

# INTERNATIONAL **MUSICIAN**™

## AND RECORDING WORLD

USPS 331-630 December 1980 \$1.75 Canadian \$2.00

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T



## ATLANTA RHYTHM SECTION: An Aural History

**BUN B CARLOS**  
**HUGH CORNWELL**  
**PINK FLOYD P.A.**

### CHECKS:

Carvin DC 150  
Hohner Pianet "T"  
Vox "Escort" Amp  
Slingerland "Upbeat" Kit  
Audio-technica ATM 41 Mike

**EV TAPCO**

**NEW  
C-12/SERIES TWO  
MIXING SYSTEM**



See review on page 80



DATE: Design Engineering  
TO: Marketing  
FROM: Marketing  
SUBJECT: New Product Design

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The ORGAN must have 5 footages mixable from 16 feet to 1 foot with a tone control available. This ORGAN VOICE should be panned into either the chorus circuit or the VCF or both while still available as a direct signal.

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FROM: DESIGN ENGINEERING   
SUBJECT: THE MUSICIAN'S ENSEMBLE KEYBOARD   
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# 12 into 2

The StuDiomaster 12/2b is part of a range of quality StuDiomaster professional mixers, available from: StuDiomaster Inc., 1365C Dynamics, Anaheim, Los Angeles, California. (714)5284930 or (714)5284931.



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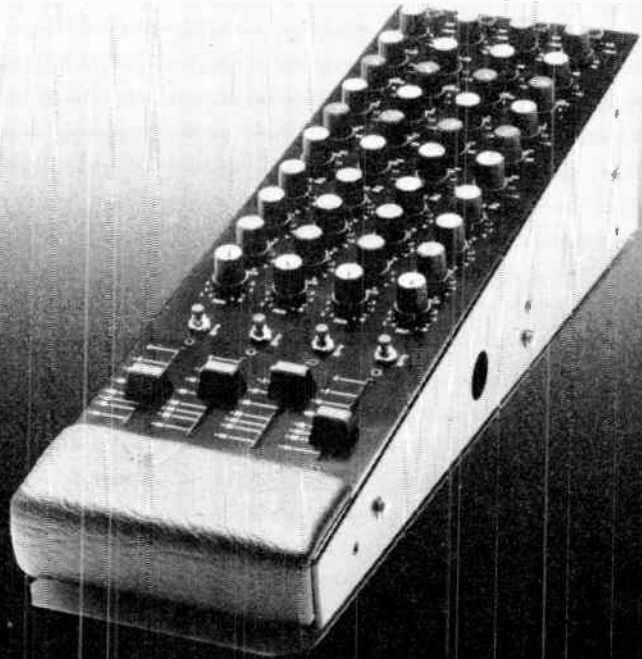
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# plus 4

The Studiomaster 12/2b is part of a range of quality Studiomaster professional mixers, available from Studiomaster Inc., 1365C Dynamics, Anaheim, Los Angeles, California. (714) 5284930 or (714) 5284931.



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# *StuDiomaster*

## **ADDED FLEXIBILITY**



For the largest stage performances, for the most intricate studio work, the 12/2B rises to the occasion. Because all StuDiomasters are built to professional specifications, users can expect excellent performance under all conditions, with all kinds of instruments and effects.

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# LA BELLA'S MUSICIAN of NOTE

Photo by Richard Laird

## STEVE KHAN

**Born:** April 28, 1947

**Home:** Born in Los Angeles, resides in New York City.

**Profession:** Musician, and insane *General Hospital* fan.

**Earliest Musical Experience:** My father, Sammy Cahn, singing and playing his hit medley ... played piano at gunpoint from 5-12 yrs. of age; was a terrible rock drummer from 16-19; made a commitment to the guitar at 20.

**Major Influences:** Anyone who ever had a distinctive sound and a unique style.

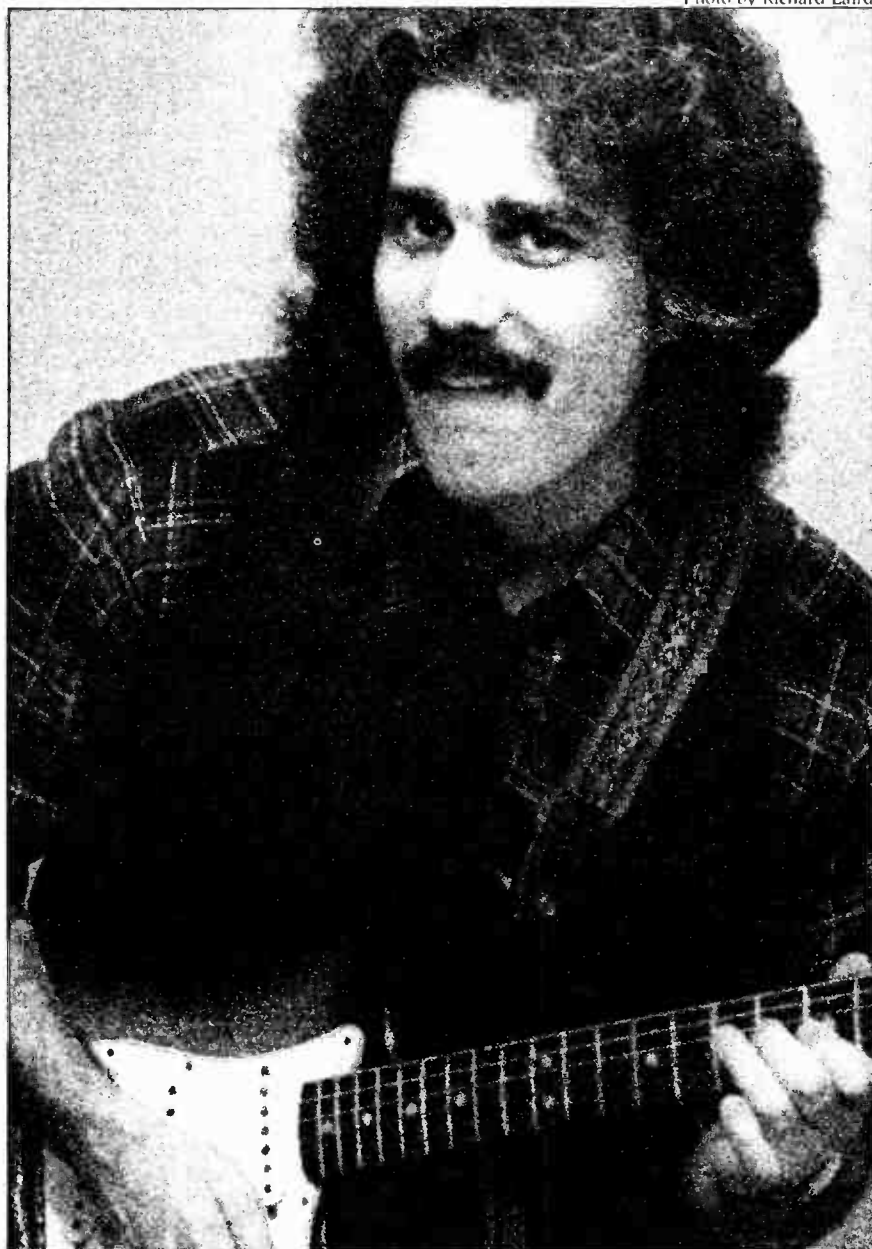
**Latest Musical Accomplishment:** Solo acoustic guitar album, *Evidence* (Arista/NOVUS); Steely Dan's latest, *Gaucho*; and soon, *Steve Khan Songbook* (Plymouth Music).

**Keynotes:** Four albums for Columbia: *Tightrope*; *The Blue Man*; *Arrows*; and, *The Best Of*. The *Wes Montgomery Guitar Folio* (Gopam Music) ... and, being part of Billy Joel's success with *The Stranger* and *52nd St.*

**On Today's Music:** With the exception of a few far-sighted musicians and composers, today's music stinks! For me, Allan Holdsworth is doing the most interesting things on the electric guitar, and Ralph Towner is the same to the acoustic guitar.

**On Strings:** On my electric guitars I've been using the LaBella 60P-T set; and for my acoustic, the 790P-M set. These strings are made for the musician who's too lazy to change strings ... that's me, and these strings really last.

**Wish I'd Said:** "I'm livin' in my own private Idaho."—The B-52's



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## 40 New Products

This particular transcription comes from my just released solo acoustic guitar album, *Evidence* (Arista/Novus 3023). Side II of the album is devoted entirely to the music of one of our great composers, Thelonious Monk. "Bye-Ya," one of his older pieces, is the seventh tune in the medley, and it offers a perfect example of the challenge faced when one confronts one of Monk's tunes.

Though the composition itself it not printed here, let's first state some of the characteristics that one is likely to find in most of Monk's original music: (1) Generally speaking, he works in two forms — the traditional AABA 32-bar song form or variations on the basic 12-bar blues — "Bye-Ya" falls into the first group; (2) the melody will usually take the shape of a single motif with any number of harmonic and rhythmic twists and turns; (3) often, the tunes have difficult/awkward chord changes to negotiate smoothly when soloing — this is why even the most well-schooled Monk veteran can sound like he's playing choppy and fragmented during a solo; (4) at almost opposite ends of the emotional spectrum of music, Monk's tunes have a great sense of the *comedic* (this element can show up in any number of ways, but it's usually done with outrageous dissonances or a sudden harmonic shift) and more often than not his own kind of wistful romantic beauty (check out: *Monk's Mood*, *Pannonica* and *Ruby, My Dear*). If you're going to go back and discover Monk for yourself, these elements should help you with your listening. Now, to the solo itself.

As you can see, it's just a one-chorus solo played over a

simple swing 4/4 feel (Monk has recorded it with this kind of feel, but also as a Latin tune

the Ab major 7 chord (this kind of application was discussed in two of my earlier columns).

GUITAR SOLO  
on  
**BYE-YA**  
by  
THELONIOUS MONK

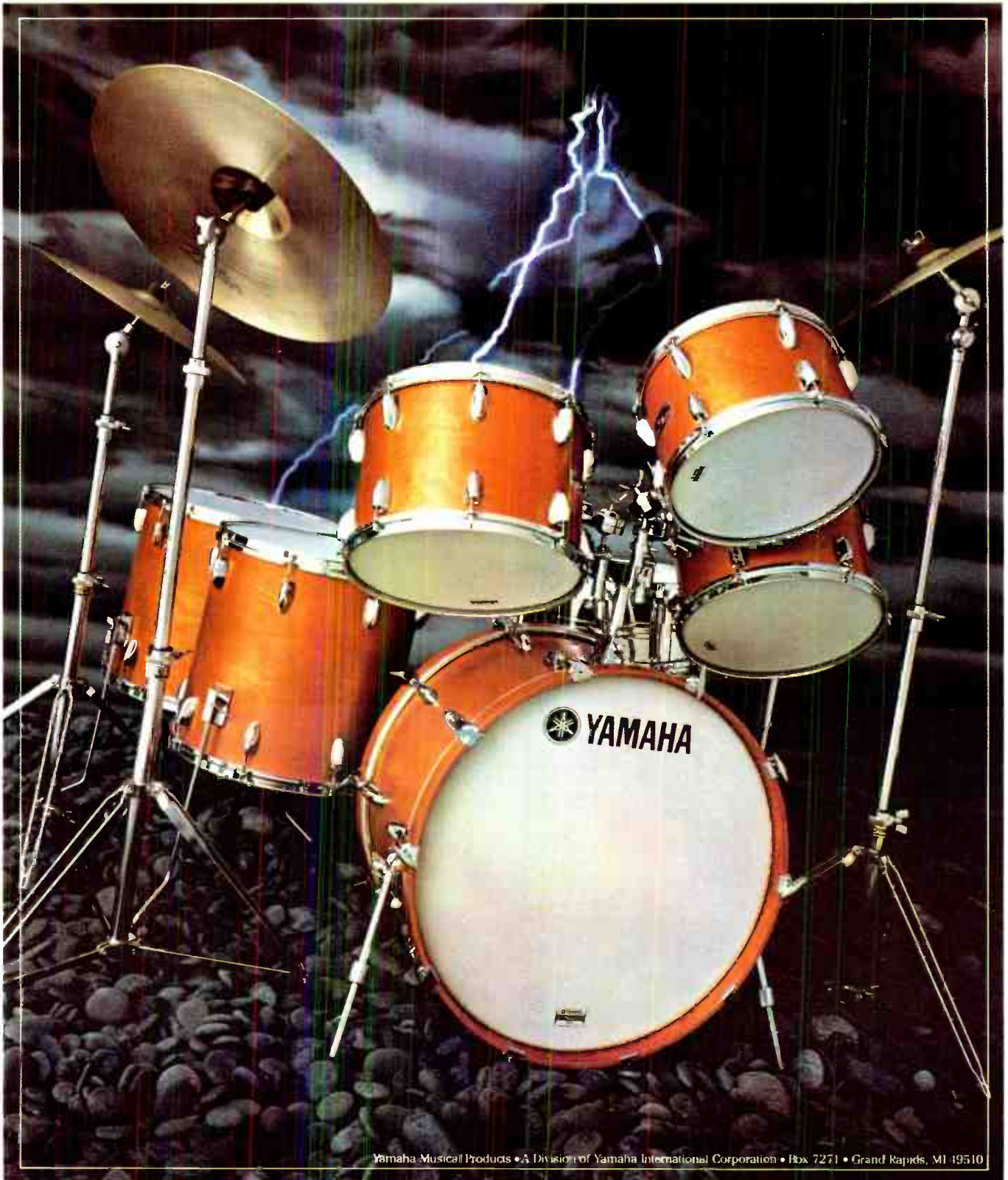
with a straight eighth note groove) As I stated earlier, there's always a certain amount of "blues" in a Monk tune, so those elements pop up in the solo. Look at bars 2, 4, 6, 7-8, and 19-20, notice the usage of the C minor pentatonic (C, Eb, F, G, Bb) over

