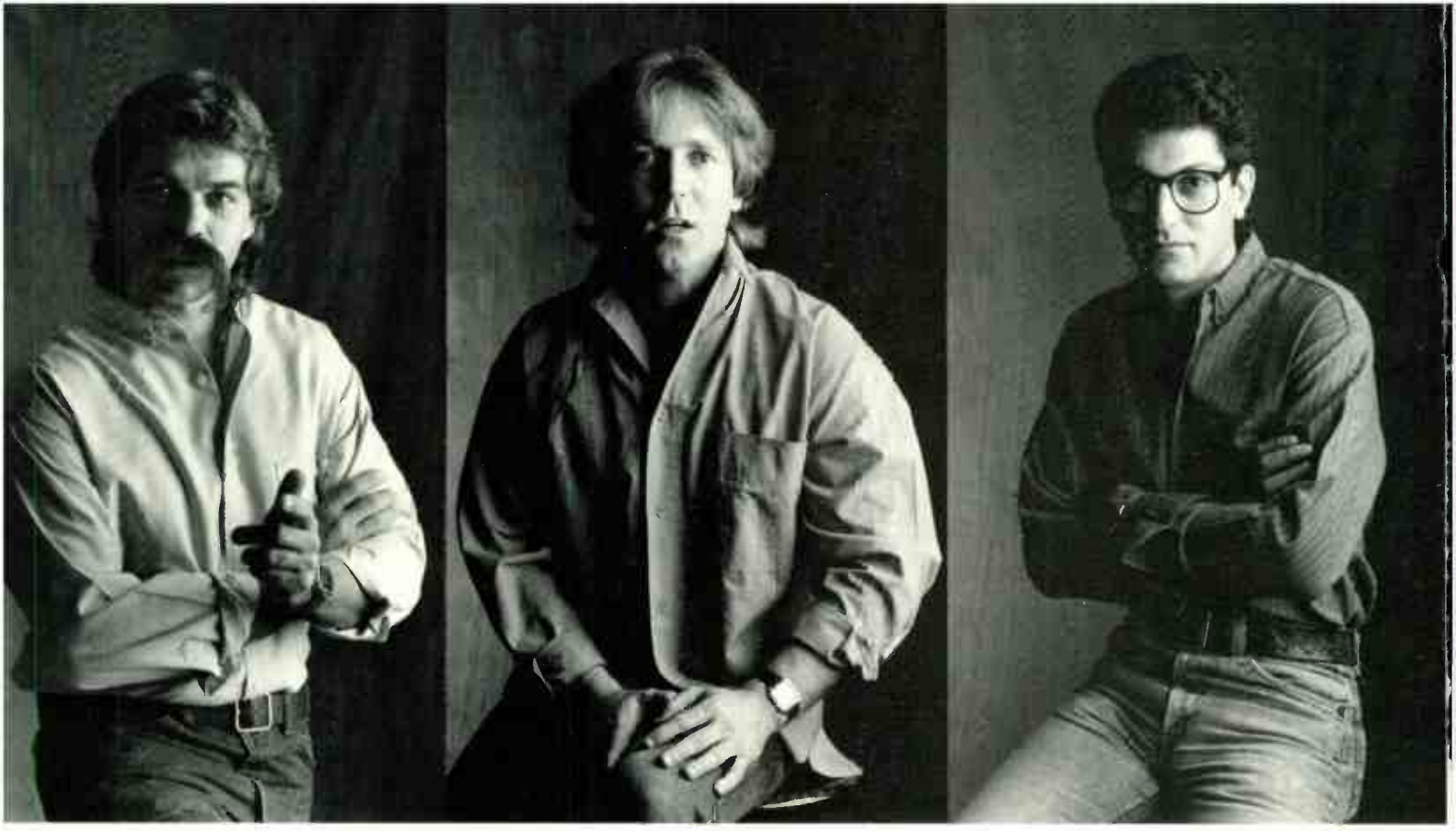

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history that seems completely contrary to the shy reserve he shows when the reporter's not around. It's almost as if Robert Cray, Professional Musician, takes over when the reporter's tape starts rolling, while the Robert Cray who worries about getting his heart "busted up" waits inside until the work is over, or the music's about to begin.