Also in the solo you'll find some "be-bop" phrases that shouldn't be absent on such a song: bars 1, 3, 21-24, 25-30. An important element in any improvisation is to occasionally draw from the melody (either melodically or rhythmically). Bars 1, 3, 5, 7-8,

31-32 will give you an idea. The usage of motivic development is something I've pointed out in all the other solos I've presented in the columns previously; here we have this happening in bars 1-4, 13-17, 23-24, 25-30. As Monk seemed to have an incredible fascination with the scale degree of the  $\sharp 4/b5$ , you can expect to see "lydian" artifacts as you dig deeper (though you'll never unearth an Etruscan urn) — bars 1, 3, 9, 17-18. The first three are derived from the lydian b7 scale (Db, Eb, F, G, Ab, Bb, Cb); in the first bar of the letter B, the lydian mode is applied to the A major 7 chord (A, B, C#, D#, E, F#, G#).

"Bye-Ya" was recorded by using a common multiple guitar technique, basically it's a rhythm guitar part and melody-solo guitar. All the letter B sections were sweetened by the use of my Fender Stratocaster played through the Roland Boss Chorus Ensemble (Stereo) with a volume pedal to give it the illusion of "strings" coming in.

In the next column, I'll attempt to help you become a better educated MUSICIAN—BUSINESSPERSON, because your responsibility to your music does NOT end when you finish performing it. I set out to record the album *Evidence* purely to see if I could do it and, since I had no record contract at the time, I financed it myself. Having the good fortune to know an honorable "jazzman" in the music business, Steve Backer, I was very fortunate to place the music with Arista/Novus. I hope that the information and insights in the next column will help you place a project with a label, or at least begin to make some in-roads. Until next time "bye-ya!"



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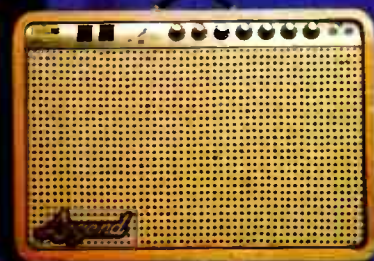
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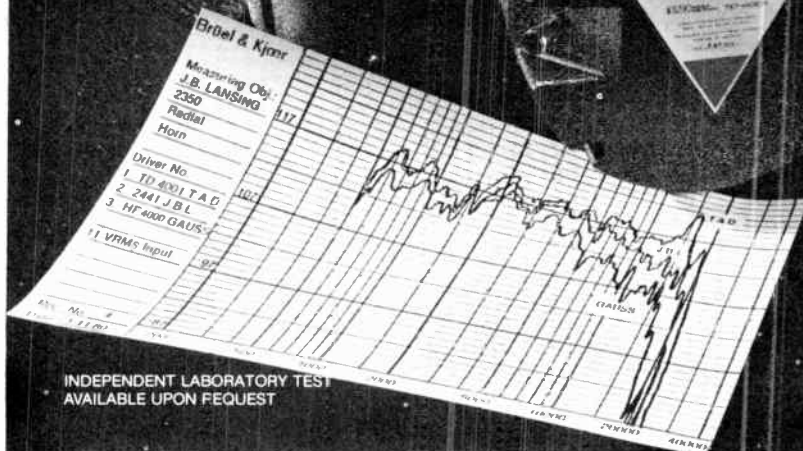
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## Letters

### Hofner Parts

Dear Sir:

I own a Hofner bass which I treasure but am unable to get parts for it from any local music stores. Could you please send me the address of Hofner if possible.

John Lawson Jr.

The legendary Hofner bass line is handled in the U.S. by Multivox, 370 Motor Parkway, Hauppauge, NY 11787. Refer any inquiries to them directly.—ED.

### Peavey Check?

Dear Sir,

I am a guitarist and have recently been shopping around for a power lead amp. I had about \$350.00 to spend and have made the choice of buying the "Peavey Classic." I've had it for about three months and am very satis-

fied with its sound and quality.

I've been reading *International Musician* for about a year now and have always looked forward to reading the "Guitarcheck" and "Soundcheck" sections. I find they are filled with knowledge that I can use as a guitarist. I'm writing you to ask if, in the past, there has been any Soundcheck on any of the Peavey Lead Amps. It's very important that I get a professional opinion on my selection. If there has, could you possibly tell me which issue this has occurred in and how I could get a copy of it. Or any brochures on Peavey.

Anthony Garopalo

Checking through our files, we see that IM&RW has only done a Soundcheck on a Peavey Power amp (Jan '80) and we have yet to check one of their lead guitar amps.

While we are remedying this situation, you can write to Peavey Electronics, 711 A St., Meridian, Mississippi 39301 for brochures.—ED.

### May's Axe

I am writing to you concerning a picture which appeared on page 9 of the July edition of IM&RW showing Queen in concert.

I am an avid Queen fan as well as a guitar player. I am interested in the axe Brian is playing in the picture and would like to know what kind it is, if not custom built. There are no discerning features or brand names on any pictures of it I have seen. I would greatly appreciate anything you could tell me about the guitar, specifically the type of pickups it has and their wiring, if possible.

You have a great magazine which I find both in-

formative and enjoyable to read.

Marc Riendeau

Brian May's "main" guitar (the one pictured in IM&RW's July issue) was self-made by May early on in his career. The body was fashioned from an old block of wood that was originally used as mantelpiece in a London townhouse. The pickups and wiring system were designed and built by May (he's a PhD in Astronomy) and the plans are, to our knowledge, unavailable to the public. You could try writing either their management company (listed as an LP credit) or their British fan club (Official International Queen Fan Club, 5 Campden St., London W8 England) for this information.—ED.



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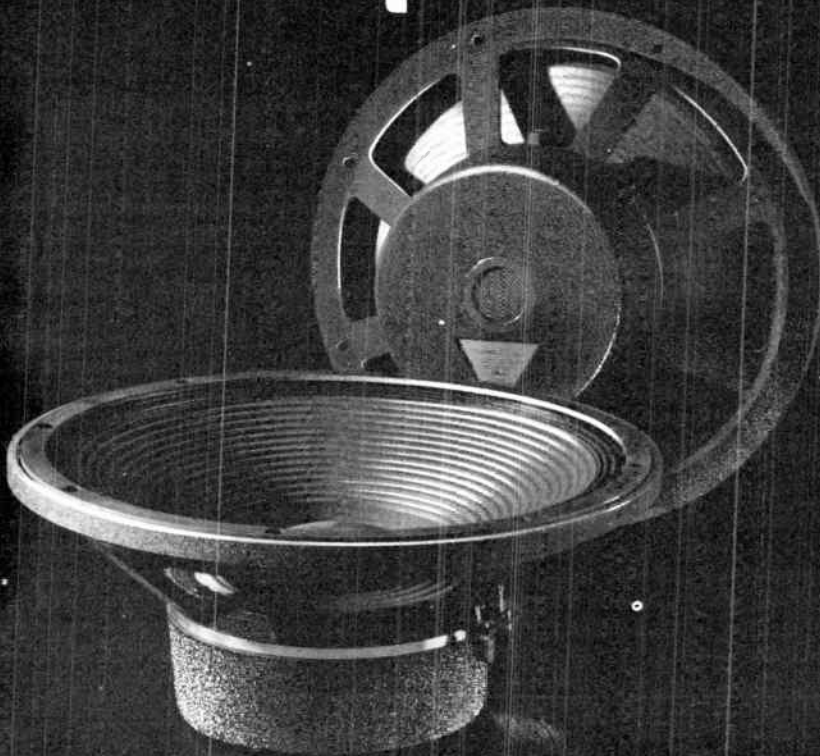
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## Happy in Ohio

Hello J.C. Costa:

I'm writing to let you know that you are the editor of the finest musician's magazine in the world. I enjoy "Checks" and "Playing" departments most—and you always seem to pick my favorites to interview. I'm very impressed! I really like Jeff Berlin's column (even though I am a percussionist, not a bassist). I regard Jeff Berlin as the ultimate musician—and he writes a great column. I just wrote him through the same address as I sent this letter. Anyway—IMRW is a great magazine and you have a lot to be proud of. Keep up the great work—we're happy out here in Ohio.

Steven Barnes  
Dayton, Ohio

Letters like yours make us happy here in NYC. Blush, blush. Modesty forbids me... and all that. Sincerely—thanks for making this job more enjoyable and keep believing.—ED.

## Looking for the Roadmaster

Dear Sir:

In your May 1980 issue of *International Musician*, the Keyboardcheck article featured the Helpinstill Roadmaster. It is just the type of instrument I'm looking for but I haven't been able to find it. I live in Vancouver B.C. Canada and I assume it is not sold up here. I would take a trip down to Seattle for it. Can you tell me if anyone sells it in that area. If not, how can I get hold of the instrument?

Peter Vermeulen

For any information regarding Helpinstill, you can write direct to Helpinstill, 5808 So. Rice St., Houston, TX 77081.—ED.

## Carvin at Last

Sirs:  
I respect your monthly Guitarcheck review very much. Hope you take requests because I've got one for you.

I would very much like to see your review of the Carvin DC-150 electric guitar. All the components of the guitar look fine to me but, as you know, the whole may be less than the sum of its parts. Since this guitar is well advertised but unavailable for a tryout at a dealer's due to Carvin's mail order policy, I'm sure a lot of your readers would like an evaluation by a pro. I know I would.

Dave Schalk

This month's Guitarcheck will deal with the Carvin DC-150 guitar which should give you a better idea about this particular model and the whole Carvin line.—ED.

## Up from Obscurity

Dear Sirs:

Just had to write to tell you what a great magazine you have. In the past year I've read articles on Brand X, Steve Marriott and Bill Nelson—who just happen to be some of my favorite musi-

cians. This is quite an achievement considering neither Marriott or Nelson are at the zenith of their careers, and even when they try they don't get much recognition.

For you to write about them now when they're struggling shows you have just as much journalistic integrity as they have musical integrity.

Keep up the good work!

UNSIGNED

## Build-A-Solid?

I've just discovered IM&RW. I would like to know if Stephen Delft's series on *Build a Solid Guitar* is available as one reproduced form, short of obtaining all the old copies. Thanx.

Tom Renaud

Although we have tentative plans to reprint Delft's series under one cover, nothing is firmed up yet so your option at the moment is still to order all the pertinent back issues.—ED.

# ELECTRONIC

# TOM TOM TOMS



HI AND LO

## FROM SYNARE

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# ON BASS

## JEFF BERLIN



I love drummers. Drummers are to bass players what Frazier was to Ali, or what Abbott was to Costello. The drum and bass can either smoke like crazy or stumble along in a slapstick fashion. Ultimately, the most important aspect which should be developed by a musician is a sense of *time*, make no mistake about it. That responsibility rests primarily on the shoulders of the bass player and the drummer, but mostly on the drummer. If the drummer and I see eye-to-eye on where the pulse of the music is felt, then the time will be secure and there's nothing like the sensation of a tight rhythm section smokin' you right out of your shoes. Much of that smoke is supplied by the drummer and that's why I love drummers. Remember the way Mike Clark's drums began on Herbie Hancock's album *Thrust*? That guy is one of the greatest funk drummers in the world, mainly because he possesses finger-snap time in his guts. Clark and bassist Paul Jackson laid down some real teamwork rhythm and that's the reason *Thrust* swung so tough. Drums and Bass, Bro'. Drums and Bass.

It really doesn't matter if you play jazz or rock or whatever. What's important is for you to set up a rapport with the drummer in whatever group you're playing with. Try to do some duo playing. This is helpful because there are no other instruments to affect your combined musical output. Look for common elements in both of your playing styles such as likes and dislikes in terms of bass and drum sounds, or favorite styles of playing. Discuss favorite players and albums. In fact, listen to records together and compare opinions on the many facets of the music you both hear. This alone will help develop your

rapport because you'll both be coming from the same place in terms of ideas and influences. And, by all means, play, play play. Because nothing can replace the experience gained through trial-and-error in the rehearsal room. Mistakes are good. The bigger the better because they'll serve as immediate reminders of your strengths and weaknesses as a duo. Believe me, if you practice like a team, you will SOUND like a team. Your improvement can be tested very

the various feels and pulse each duo team has. Tony Williams and Ron Carter with Miles Davis; Stanley Clarke and Airtro with Chick Corea; Francis Rocco Prestia and Dave Garibaldi with Tower of Power; Jack Bruce and Ginger Baker with Cream; Paul Chambers and Elvin Jones with John Coltrane; Charlie Haden and Billy Higgins with Ornette Coleman; Paul Jackson and Mike Clark with Herbie Hancock; Paul Jackson and Harvey Mason with Han-

## 'Nothing can replace the experience gained through trial and error'

clearly at one of your rehearsals. You and the drummer should lay into some of the stuff you've been working on. Guitar and keyboard players should jump up and start jamming with you because a tight drummer and bassist are a force difficult to resist. If they don't leap up to play, but remain lounging around munching on Tortilla Chips and reading Richie Rich comic books, you obviously have some more homework to do. And *work* is the operative word here because there are no shortcuts in music. You must work to improve.

The following is a short list of bassists and drummers who, by deliberate design or not, have developed a cohesive feel with one another. Listen to the records they play on and notice

cock; Larry Graham and Greg Errico with Sly & The Family Stone; Steve Gadd and Anthony Jackson on Chick Corea's *The Leprechaun* and any Motown side (they're all great).

Dig in and groove with these guys and when you've finished reading this article, call up your favorite drummer and tell him that you guys were made for each other.

*Jeff Berlin is currently a member of the Bill Bruford Band. He has worked with most major jazz artists and spends a good deal of time as a session bass player.*



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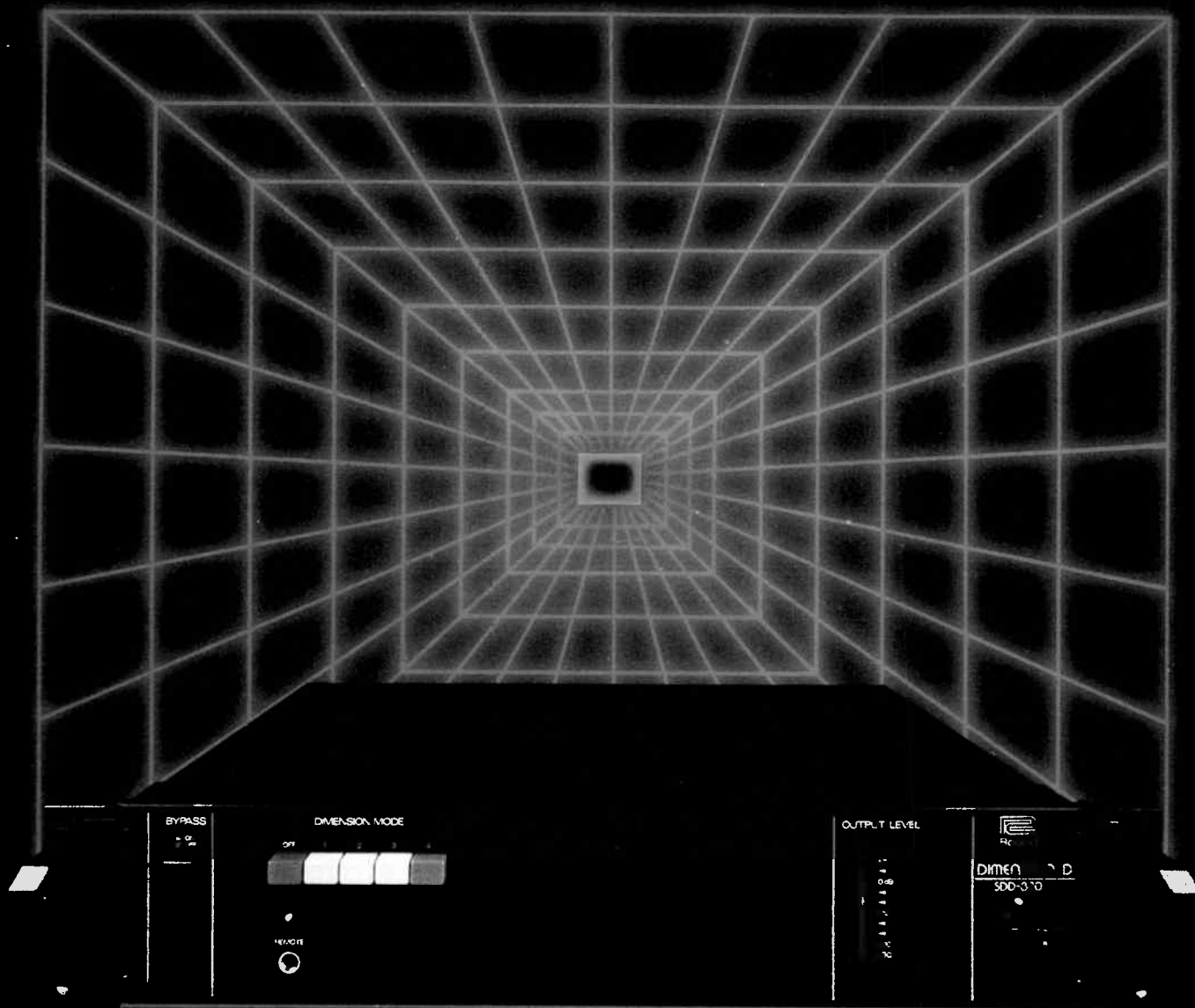
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# Cheap Trick's Bun E. Carlos

## Keeping things fresh



Cheap Trick make no bones about the fact that their music is a by-product of the Sixties. So it should come as no surprise that their drummer, Bun E. Carlos relates more to Dave Clark and Charlie Watts than Billy Cobham or Aynsley Dunbar. "I'm not a great drummer," Carlos states flatly. "I'm competent, I'm good. I know what not to play, most of the time. Hell, this year I went to Belgium and got my first set of cymbals for sound. In the last 10 years I've never bought a cymbal. I'd ask someone to get me a 20" medium and they'd get it. Now I'm collecting drums and people are asking if I notice the acoustics. I'm like a babe in the woods with that stuff."

Coming from a musical family with a "long line of drummers," Carlos never had any thoughts about drumming. He just picked up the sticks, got a set, and saw a bunch of bands. "I took one lesson in Rockford, Ill. (his hometown) and because I was left-handed, the teacher couldn't teach me. My folks had a juke box that I moved down to the basement, and I set my drums up next to it. When I was in 7th grade, the Beatles, Stones and MC5, came out, so I grew up with Ringo, Charlie, Dave and Keith. It was great. As they progressed, I got better on the drums. I played along with them for a few years and got good enough to become professional. I played with Chuck Berry and Bo Diddley. A few gigs like that really changed things around."

Always a concert hound, his resourcefulness provided him with an inside look at what his drum heroes were up to. "In 1968 I saw Cream and The Who twice, and both times I got in before the gig. The second time I brought pictures of the roadies on stage with the band. I showed the roadies the pictures and asked to help this guy set up Keith Moon's drums. I could see the tuning and look at his cymbals."

The Grim Reapers, Sick Man of Europe and finally Cheap Trick, were all club bands where Bun E. shared the early spirit of fun, playing rock & roll. "When you got a good thing

going you know it," he says reflecting on the early days of Cheap Trick. It's a lot different, especially in clubs. That spark makes it different. There's someone going on after you, so there's someone you've got to kill. That was a lot of fun. We used to go for the thrill. Everybody's patting you on the back and you haven't got crummy reviews.

"Now we've supposedly arrived. But we don't feel that we've arrived. There's always something or someone doing better than you, playing better and sounding better. There's always something where I can say oh boy, listen to that! Right now it's Public Image. They're so good. It's something I never would have come up with."

Of the current batch of Cheap Trick records, Bun E. has definite opinions. "Dream Police was our '78 record. It was out of our hands in '78 and didn't come out until the end of '79. It was an old album by the time it came out. *Budokhan* was a strange live album, musically speaking. It was recorded at the end of the tour, right when *Dream Police* was about to come out. After that we stopped doing a lot of those songs and started revamping and rearranging them. Then *Budokhan* came out and we had to play them for another year. Speaking as a live album, it was just a regular old night in Japan. It's always nice to have things work just right, but of course this is rock & roll and they never do.

"*All Shook Up* is the best album since the first one. Jack Douglas produced the first one and it still sounds good. The drums sound good. That's a fun album to listen to with headphones. It sounds like they put towels on all the drums. Which in fact

is what Tom Werman did for the next three albums. *Budokhan* was produced by us. That's got a sickening drum sound. The Sony boys made a mistake. They recorded the rack toms using one mike, so it's in mono."

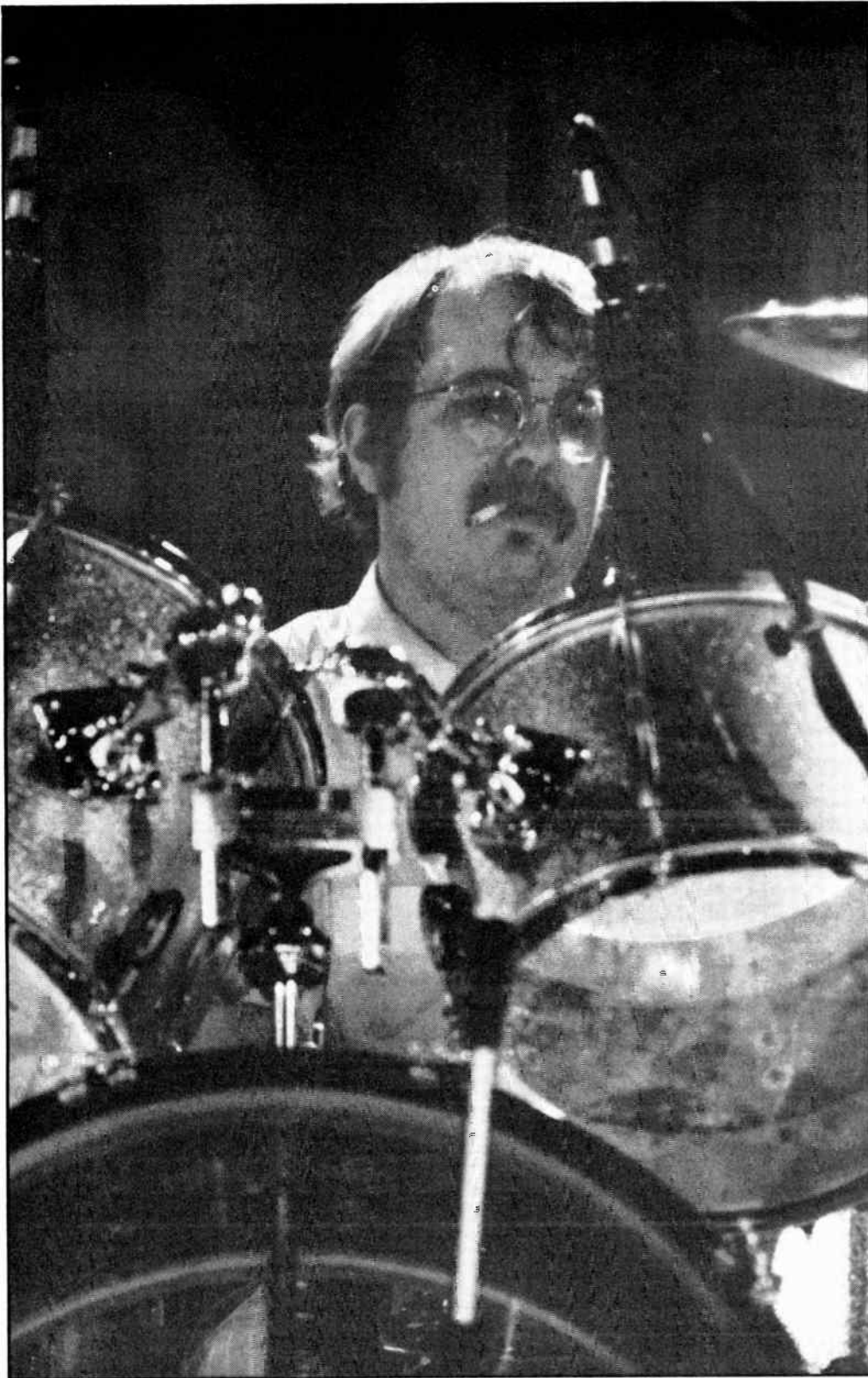
Bun E.'s usual stage and recording set up is a Slingerland kit that consists of two 24" bass drums and a copper-plated snare. The rack toms include a 10 x 14 and two 9 x 13's that are tuned left to right: medium, high, and low. The floor toms are 16 x 16 and 18 x 18. The drums are tuned 2 1/2 notes apart, so that four drums make up a major chord.