Robert Cray may look like a friendly, easygoing guy, but don't let that fool you. Deep down, he's even nicer than he looks.

"Robert is a very shy guy, and he's a man of few words," Boe assesses. "I like that about him. He's not the kind of guy who will say something before he has something to say."

"Robert is a genuine guy," says Olson. "I've spent a major part of my adulthood, growing as a musician, with this band. I can come to these guys and talk to them about problems, personal and musical. It's a nice feeling, to have people in your corner."

"Even in the songs where Robert's cheating," says Cousins, "you feel bad for him, too."

Add in the fact that the Cray Band is, in Boe's phrase, "a checkerboard band—black, white, black, white," and you're left with a very hopeful image for the future of American music. Ironically, Kaihatsu—the fifth player added for the arena shows—preserves the racial balance by virtue of his being Oriental. Unfortunately, reality has a nasty habit of intruding upon even the cheeriest circumstances.

Back on the bus, Kaihatsu is explaining how he wound up on crutches for the tour. In Atlanta, Kaihatsu wanted a beer after his first night on the road with the band, and the only place still serving was a topless joint across from the hotel.

"It was amazing," he says. "It was an all-night titty bar. The idea was to get a round of beers. But gee, there was an astoundingly beautiful girl on the runway. So I figured, 'I'm sitting back; I'm gonna dig this.'"

Kaihatsu enjoyed it even more when, with no prompting on his part, the dancer sat down next to him and began to chat. Things were definitely looking up, until Kaihatsu felt a hand on his shoulder. "Next thing I know," he says, "a couple of good ol' boys, one on either side, escort me out of there, telling me how I should not touch any white women in this area. So I figure, okay, they got my ass out of the club—all of a sudden, boom! I get one in the kidney, boom! I get one in the back of the neck, and I'm sprawling out on the parking lot. And I tore up my knee. Welcome to the Deep South...."

Cray, listening in silence, shakes his head in disgust.

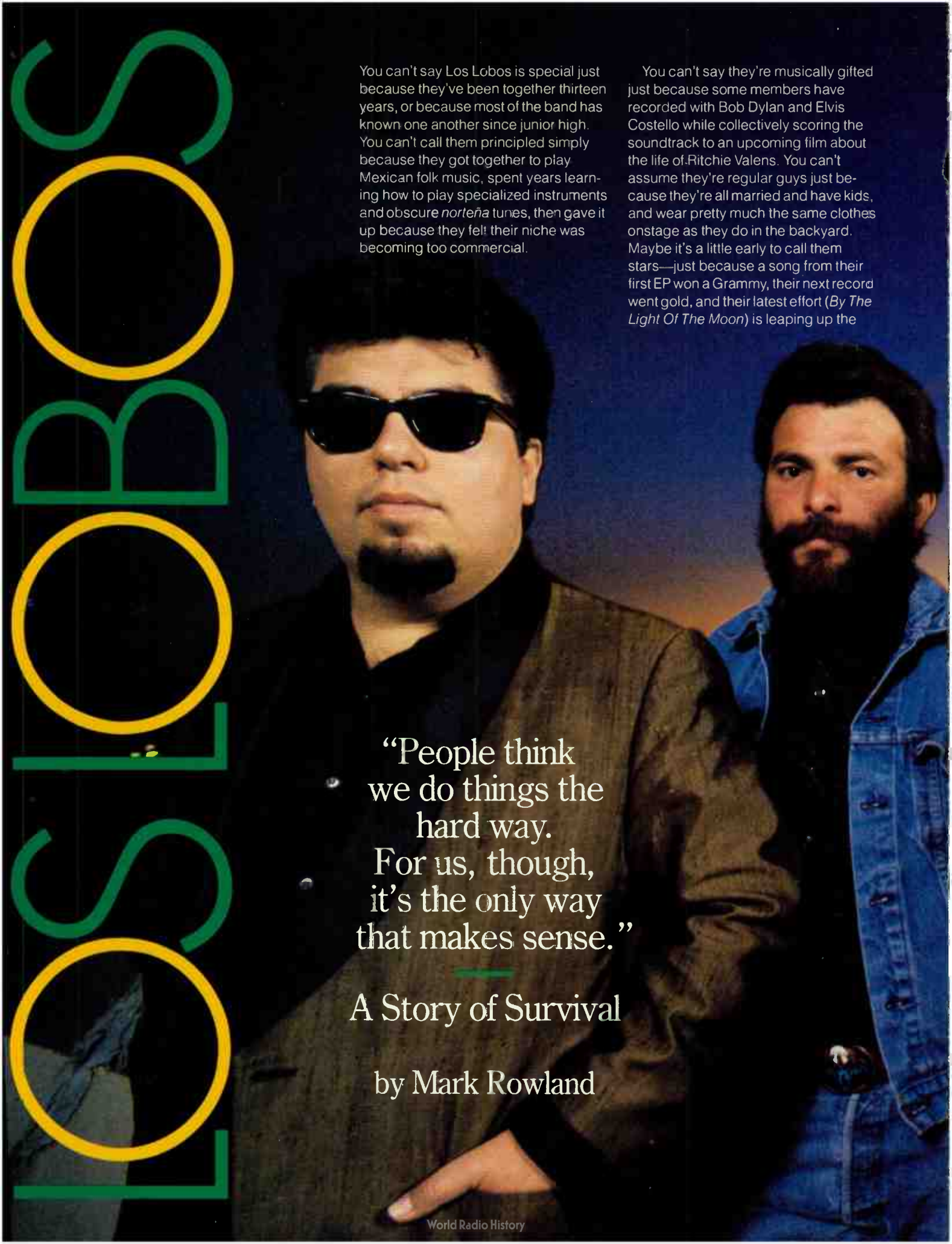
"I don't think guys like me much think about it anymore," concludes Kaihatsu. "And to have it come up on me like that is weird, real weird."

Which may be why Cray so cherishes the down-to-earth aspect of the tour. Like this story: "This morning, man, I saw this lady walking. She's got to be in her mid-forties, wearing a nice red windbreaker, and she's going back and forth outside my room, all morning.

"Finally, my breakfast came, and I was yelling out the door to my girlfriend, Patsy, and this lady goes, 'Mr. Cray, can I have your autograph?'

"I felt really cool. We sign a lot of autographs, but when somebody older comes up and asks, that makes me feel good. Because they may not be the ones out there screaming, but I know they're paying a lot of attention to the lyrics. And that's nice." Cray pauses a second, collecting his thoughts, and adds, "It's nice to be understood." M

LOS LOBOS



You can't say Los Lobos is special just because they've been together thirteen years, or because most of the band has known one another since junior high. You can't call them principled simply because they got together to play Mexican folk music, spent years learning how to play specialized instruments and obscure *norteña* tunes, then gave it up because they felt their niche was becoming too commercial.

You can't say they're musically gifted just because some members have recorded with Bob Dylan and Elvis Costello while collectively scoring the soundtrack to an upcoming film about the life of Ritchie Valens. You can't assume they're regular guys just because they're all married and have kids, and wear pretty much the same clothes onstage as they do in the backyard. Maybe it's a little early to call them stars—just because a song from their first EP won a Grammy, their next record went gold, and their latest effort (*By The Light Of The Moon*) is leaping up the

"People think we do things the hard way. For us, though, it's the only way that makes sense."

A Story of Survival

by Mark Rowland

charts while garnering critical kudos as the first great pop album of 1987.