For *All Shook Up* Carlos played a Tama set consisting of a 24" bass drum, a 5 x 14 snare made of "the thinnest metal I could find," and 8 x 12, 9 x 13, 16 x 16 and 16 x 18 toms. Both sets are outfitted with Ludwig Speed King foot pedals, and Remo or Ludwig medium clear plastic heads for the toms and medium frosted for the snare.

His Zildjian cymbal setup, supported by Slingerland hardware, starts with a 14" hi hat with a bell-less bottom cymbal. "Since I'm left handed, I have a cymbal over the hi hat. It's a 20" earth cymbal which is very heavy. They don't spin or groove it, so when you hit it, all you get is tip and a low ring. There's no high end at all. I have a 20" medium thin in front of me so I don't get hit with frisbees. I ride and crash on that one. I have an 18" on my right side, which is my main ride, smash, rock 'em sock 'em cymbal. Then I have two cymbals that I use on alternate nights. One is a 20" medium that has a nice bell on it. The other is a 22" K. Zildjian that sounds real strange. In the back, I have a cowbell and a 20" Pang cymbal, like Billy Cobham first used."

Bun E. uses a match grip on his own autograph model sticks, which he describes as roughly the same size as the 5/8 Peter Erskine Slingerland model.

The variety and number of drums he uses acts as a self imposed drum clinic. "I got more drums so I could work on being a better drummer," he explains. "I got double-bass drums



because someday I want to be able to use them effectively, like Louie Bellson or Keith Moon. Right now I don't play them except on the ends of songs. Rick gets new guitars and each one is different. If you don't do it, you turn into a nut. Look at the Stones, Keith switches guitars every song. It's the newness and the sound I like. To keep it fresh you've got to do that, and see

bands, talk to people, and call up everybody everywhere to see what's going on."

Practice sessions haven't changed much for Bun E. "I still practice a lot, but it's easier not to have a set of drums. I like to listen to stuff in my head or hear things on records, then just do it with my hands and feet while sitting in a chair. I never got away

from the juke box. I learned double-bass drum in a boring high school music class. I'd sit there and tap my feet and go home and play it. It's hard to play drums alone."

When it comes to fun, Bun E. chooses the studio over performing. "Recording is more fun because you can always do it over until you get the right feel." He goes on, "You have to work a lot harder to get a brilliant night in the garden than you do if you're in a club six nights a week four sets a night. In a concert, there's 35 people between you and the audience that can blow it. I've got two little monitors for myself, otherwise I wouldn't hear anything. Sometimes you have to tune your drums for the microphones. I also have to have my cymbals on these big stands, way up in the air, and I like them real low so I can smash them and get different kinds of sounds. But up there they don't bleed into other microphones.

"Performing live you've got to take risks. If you don't, you get bored. On the last verse of 'Surrender' on *Budokhan*, it's all on the backbeat. The first time Tom (Peterson ex-Cheap Trick bassist) and I played the backbeat for just half a bar, Robin turned around and gave us a look like 'Hey come on you guys. Are you trying to get me lost up here?' But you've got to keep on your toes."

Fantasizing about musical projects for the future, Carlos beams "I want to play with the Stones sometime and I'd like to play with Chuck Berry again. I want to do a solo album like John Lennon did and cover obscure rock tunes. Nobody does 'She Said Yeah' by the Rolling Stones."

Aside from Cheap Trick drum duties, Bun E. is a guitarist, "mostly open chord and slide blues stuff," a fisherman, and an avid record collector. "I've got 15 outtakes of songs the Stones didn't put on *Exile*," he says with a spark of excitement. "I've got everybody's outtakes: Dylan, Hendrix, Cream, The Who, and every Beatle outtake from '63 on. I'm a musician, but I'm a collector too. I remember names, dates, bands, and cuts. The instrumental of "Day Tripper" is based on "Shapes of Things" by Jeff Beck and the Yardbirds. The first guitar riff and drum lick are the same. All the Aerosmiths of the world have been dying to play that riff and no one could find an excuse. We found the perfect place."

With that kind of spirit and love for rock & roll, Brad Carlson, aka Bun E. Carlos, serves notice that success in music is a matter of context, not chops.

John Stix

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# Sounds of the Atlanta



# Rhythm Section

By John Swenson

*Since its inception in 1970, the Atlanta Rhythm Section has been considered a "player's" band. The five original group members, guitarists Barry Bailey and J.R. Cobb, bassist Paul Goddard and drummer Robert Nix, were the cream of the burgeoning crop of session musicians based in the musical hotbed of Atlanta. In the late '60s they had played on most of the important Atlanta-made records, having accounted for the Candymen and Classics IV as well as records by Joe South, Billy Joe Royal and others. Producer Buddy Buie, who had masterminded the Classics IV hits, organized the group after using them on numerous sessions and formed a recording/songwriting collective based around the band in*

*their own studio located in the Atlanta suburb of Doraville.*

*The group's second album, Back Up Against the Wall, sparked the beginnings of a cult following that eventually grew until ARS was one of the most popular of the Southern bands to emerge in the '70s. A string of hits from "Angel" and "Doraville" to "So In To You" and a remake of the Classics IV smash "Spooky" led the band to the top of the charts repeatedly over the last decade. The following interviews with lead guitarist Barry Bailey, rhythm guitarist J.R. Cobb and bassist Paul Goddard shed a lot of light on the legendary recording scene in Atlanta as well as providing a key to understanding the Atlanta Rhythm Section.*





## J.R. COBB

**IMRW:** How did you meet Buddy Buie?

*J.R.:* I met Buddy at a studio in Jacksonville, Florida. I was doing a session on a group called the James Gang which was no relation to the James Gang Joe Walsh was in. He was doing some demos down there, several sessions, and I played on one. I knew Robert Nix real well who at that time was about to go into the Candymen. Buddy was still affiliated with Roy Orbison so I kinda knew him that way too. About that time—'62, '63—I joined a group called the Classics, which later became the Classics IV.

**IMRW:** The Dennis Yost group?

*J.R.:* Yep. He played drums standing up. We had two tenor saxophones, one baritone saxophone, one trumpet, one guitar, bass and drums.

**IMRW:** Sounds like a soul band.

*J.R.:* That's what we played. R&B. We couldn't support that many people though, so we dropped the horn section and wound up with guitar, bass, drums and piano. We had to do something, so we sang four-part harmonies like the Four Seasons, stuff like that, copy songs.

**IMRW:** How did Buie get involved?

*J.R.:* We all moved up for a trial session in the studio for Bill Lowery. This must have been '65 or '66. Buddy was working with Lowery at the time. We started writing together and it sounded interesting, so we went on from there.

**IMRW:** How did you arrive at the jazz-style trademark guitar chording used in songs like "Stormy" and "Spooky"?

*J.R.:* There was a guy named Buddy Owens who worked in Marvin Kaye's music store in Jacksonville. He was a Chet Atkins-style guitar player, he played solo at some of the lounges and I thought the way he

made chords sounded great because it was full by itself, like a piano. They weren't really complicated or anything, it was just the way he voiced them. I got him to show me a lot of stuff and I always liked that sound. Being the only guitar in the session and sometimes the only rhythm instrument did seem to help a lot, if there wasn't a whole lot of other things going on, instead of playing real simple triads. We'd sit around playing it in the studio and I guess other guitarists were playing more of a country style so it sounded different.

"Spooky" was the first—it was already recorded by Mike Middlebrook and Mike Shapiro, or Mike Sharp as he was called. The chord structure was already there and I just tried to copy what they did—they used an organ with the oboe tone on the instrumental record—I just went to Mike and asked him how he played it and transposed it to guitar, just played it almost verbatim.

**IMRW:** What guitar did you use?

*J.R.:* I had an old Fender Telecaster, a black one.

**IMRW:** What kind of amplification?

*J.R.:* I had a Fender Super Reverb amp, with ten inch speakers. I used that thing for four years. I ran a canvas cover over the back of it to prevent the sound from leaking and there was a single mike on it.

**IMRW:** How did you go from the Classics IV to the ARS?

*J.R.:* Most of the later Classics IV records had the guys in the ARS playing on them, so actually the same people were making both records.

**IMRW:** How did that happen?

*J.R.:* After we recorded "Spooky" and it had been out about a month I just decided to stay at home, play in the studio and write and record, so I gave my notice. After the record had been out about six months it became

a hit, and some of them had been drafted or something so I went back for about a year. Not many people in the Classics IV had studio experience so they weren't very good in the studio. So we had to get other players to make the records. Dennis Yost sang of course. Back then we only had . . . I think we cut "Spooky" on a three track machine which was the biggest one around. There wasn't too much overdubbing so if you didn't have pretty good players who could get it right in one take, it caused a lot of problems. Nowadays everybody's got separate tracks and you can do a lot of things even if the players aren't all that consistent. I remember when we got an eight-track machine thinking "What are we going to do with all those tracks?"

**IMRW:** When did you decide to become ARS?

*J.R.:* We had been playing an awful lot together in the studio, every day for several months and we'd been working on sessions with Buddy. Nobody had anything going in particular and Buddy said "Why don't we make an instrumental demo tape?"

**IMRW:** What kind of equipment did you use on the first ARS record?

*J.R.:* I still had that Telecaster. By that time I also had a Gibson Les Paul, that's the one Barry uses now. I had the Super Reverb. I had an Ampeg amp which I still have. I had a small Gibson amp which I used at the time. The amps I use on stage now, except for some modifications, are the first amps I ever had with the ARS. I also had a Gibson acoustic guitar.

**IMRW:** It wasn't until *Third Annual Pipe Dream* that your sound developed.

*J.R.:* I think that represents Buddy's maturity as a producer, and maybe a little more confidence on our parts. The first record suffered from over-analysis, we changed a lot of things which were insignificant. It lost a lot of spontaneity because of that.

**IMRW:** Did you change your playing on that album?

*J.R.:* When I first started playing I used my thumb pick and fingers. About that time I changed to a flat pick. Also I could do things and not worry about the lead so much. When I was working by myself I always had to.

**IMRW:** Did you start to experiment with a lot of other guitars?

*J.R.:* Yeah. I had more experience recording. I came to find that sometimes you got a certain sound out of a guitar, maybe it was a cheap guitar or something but it got a certain sound on that one particular song that fit the *character* of that song. I'd use any-