And maybe it's a little early to start calling Reagan senile, too. So let's just say the evidence is mounting.

The five members of Los Lobos—drummer, guitarist and songwriter Louie Perez; bassist and guitarrónist Conrad Lozano; saxophonist Steve Berlin; guitarist, songwriter and bajo sextoist Cesar Rosas; and singer and songwriter David Hidalgo, who plays too many instruments to list—are gathered one evening in their manager's living room. The menu features pizza and beer. With a new record just hitting the street and a European tour looming within days, you'd think this group would be a little excited. At first, though, the overall mood is relaxed, even sleepy. Everyone is cordial, responding to questions about the tour and their new record politely but without much apparent enthusiasm. Attempts to draw out more detailed responses seem to hit a wall.

Finally Cesar Rosas breaks the uneasy silence: "Say, are you the guy from *Musician* magazine?" When I say sure, the room erupts in laughter. "We couldn't understand why you kept asking us all these questions," Rosas explains. "We thought you were one of the neighbors coming over for a pizza."

Hidalgo having the honor of singing Valens' parts.

Then there was the Paul Simon experience.

Back in Los Lobos' folk days, Rosas had become a fan of the South American group Los Incas, whose "El Condor Pasa" became famous through Simon's rendition on the *Bridge Over Troubled Water* LP. One decade later, Simon invited Los Lobos to play on his new record, *Graceland*.

"He said he'd been a fan for a while and would we be interested in getting together," Rosas says. "We said sure; we thought he'd have a couple of songs or something. So we got into the studio, but there were no songs. After a while we started feeling like idiots; 'when is he going to show us the song?' By the last day there was this weird tension in the air. He asked us if there was anything wrong, and we said no, that's what *we* want to know."

It turned out that Simon wanted Los Lobos to "create" some music, perhaps in the manner of the African bands he'd contracted to play extended jams on old folk songs. "He thought we were this caged jungle beast," Perez says, "that we just do what we do." Rosas and Hidalgo decided to put a tune together from parts they'd written earlier. The band recorded it, Simon took it home, wrote lyrics, and stuck the now-completed track on his album—with no songwriting credits for Los Lobos. *Graceland* has now sold over a million copies.

And so, back in the studio to make a new album for which they had written zero songs, the members of Los Lobos found themselves in a familiar position: up against the wall. Rumors of a sophomore (or perhaps a sophomore-and-two-semesters) slump swirled about the corporate corridors. Even Burnett expressed concern.

"At that point, what I thought they ought to do was write songs and go to a club up in Santa Rosa to play them for about three weeks. That was my big idea," he drawls. Instead Los Lobos dug in, eventually grinding out some of the best music of their lives.

It wasn't easy. "At first, a lot of songs we wrote just didn't work," Rosas says. "Actually, they stank. T-Bone was having a tough time. David and Louie had their idea about the way their songs should be, and then T-Bone had his idea...we'd record and then have to do it all over again."

"But there are certain advantages to working this way," Burnett points out. "A lot of songs sound great onstage but are horrible in the studio. You have to completely disassemble the pieces and try to put it back together. That's no fun either. And I'm not the producer who goes in and says, 'Your bass drum sounds like this,' and tells the singer what licks to sing. That's not being a record producer, that's just being a meddler. My primary role was one of support and encouragement.

"I fought for their purity as a band. But sometimes, that would mean fighting against them."

One particularly sensitive decision was to bring in several drummers (including Anton Fier) to augment Perez. "That was the most painful part of the record," according to Burnett, who declined further comment. Perez claims he wasn't upset, however, noting that Hidalgo played drums occasionally on their previous records. "And I think it's kind of neat that we've gotten to a place as a band where we can ask other musicians who we really respect."