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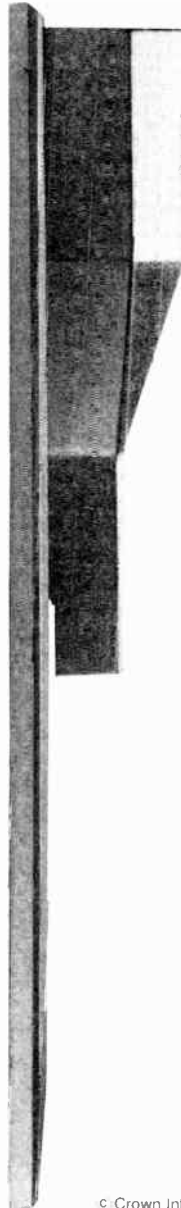
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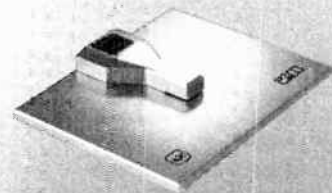
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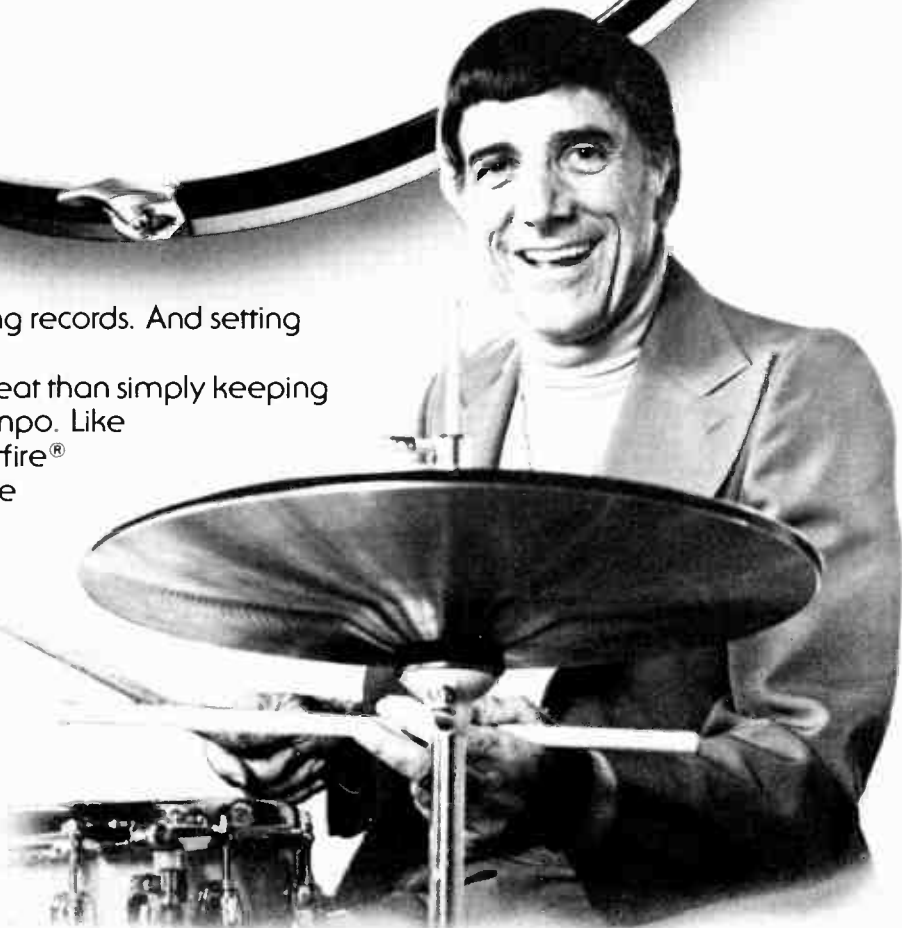
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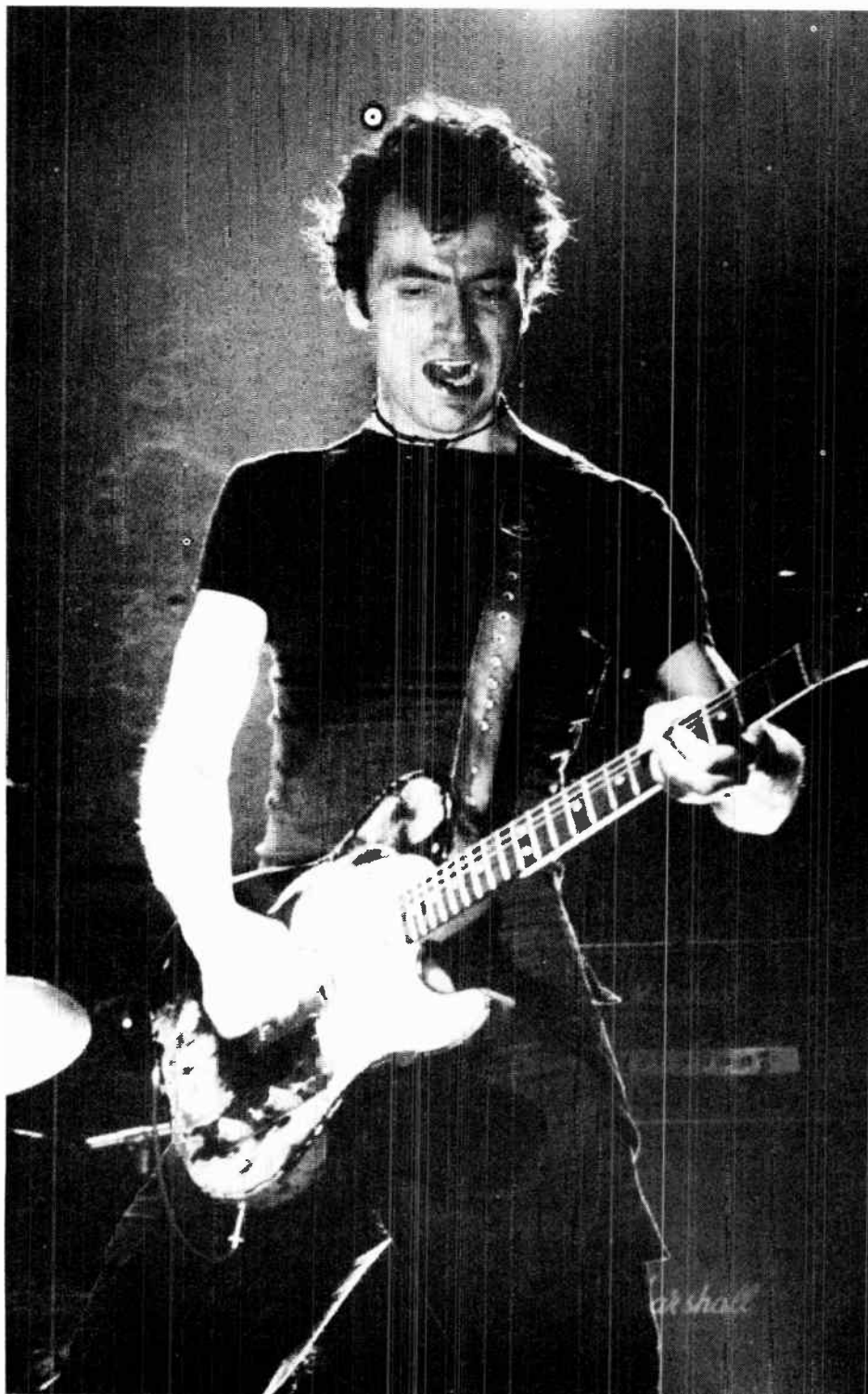
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# HUGH CORNWELL

## Taking Rock by the Neck



Think about it. The Stranglers must be one of the most controversial bands in rock today. Hardly a week seems to go by when the Stranglers aren't making headlines about something or other. In and out of jail all over the world; inciting more riots than many bands play encores; beating up more journalists than there are keys on a typewriter! What price the rumpus of the Rolling Stones and the scandal of the Sex Pistols compared with all of that?

Of course we all know that newspaper stories shouldn't be taken at face value — especially when they're stories about rock bands — but there is inevitably an element of truth in every tale. And if the Stranglers ARE one of the most controversial bands in the history of rock then they probably can't blame anybody but themselves for it. Between them, you see, the Stranglers — that's Hugh Cornwell, Jet Black, Jean Jacques Burnel and Dave Greenfield — rarely recognize the word 'compromise'. And what a lot of trouble that has landed them in over the years.

The Stranglers started out in 1974. That was six years ago and two years prior to the Sex Pistols and their systematic assault on public decency; when Punk Rock was a term used to describe obscure American Beat groups of the middle Sixties and the New Wave meant Movies and Jazz. In 1974 the Stranglers played their first gig in Guildford Surrey and were soon to become local villains. The gothic fury and sub-psychedelic throb of their early days plainly bewildered bar audiences expecting Seventies stereotypes like Glam Rock, Country Rock and Teenybop pop. To see the Stranglers live then was to experience Futureshock and on more than one occasion an audience walked out en masse in total disgust!

I leave you to work out what the landlords and promoters had to say.

After two years of hard graft, however, building up a hard core fan following, the Stranglers secured their recording contract with United Artists in the Fall of 1976. But they hardly had the respect of London's rockbiz clique. There were fights here and bans there and the Stranglers found themselves well branded as a band who refused to play the game.

And then their debut album *Rattus Norvegicus* rocketted into the Top Twenty in April 1977 and 'Peaches' proved the first of many hit singles. But if the Stranglers were suddenly Big News they were hardly any more amenable. In fact they showed even less interest than before in the music business' caste system and its complicated protocol. And when they openly ridiculed all the fond theories of

the Punk politicians they lost what few friends in the media they had left.

Which means that whenever something untoward happens to the Stranglers, sympathy is the last thing that comes to a reporter's mind as he sits at his typewriter. In fact most believe that the Stranglers only get what is coming to them and if they've ended up in jail twice in the last few months...well, they probably deserved it.

Hugh Cornwell doesn't see it quite that way. The Stranglers lead guitarist is often portrayed as a dour and taciturn individual with a touch of the George Orwells about him. He seems to take things very much in his stride and speaks in a dry, matter-of-fact, even dispassionate tone of voice that rarely shows signs of humor or emotion.

1980 has not been the easiest of years for Hugh Cornwell. First of all he was convicted under the Dangerous Drugs Act in the early Spring and sentenced to two months in London's Pentonville Prison.

"Pentonville is only a short-term jail. The maximum sentence there is six months so it's full of ordinary guys who haven't paid fines and alimony and such. But because it's only a short-term jail doesn't mean that it's any easier. In fact it's one of the toughest 'cause the longer you're in for the easier they make it for you. TV every night. Painting. Books. But if you're only in for a couple of months they don't let you do anything at all. It's the short sharp shock routine.

"Mind you, everybody ought to have a spell inside. It's like when you're healthy you don't appreciate your good health but when you're ill you suddenly do. I never appreciated my freedom until they put me away. It really hits you when they take all your clothes off you and you suddenly realize that you've got absolutely nothing left of your own. But after you've been in for a month or so you could be in for any length of time. It sort of doesn't matter any more."

Jail in France was something altogether different. Almost as soon as Cornwell was released in Britain the Stranglers were all arrested in Nice. They quit the stage after the third power failure at the University there and the crowd went berserk, causing thousands of dollars worth of damage. The local authorities claim this was a direct result of words spoken by the band, but the first the Stranglers knew of the riot was when the police burst into their hotel and bundled them off to the local jail.

"It was all a bit like 'Midnight Express' to begin with because none of us had the faintest idea what was happening. The police were very brutal



and didn't let us see a lawyer for days. We honestly thought we might be locked up for months and no one would know where we were. It was really quite frightening. But after a couple of days they transferred us to a proper jail and then we knew it would only be a matter of time before they let us out. But I can't feel guilty about it. I didn't feel like we'd committed any crime. It was all a big misunderstanding really. We said nothing more than we've said before in similar situations. It could have

happened anywhere at any time and it could just as easily happen again. I mean, you go out of your way to put on the best possible show like we do and then the power keeps going off because the guys running the gig don't have the faintest idea what they're doing...you're bound to say something about it, aren't you? You're bound to say what you think is right for the moment. You never think about the consequences."

When he chooses Hugh Cornwell is certainly one of rock's more lucid and outspoken personalities but what is too frequently forgotten is that he is also one of the most inventive and skilful guitarists to emerge in the last five years. Initially he was overshadowed in the Stranglers by Dave Greenfield's immediately distinctive keyboards. But Cornwell's playing has matured quite remarkably over the last couple of years and his work on the Strangler's most recent album *The Raven* is quite stunning in its precision and imagination. Hugh Cornwell is a craftsman far in advance of the majority of his peers.

Needless to say he did not learn to play overnight!

"I must have been about 13 when I first got a guitar. My brother gave it to me. It was an old Spanish acoustic, I think, but it got stolen years ago. I learned like everybody else does, playing along with what was on the radio. The first things I learned were Eddie Cochran's 'C'Mon Everybody' and some Hank Marvin stuff with the Shadows. There must be a whole generation who learned how to play 'Apache'."

If you listen to the Stranglers either live or on record it won't surprise you that Hugh Cornwell cites Hank Marvin as a major influence. Long, fluid, melancholic guitar themes are at the cornerstone of classic Stranglers' songs like 'Down In The Sewer', 'School Mam' and 'Toiler On The Sea' and they're all pure Hank Marvin — part of a British rock tradition that stretches back 20 odds years to 'The Frightened City' and 'Man Of Mystery'. The more psychedelic influences on Cornwell's style — the perverted innocence of Arthur Lee's Love, the eerie romance of the Doors and the metallic discordant crossrhythms of Captain Beefheart's Magic Band — were all to come later, after the teenage Cornwell had learned to R'n'B it with the rest of the nation's youth during the Beat Boom of 1964.

"My first band was at school in Muswell Hill. Richard Thompson was in it, before he went 'folk' and started Fairport Convention. So was Nick Jones who now runs Faulty Products for Miles Copeland. We went through a lot of different names. In the end we

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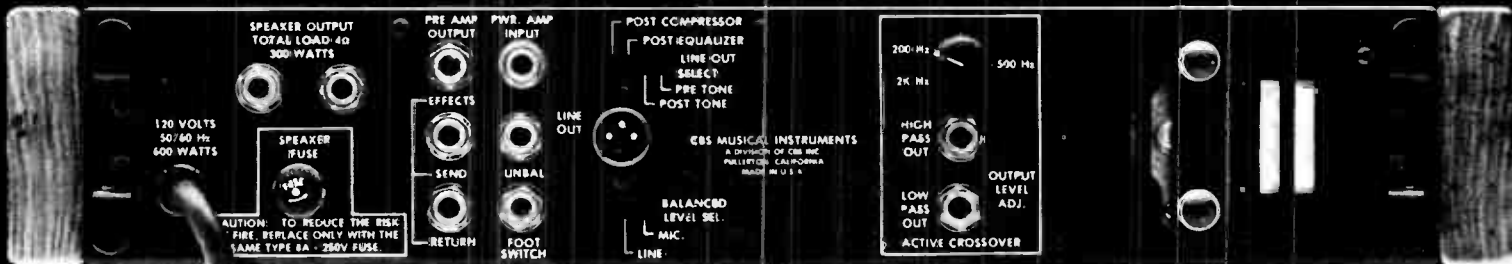
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called ourselves the Germs which is funny really 'cause there's a band just come out in the States called the Germs. We weren't writing our own stuff, we were doing cover versions of Rolling Stones numbers and these obscure Blues things that Richard would dig up. He was really good in those days. Much more of a rocker than he is now."

But the Germs folded as exams loomed on the horizon and Hugh Cornwell spent the next few years in pursuit of Higher Education. He remembers a little busking and folk club playing while he was majoring in Bio-Chemistry at Bristol University but little else of musical note until, on graduation, he was offered a research post in Sweden. There his gradual slide into Stranglerdom began.

Experimenting on rats during the day he joined a Swedish band called Johnny Sox and played by night. It was an arrangement that could not last. After an argument with his employers about some missing chemicals Hugh Cornwell decided that enough was enough and, with a year of gigs already under his belt, packed his bags and headed back to England with Johnny Sox in tow.

"That was in 1973 and we did three gigs which were all in London. We played the Brecknock, the Cock in Kilburn and the Lord Nelson on the Holloway Road. I remember the night we did the Lord Nelson because Ian Dury and Kilburn and the High Roads were on round the corner at the Hope and Anchor. I thought nobody would come to see us at all but we got a fair crowd in until there was a bomb scare and the police cleared the place out halfway through the set."

The shape of things to come? Johnny Sox must have thought so because they broke up soon after leaving Hugh Cornwell and replacement drummer Jet Black sitting in a house in Chiddingfold, near Guildford, thinking about the future. But then it was only a matter of time before Jean Jacques Burnel and Dave Greenfield appeared and the Stranglers were ready to take on the world.

"I still use the same guitar I was playing then, you know. It's an old 1965 Telecaster and it's my favorite guitar. It's got an extra pickup on it which is a De Armond version of a Gibson. It's wired so that I can use it by itself or in combination with either of the other two. It was like that when I got it. This guy in Sweden sold it to me for £120 eight years ago. That's my black Tele. I've got another one that's a lot newer which I use as a spare. Funnily enough I sweat a lot when I'm on stage and the pickups on my guitars get so rusty I have to keep replacing them. Recently I discovered

that genuine Fender pickups are now manufactured in Japan while there's a company in America making copies! That's a total reversal of how it used to be, but the funniest part is that the American copies are now the best! I found that out when I could only get a copy pickup for my spare guitar and it turned out to be twice as powerful as the standard one."

Although he swears by Fender Telecasters, Hugh Cornwell has a taste for the more exotic guitar too. Pride of place in his collection goes to a DanElectro shortscale bass, originally made for the Sears and Roebuck Mail Order House in America in the Sixties. You can hear it on 'Dead Loss Angeles' from the *Raven* album.

"I bought it from Red Rhodes' guitar shop in LA. He didn't want to sell it to me to begin with. Red is very possessive about his guitars and he'll only let them go to people whom he feels will give them a good home and look after them properly. I got another DanElectro guitar from him called a Silvertone which is a six string with two pickups on it and is even stranger than the bass. It was made for Sears and Roebuck too. They used to market them in the Sixties with a case with a little amplifier built into the lid. So if you sent away your fifty dollars or whatever it was, you'd get a guitar, a case and an amplifier. I use the Silvertone mostly for playing at home. I've tried it a couple of times in the studio and I can get a very nice bell tone out of it. But other than that it's pretty limited.

"I used to use an AC30 in the early days but when we began to play bigger places it really wasn't powerful enough. I read that you could link them up with each other but I tried that and it wasn't very satisfactory. So I got a Marshall amp and cabinet and that proved to be very strange indeed. I mean, the tone and the power was exactly what I was looking for but it didn't throw the sound out much further than a couple of feet. I move around a lot on stage, I like to be mobile, in fact that's why I don't use effects pedals because they tie you down too much to one place. Anyway, with the Marshall I used to find these huge dead areas on stage where I couldn't hear a thing I was playing! So naturally I used to turn up even louder until Sheds, our soundman, started to complain that I was doing his ears in and he just couldn't mix me properly because of the volume. Now I've got a Burman valve combo, the PRO2000 and I'm really happy with it. It's a hundred watt job and it throws the sound out for about six foot in every direction. So between it and the monitor speakers I can prowl about wherever I like and never miss

anything.

"It's so versatile too. It has three gain controls on it instead of your normal volume control. All three operate on different stages of the amplifier. So according to how you set them you can get exactly the amount of distortion and sustain you want at any volume. That's especially useful on tour when you have to compensate for the sound characteristics of all these different halls. And it's great in the studio as well, 'cause you can get just about any tone out of it you want."

When this interview took place Hugh Cornwell was relaxing mid-tour and mindful of the finishing touches which were still to be put to the Stranglers' sixth album, tentatively entitled *Love*. Production had hiccupped all along the way as both Cornwell's jail sentence and then the fracas in Nice had disrupted the Stranglers' carefully worked out schedule. He had the look of a man clouded with concern if not exactly with worry.

"Our other albums have invariably been recorded all in one place, or else recorded in one place and mixed in another. So much has been going on we've had to record this one in so many different studios every song will probably end up sounding really different. It wasn't a conscious decision on our part but this album will have been done in Paris, the Music Machine in Munich, Rome, Air, Pebble Beach in Worthing, Wessex, Eden and Startling which is Ringo Starr's studio in Ascot. Mostly we've been using Steve Churchyard to engineer, although occasionally he hasn't been available. But we've been producing ourselves.

"I'm very work conscious at the moment and it's so much more fulfilling producing ourselves than having an outside guy do it. We know what it wants to sound like and I think we're getting pretty close. It's easily the most psychedelic thing the Stranglers' have ever done. We've had to remix a couple of tracks, which is good. We didn't remix anything on *The Raven*, which was the first album, we produced without Martin Rushent, and I think in retrospect we should have done."

Well, I hope you get the mixes better than you did on your last single 'Who Wants The World'. I thought that was one of the best things the Stranglers have ever done, but it was so muddy.

"Really? Well, I don't know. I wasn't around when that was mixed. I was in jail."

Hugh Cornwell cracked a rare wry smile.

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# Albums

by Chip Stern

## BRUCE SPRINGSTEEN— *The River* (Columbia PC2 36854)

Lo, the highway is freedom, the car a vehicle through which to perceive the changes we associate with growing up. Ah, a tank of gas, a jug of wine and thou. . .

Hmmmmmm, these are certainly the venerable metaphors of our youth, and when it comes to rock and roll, some kids never grow up. Bruce Springsteen portrays the celebration and heroic postures of our innocence better than anyone else in American music—a 50s dream once deferred. Whether he's the blue collar Dylan or a punk Elvis isn't at issue; while certainly not an original, Springsteen is a dynamic American icon, a brash combination of macho and vulnerability . . . hey 'uh, I got feelins' you know, baby, I fought the law and the law won, but didn't we have a great time.



I never questioned his awesome power as a live performer—the nearest thing white folks have got to a James Brown—and, for sure, he was the most vital thing happening in that turgid *No Nukes* film (thanks also to Gil Scott Heron). I never questioned the validity of that corny rock and roll myth-

ology or the fact that people actually lived (or tried to live) those songs. I just wondered what happened to all those souls when righteous indignation slipped away and they found themselves cruising on a dark sideroad without a clue as to how you got back on the main drag.

*The River* faces up to the terrible notion that there is nothing at the end of the highway, that the dreams we grew up on were lies or merely hopeless; that the only relief is in those mythical streets and ecstatic Friday nights. The inner sleeve image of ten old Cadillacs buried in the Texas brush is appropriate: *The River* is about the struggle to keep the dream alive, and the price we must pay ("And in one last breath they built the roads they'd ride to their death. . . unable to break away . . . Just to end up caught in a dream where everything goes wrong"). "Independence Day," "The River," "Stolen Car" and "Wreck On The Highway" form the stark epilogue to the desperate good times that make up these four sides; brooding ballads framed by expansive rockers (a mixture of country & western and Hispanic/Italian tangos). No one plays the style better than the E Street Band, and *The River* contains some of their most exuberant and majestic playing, almost new wavish at points. Not all of it really gets me, as I've labored to explain, but the epic resonance of Springsteen's vision is just too deeply felt to be ignored. These characters are born to lose, which makes the momentary moments of exhilaration all the more captivating.

## TALKING HEADS— *Remain In Light* (Sire SRK 6095)

Although the Talking Heads have created enough stylistic statements for a

dozen bands, they've refused to settle in one place long enough to let the dust settle (unlike their nouveau pop



compatriots on the New York scene, Blondie). *Remain In Light* is yet another quantum leap for David Byrne and company, an extraordinary work that recognizes the timeless human quality that links the dance impulses of rock, funk and the folk rhythms of Africa and the orient. This is a strange new gathering of tribes: the Head's quest is to escape the stoic 1-2-3-4 of western music, even as they extend it; each voice and instrument is layered together like a jigsaw puzzle with its own autonomous rhythm—unity in conflict, individuality in communal expression. "The power and dynamic potential of the music is in the silence," writes John Miller Chernoff in *African Rhythm and African Sensibility*. "Theologically speaking, it is God's drum (Drum Himself) which beats the note that is never sounded; it is God's drum which affirms the possibility of continuing vitality within the music."

It is this knowledge which animates the Talking Heads' search—which is to say, *you* are the music. Brian Eno's production assistance is typically larger-than-life and mysterious, yet never obscure. On side one, Eno and the Heads go for big-beat Americana, achieving the kind of tribal call and response Funkadelic used to churn out in concert, especially on the tumultuous "The Great Curve," featuring the astonishing elec-

tric guitar of Adrian Bellew; side two is a pilgrim's journey into the communal resolution of polyrhythms. Byrne still dreads the spectre of suburbia ("Once In A Lifetime") and faceless conformity ("Seen And Not Seen"), but more and more he perceives a deeper reality within ("a terrible signal/too weak to even recognize"). *Remain In Light* tries to throw off the cloak of western thought (read: Kiddie rock) in search of a global ideal; in the process they prove that there's no limit to their own potential or that of a greater pan-ethnic music.

## CAPTAIN BEEFHEART AND HIS MAGIC BAND— *Doc At The Radar Station* (Virgin VA 13148)

Beefheart (a.k.a. Don Van Vliet) never acknowledged any human limitations whatsoever, and for over a decade this great American composer has loomed over the entire face of modern rock—there'd likely be no new wave without him. This is his greatest album since *Trout Mask Replica* and *Lick My Decals Off Baby*, perhaps the finest work I've heard all year. You can hear the sounds of the desert,



stream and forest animals, of bluesmen and warlocks, as crashing power chords and slide guitars slithers burst through "proper" harmony in search of laser light melodies and constantly shifting rhythm patterns. Beefheart's

howling vocals and hysterical free form poetry provide the conceptual glue that keeps this from breaking into pure sound paintings. Absolutely unique.

**THE POLICE—**  
*Zehyatta Mondatta*  
(A&M SF-4813)

This trio is essentially a rhythm band, and this set reflects the pan-ethnic influence of their recent world tour, though in a more pronounced pop vein than the Talking Heads. Drummer Stewart Copeland and bassist Sting pile rhythm upon rhythm in a lazy, behind-the-beat manner, setting guitarist Andy Summers' spatial dubs in sharp relief. Infectious innocence.



**THE JIM CARROLL BAND—**  
*Catholic Boy*  
(Atco SD 3B-132)

Poet Carroll, whose *Basketball Diaries* might just as well have been called *I Was A Teenage Burroughs*, lives up to his monumental advance hype with one of the most powerful rock debuts of the year. Grey, thrashing chords, sudden snatches of melody and Carroll's baleful vocalizing capture the decay and grinding pace of the inner city streets as few have done since the heyday of the Stones, Iggy Pop and Lou Reed.