Such unerring instincts for the silver lining underscore Los Lobos' resilient spirit. "One of the best things about taking so much time to make a record," Hidalgo contends at another point, "is that we had the time to live with it for a while, even

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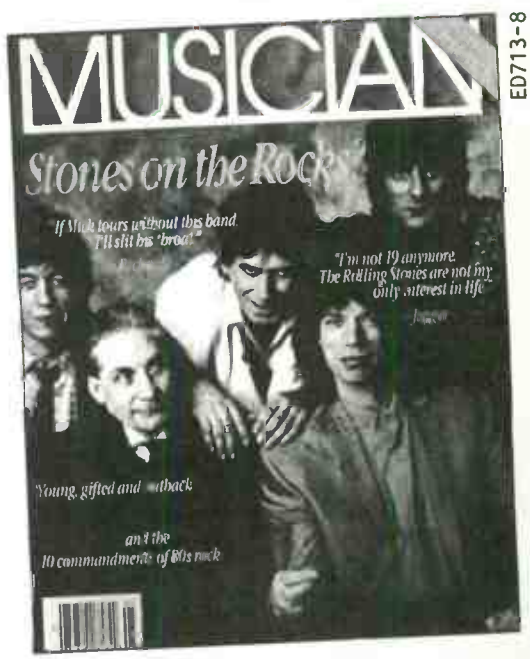

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optimum balance between intelligence and brain damage. Killdozer's howling, out-of-tune cover of "Sweet Home Alabama" is one of the funniest things I ever heard on a record. And the Buttholes are my favorite band in the universe, which I shall elaborate on at a later date. I'll be very surprised if this isn't the best anthology of the year.

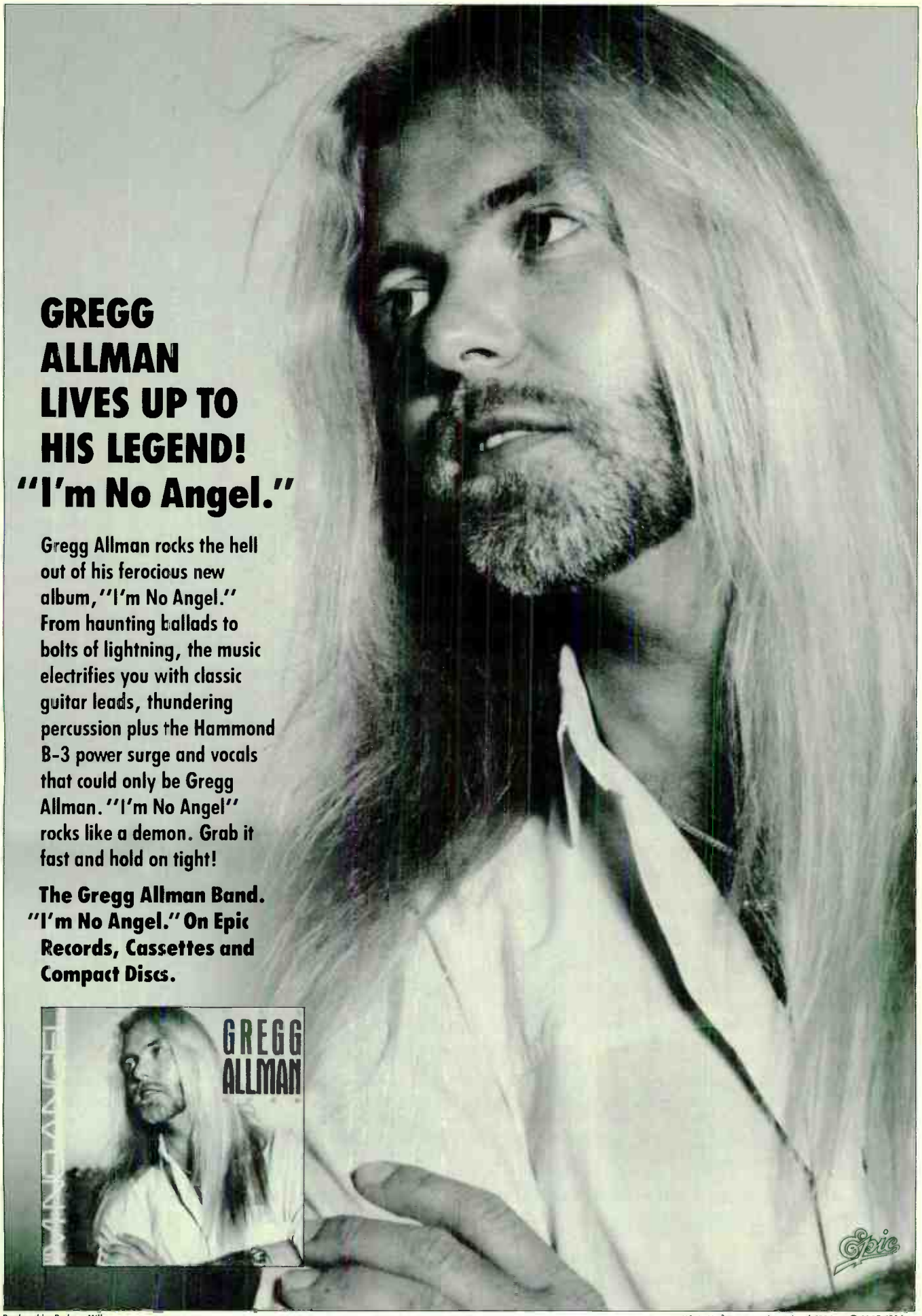
Faster, Frightwig, Kill! Kill! shows great improvements over Frightwig's previous *Cat Farm Faboo*. They've always been funny and honest, but have here climbed out of a pure primal scream and kindergarten rhythm band to occupy a slot halfway between Scratch Acid and the Runaways, and uniquely their own. Only band of females I know of who have achieved the above-mentioned optimum balance of brain damage and intelligence.