**UTOPIA—**  
*Deface The Music*  
(Bearsville BRK 3487)

Todd Rundgren and company turn their back on the techno-bloat of previous works with a charming blast from the past. The 60s is spoken here, as Utopia explores the Mersey-beat territory charted by the pre-*Rubber Soul* Beatles and early Byrds without unseemly nostalgia.



**SUPERTRAMP—**  
*Paris*  
(A&M SP-6702)

This exceptional English progressive band avoids most of the pitfalls of the art rockers and multi-keyboard bands by making good use of R&B, tricky chord changes and a sense of humor. An under-

stated sense of lyricism that works equally well in short pop forms ("The Logical Song," "Dreamer") or the extended pieces which are usually the downfall of bands like Yes and Genesis.

**SKY—**  
(Arista A2L 8302)

An often astonishing band (with classical guitar great John Williams among others) that traverses the waters of progressive rock as a means to keep the concert music tradition alive. Some of it has the feeling of being found art, but Sky avoids the rampant tastelessness of the genre while suggesting new direc-

tions for guitars, electronic keyboards and percussion—and lets Bacn rock too, but then, he always did.

**DAVID BOWIE—**  
*Scary Monsters*  
(RCA AQL1-3647)

The chameleon draws the curtains to his persona of yesterday, a return to the pop mainstream tinged with melancholy. While often clumsy lyrically, the music (particularly on side one) is texturally ambitious and, thanks to guitarist Robert Fripp, kinetic as well. "Ashes to Ashes" is a great pop song. Very enjoyable, but I'm left with the sense that Bowie is biding his time.

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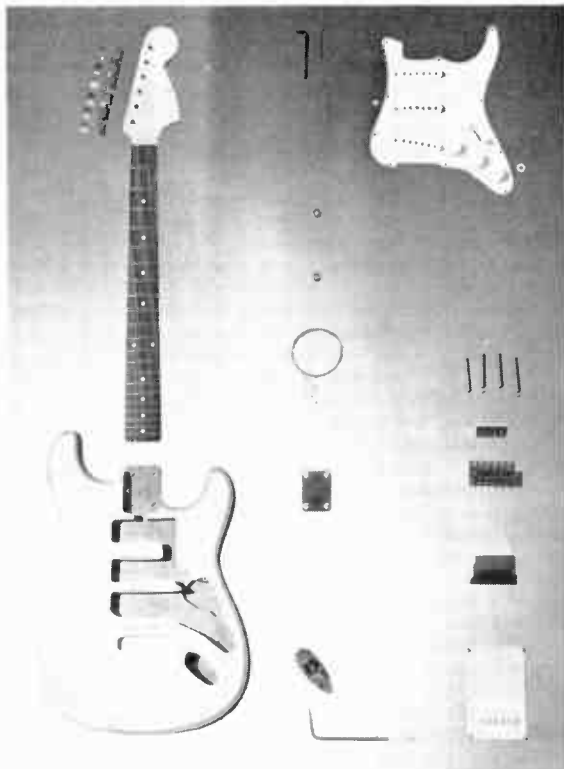
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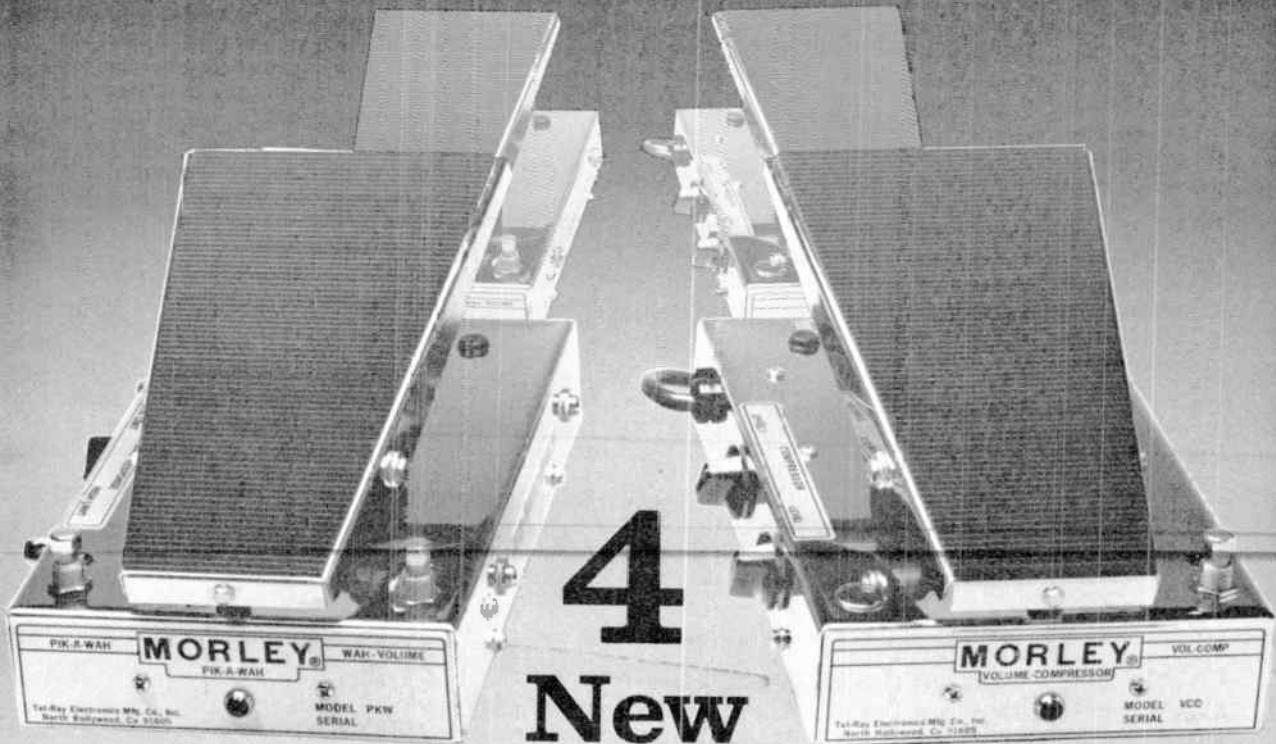
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The Volume Compressor is the only foot controlled compressor there is. Far superior to other compressors, it sustains a constant output to the amp regardless of input levels and provides long sustain without amp or fuzz distortion. As with the Piks\*, it can also be used as a standard superb Morley Volume pedal.

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# New Products

## Buckeroo 46 Triple Threat Pickup



Shadow of America Electronics Co. recently developed the versatile Buckeroo 46 Triple Threat acoustic guitar humbucking pickup with a built-in volume control and Shadowmatic 4 mode sound switch. The four positions include: Position 1 (Standby), Position 2 ("Powerful" sound ideal for leads),

Position 3 (Less power and bass—for rhythm) and Position 4 (Single coil—closest to acoustic sound). This magnetic pickup requires no pre-amp and is intended for round hole steel string acoustic or western guitars. Cable disconnects for acoustic playing or storage.



## Arp Chroma

The new Arp "Chroma" can produce an amazing variety of polyphonic orchestral and electronic sounds and includes a unique data bank which permits the musician to change, alter or completely replace the 50 programs included with the instrument. The Chroma is actually the first electronic music synthesizer incorporating a microcomputer which can respond to the "physical expression of a musician." This unit is also designed for user-programmability, offers an extensive number of program positions from which to select and has touch control and touch response.

On the Chroma's control panel there are 50 Voice Select Switches which double

as programming controls (when the unit is in the programming mode) and these allow the performer to instantly switch from one program to the next. Programs can be created or "revoiced" by the musician by switching into the programming mode or following a simple set of procedures. The Chroma also has a special program-link feature which permits the user to split the keyboard anywhere and then play two different voice selections at one time. The microcomputer at the heart of this system works directly with the keyboard and translates the force of the keyboard movement into volume, tone, texture and colorations.

## Peterson Bottom Line Pedal Bass

Measuring only 8" x 19 1/8" x 1 3/4", the new Peterson "bottom Line" Pedal Bass from Peterson can be placed in front of any keyboard or used on even the most crowded stage. This unit incorporates a completely programmable bass sound with adjustable controls for volume, sustain and voice. The control panel either clips onto the keystick of a piano or can be held by the carrying case of the unit as pictured.



## Washburn Festival Electric-Acoustic

Fretted Industries recently introduced the Washburn "Festival Series" Electric-Acoustic guitar which utilizes a "revolutionary" high output tone generator to minimize feedback and string noise while eliminating the need for a preamp and battery. Deep and shallow body models offer varying degrees of volume, bass and projection depending on the individual musician's needs. Volume and EQ controls are mounted in a rosewood ring on the upper bout of the guitar for easy access. The cut-away body style permits easy access to the highest frets and a compensated saddle, oval soundhole and full length arched back are additional features.





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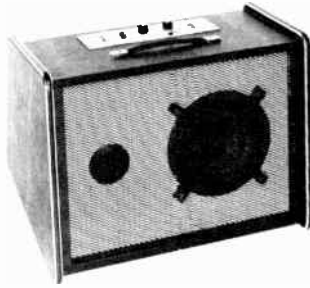
**Carvin** Dept. IM-33, 1155 Industrial Ave., Escondido, CA 92025

## Whirlwind Constrictor Cord

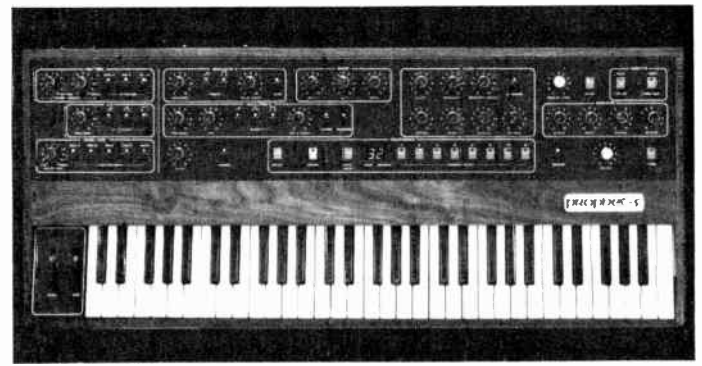


New from Whirlwind Music is the Constrictor instrument cord which combines ten feet of straight cord with a 20" coiled expandable body. This design provides musicians the neatness of retractile cords and the freedom of movement of straight connecting cords. Fully extended, the Constrictor provides an overall length exceeding 20 feet. Manufactured with Belden cable, the Constrictor is tipped with Whirlwind's Ultra-Snake plug and a Switchcraft right-angle jack at the coiled end.

## Moose Bass Amp



Touted as "the world's first portable, rechargeable, battery-operated amplifier designed especially for bass guitars," the Moose amp from Lectrosonics Inc. is powered by either AC current or an internal rechargeable power pack and weighs in at a mere 29 lbs. By eliminating the unit's built-in bass equalization, the Moose can also be used as a powered stage monitor and it faithfully reproduces all the notes of a bass guitar, all the way down to the low note on the E string. This is accomplished by the use of a long throw, high-compliance 8" speaker fitted to a fiberglass-filled, tuned and ported cabinet.



## THE PROPHET-5

The PROPHET-5 from Sequential Circuits is a completely programmable polyphonic synthesizer. The PROPHET has 5 complete voices with two voltage controlled oscillators, a noise source, a voltage controlled lowpass filter and two 4 stage envelope generators per voice. The voices can be controlled by either the front panel knobs and switches or by one of the programs in storage.

The PROPHET comes with 40 patches preprogrammed.

Included are standard orchestral sounds (brass, strings, organs, electric pianos, etc.), special effects (bells, wind, helicopters, etc.), in addition to pure synthesizer sounds. Any or all of these sounds can be modified.



## Taylor 855 12 String

The updated version of the Taylor Model 855 12-string features a thin wide neck and low action for easier playability. The tone is also "brighter, deeper and richer at any volume." The new 855 features choice Indian rosewood back and sides, a fine-grained Sitka spruce top, Abalone soundhole rosette, a black ebony fingerboard and bridge, a laminated brass/bone nut, a compensated saddle for accurate intonation and two adjustable truss rods. The neck is removable for fast and simple repairs.