Rock 'n' Roll Juggernaut is slightly less gross than the class *We're The Meatmen And You Suck!*, but only slightly. The Meatmen would never release flaccid product, and it is heartening to hear them so uncompromised in these repressive times. Singer Tesco Vee writes lyrics like S. Clay Wilson draws: If it's taboo, he'll rub your nose in it. Led by guitarist Lyle Pressler, the rest of the Men have evolved into a serious metal/punk outfit that doesn't skimp on production value. Particularly recommended for those into sodomy jokes.

Rollin' Through The Night is ace rockabilly, updated Duane Eddy with plenty of snarl and crunch. Unusual for Alternative Tentacles because Evan Johns ain't political or gross. Nonetheless, it's been my favorite thing to slap on the turntable when I need adrenalin in the past couple of months. Title song is perfect.

Hailing from the anarchist end of punk, the False Prophets are distinguished by Stephen Ielpi's quite listenable voice, and arrangements that show more imagination than do most other bands equally interested in denouncing established evil. Cover of "Marat/Sade" should be a big hit with those unenamored of the ruling class, and I like Ielpi's rhymes: "When does the sexual become the frictional / The satisfactional become the fictional?"

Polkacide consists of guys with names like Dudzo Wartniak and Bruno De Smartass who wear crotchless lederhosen, stick tacks in their heads and—astoundingly—play straight polka music. Since polka sorta evolved as an Eastern European antidote to existential despair, it sorta works. I give them the Elvis Kierkegaard Bronze Bible for the deep musico-theological insight of "In Heaven



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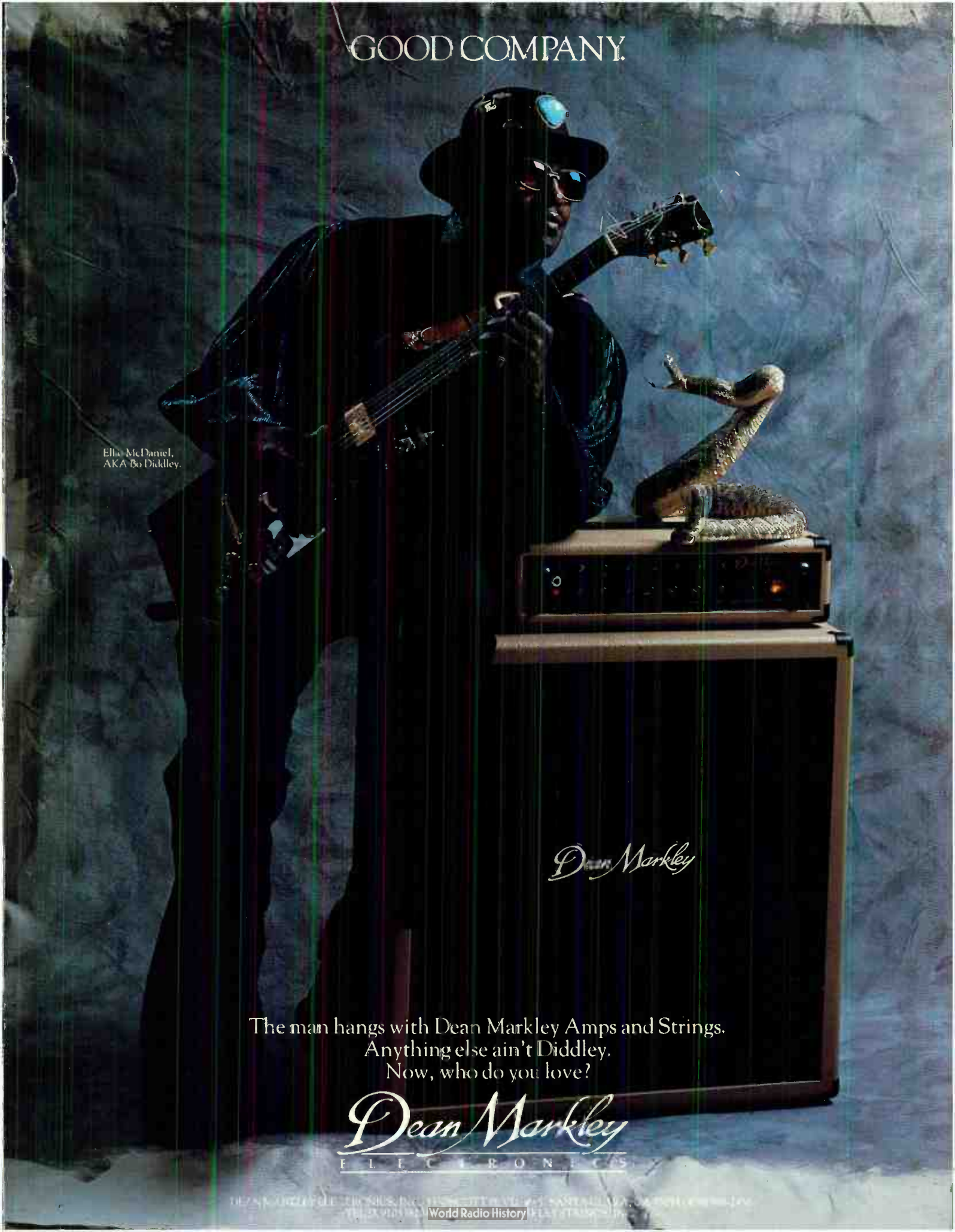

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By Greg Reibman

HEARING LOSS: ROCK'S UGLY LITTLE SECRET

They are the most essential—and the most abused—of all audio components. Without them decades of technological advances, the finest of sound systems and state-of-the-art recording studios become obsolete. And unlike other audio hardware, these components—human ears—are not sold in stores or by mail order. If damaged, for the most part they cannot be rebuilt or replaced.

Damage to the ear is a common twentieth-century problem and one that particularly plagues folks working in the music business. But surprisingly, in researching this article, many professionals who depend on their ears both to make their living and to enjoy their craft, either said they had no opinion about their ears or were reluctant to speak. One established record producer, who spoke only on the condition that he not be quoted directly, offered this explanation: "It's a very sensitive question. After going to shows for more than twenty years and having spent half my life in the studio I'm sure I've experienced some hearing loss. But I wouldn't ever want to admit it, because if the word got out that I was hard of hearing nobody would ever want to hire me to produce their records."

According to Dr. Wayne Kirkham, an ear, nose and throat specialist based in Dallas, many of his patients—who over the years have included Mick Jagger, Prince, Joni Mitchell, Patti LaBelle, Joe Cocker and Dan Fogelberg, as well as producers, engineers, d.j.s and, yes, rock critics—typically come to him with throat or sinus troubles. But it often "turns out that what they really have is hearing trouble. That's because one of the causes of voice problems is an inability to hear oneself properly. You then push your voice inappropriately to try to make up for the hearing loss."

Typically hearing problems begin with, and are most commonly affected by, high frequencies starting at around four thousand Hertz. Sometimes the ear will feel full—as if it has fluid or wax in it. But other frightening side effects—such as an inability to understand speech—are possible too. Just as disturbing is a condition known as tinnitus, a nagging ringing or whistling in either or both ears. In certain situations (such as a loud concert) the problem can be temporary. But damage from continued exposure is almost always permanent.

"The ringing can have varying degrees of severity—it might be worse when you have a cold, for instance—but it is always going to be there," Kirkham says, dismissing the myth that ears heal with time. "We can make new ear drums and new ear bones but ringing in the ears, or even that full waxy feeling, is caused by nerve damage. And once the nerve is damaged it will never fully heal."

The nerves (actually tiny hairs) interpret tones. Under normal circumstances, when a sound comes in the hairs are gently pushed over, sending the brain an impulse. But damaged nerve hairs are permanently knocked over, sending abnormal messages that are interpreted as ringing.

Kirkham's never gone so far as to recommend that a patient forsake a career, but he has been the bearer of bad news. "I once worked with one of Journey's soundmen whose hearing trouble was affecting the way he mixed the sound, and in turn, affecting Steve Perry's singing." And three years ago, Roger Miller, a thirty-four-year-old Boston-based performer, had to make the tough decision to quit his band Mission of Burma because of excruciating tinnitus.

Kirkham says all he can do for tinnitus sufferers is recommend ways to minimize further damage. This includes being particularly careful about how p.a.'s are set up, and sometimes wearing earplugs. In quiet situations, Kirkham suggests keeping a radio or fan on in the background to alleviate some problems. There are also hearing aid-like devices which create a different, less annoying sound to cover up the ringing.

Robert Medley, a former soundman who now works for Stone City Promotions, a San Antonio-based concert promotion company that produces many large concerts in the Southwest, agrees that much of the hearing damage he's known among musicians and crews curs in one's early years. "Almost ninety percent of all indoor arena shows now hang speakers, keeping the most dangerous high ends out of earshot. And the monitors don't have to be blasting."

On the other hand, Rick Harte, a producer and owner of Ace of Hearts Records in Boston, says he has worked with many artists on the club circuit (including Miller and Mission of Burma) who have aural problems. "I think that many people who are onstage every night have definite problems," he says. "I can tell when somebody has hearing trouble by the way they boost their eq's on their home stereo."

Insisting that loud volume is aesthetically essential—but a hazard—Lou Giordano, the live sound engineer for Minneapolis' power trio Hüsker Dü, says he takes special precautions to minimize detrimental decibels. "I want Hüsker Dü to be loud," he says, noting that he has metered them as high as 118 dB. "But I don't want them to be deadly. We insist in our technical rider that the p.a. is set up so that the mid-range and high fre-

continued on page 110

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