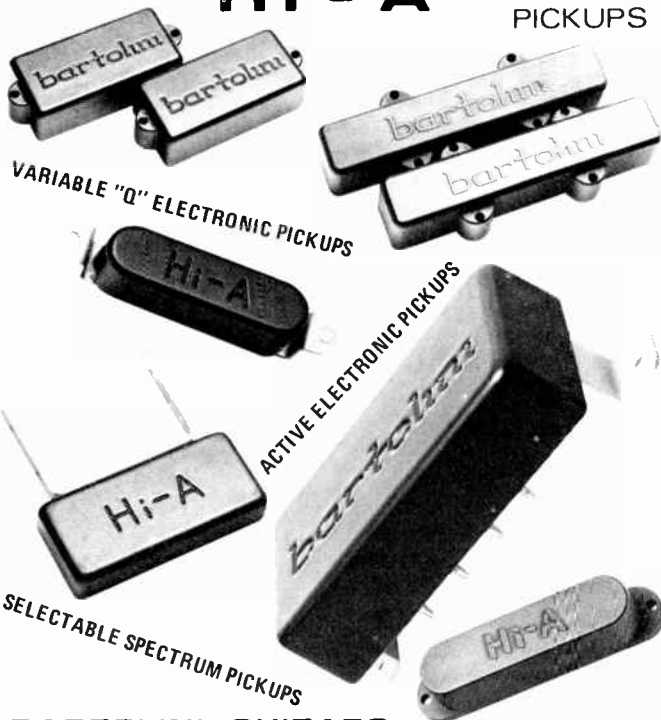
## Tusc 45 Series Amplifiers

The new Tusc JB45 self-contained bass and keyboard amplifier and the JT 45 self-contained guitar amp both feature 45 watts RMS in a two channel configuration with a full range of tonal settings. The JT 45 guitar amp also features master volume and reverb controls. The JB 45 Bass unit has a heavy-duty 15" speaker in a closed backport and shelf reflex enclosure while the JT 45 has a heavy duty 12" speaker. Both units are available with optional Fane speakers.

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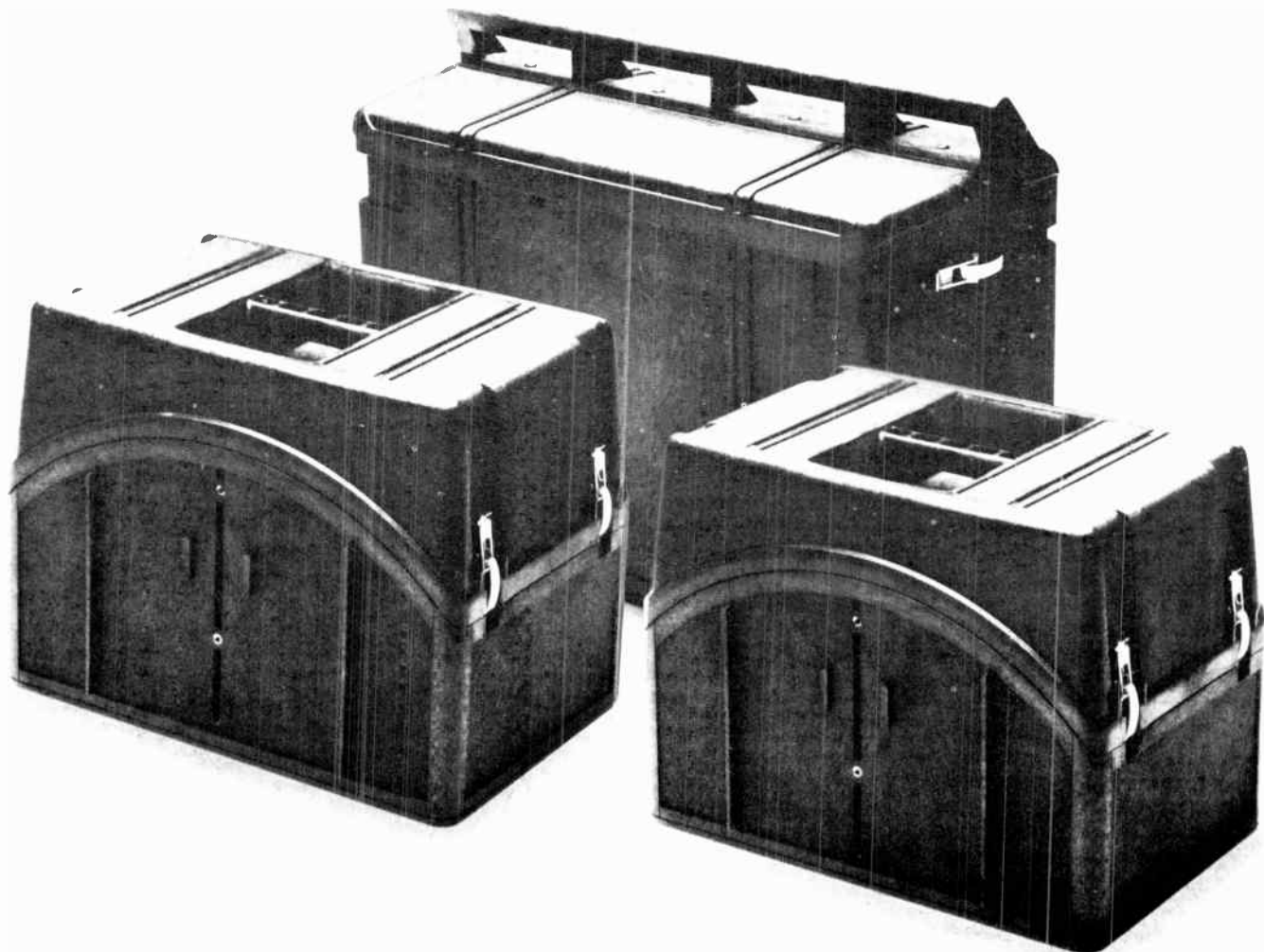
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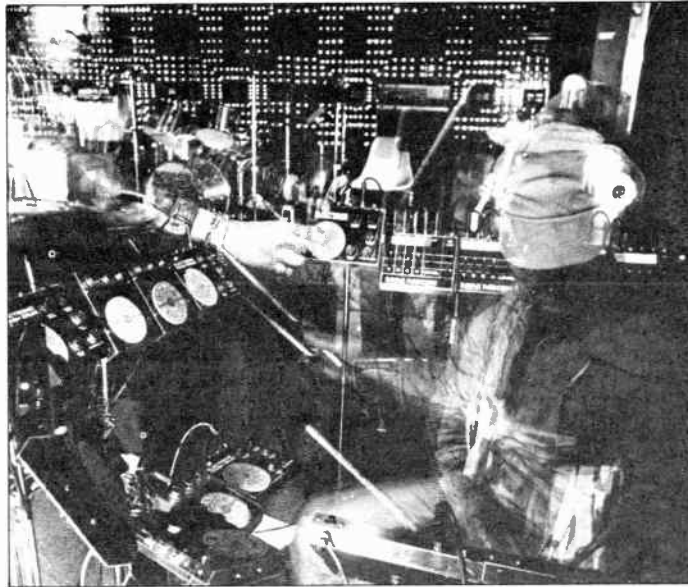


# ELECTRO-HARMONIX "HALL OF SCIENCE"

If you happen to be ambling down 48th Street in New York where many of the city's larger musical instrument retail outlets are clustered together in a row, you are likely to come upon "the new boy on the block"—a rather amazing phenomenon known as the Electro-Harmonix "Hall of Science." The brainchild of company President and founder Mike Matthews, the E-H Hall of Science is not a retail store *per se*, but more specifically a place to exhibit and physically demonstrate the "latest & greatest" of Electro Harmonix's extensive and varied inventory of products.

A discrete black storefront situated just up the block from Manny's and Sam Ash, the Hall of Science features a large, darkened sound room decorated with an array of Electro-Harmonix's LED panels constantly shifting into myriad patterns of colored lights. A small stage with a full set-up of instruments is located at the back of the room with rows of benches in front, an electronic drum stand off to one side and several "Art Lumo" (electronic gasses under glass which can be varied by sounds and digital pressure) displays along the sides of the room. Darkness, futuristic lighting and the strange, almost unearthly sounds issuing forth from the amplifiers as professional musicians demonstrate the most recent E-H sound modification devices all conspire to create a legitimately "spaced-out" environment representing a pleasant change on a street known for its frantic pace and unadorned way of doing business.

For someone who has grown up on "the street" as a musician in New York, the E-H Hall of Science might seem a bold, daring move at



first, considering the expense and the fact that music retailers on 48th St. are part of a rather exclusive fraternity. Sitting down with the imaginative and somewhat eccentric Mr. Matthews—traditionally known as one of the best "idea men" in the business—at a restaurant across from the Hall of Science, I was eager to find out exactly why he and his company had undertaken this seemingly unorthodox method of promoting and marketing their products.

"It represents a combination of things. Personally, it gives me a chance to stretch out once a month and play myself (Matthews is an accomplished keyboard player. ED). Most of the people in this business still have music in their blood. We have good musicians demonstrating product and, in the future, we'll have stations with headphones so players can try stuff out themselves without disturbing each other. It also gives us a chance to try out new products—like the electronic art gasses which we call 'Art Lumo'—and market test some unusual new musical concepts before we get heavily involved in them. It's a

way of market-testing without waiting for feedback. Like these Random Tone Generators we're selling right out of the place for 28 bucks. They generate unusual sounds and can be plugged right into home stereo units. Mass consumer synthesizer 'toys' people can have fun with.

"On 48th St., you don't always get to try things out, especially at the places offering lower prices. At the Hall of Science, people really get a chance to see what these products *do* and not buy them on hype."

Has the Hall helped to expand Electro-Harmonix's company image?

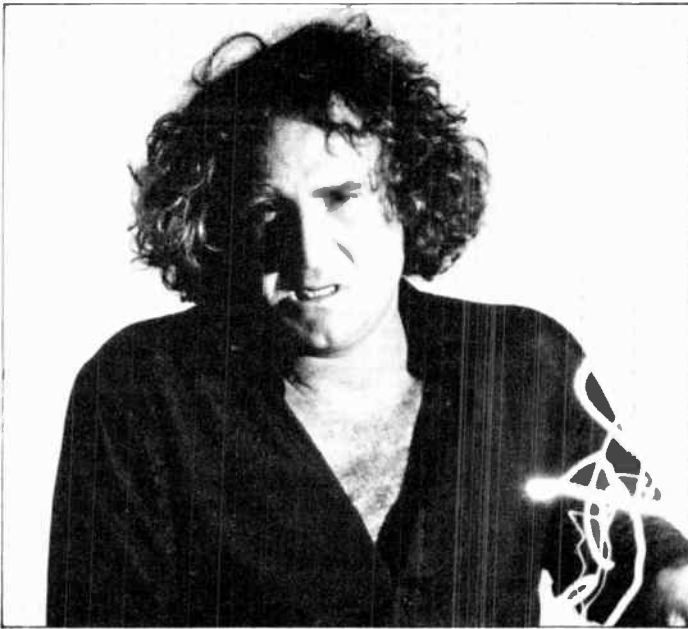
"I think so. Definitely. Sales on the street have really gone up a lot over total base sales, but it's still an intangible. We feel that it's been successful, but it's hard to measure."

The Hall of Science and the recent development of the Mini-Synthesizer represent a culmination of sorts for Electro-Harmonix. The company has always attempted to offer the most for the least in terms of state-of-the-art EFX devices. Has that been your thrust?

"We've always believed in the price. Even for me, music has been more of a hobby and a love than a profession, and the amount of money you have to spend is limited so you first spend it on your axe and your amp. And you're gonna continue to spend your money until you get the perfect axe and amp you want. On the accessories and 'extra' stuff, the masses of people today just don't have the money, and most of our competitors compete by trying to get to the 'professional' market to the point where they sacrifice too much in terms of cost. Referring to 'quality of sound', to us, the most important thing is to have the *right* sound. To get the sound that has the most *feeling* to it. Secondly, it's the price. Competitors spend more on fancy packaging and that's one of the things we have at the *bottom* of our market index."

From your "internalized" view of the effects market, do you feel that the development and use of effects have progressed simultaneously? Some feel that effects devices have been overused in contemporary music.

"Personally, I believe an effect should be an *effect*. It's not supposed to dominate every damned song. You tastefully introduce an effect here and there, then blend in straight playing without it. Also, the company has really been expanding into new areas. Like the Mini-Synthesizer—it's like an effects box—anybody can play it and it has a built-in phase shifter that, in some ways, is even richer than the Small Stone. It's a brand new instrument that can be played by a keyboard player, a guitarist or someone who's never played an instrument. So we've expanded using our effects background, 'cause we've put



in the right filter, the right movement etc."

It's obvious by now that the Mini-Synthesizer has made quite an impact in the industry. How did the whole project originate?

"One of our brilliant designers came to me with an idea. He wanted to build a cheap, little organ that would sell for 29 bucks. We discussed it and I really got involved with the project because I'm a keyboard player and, in the past, I've devoted all my attention to bringing out effects for guitar players. In the past, I'd resisted getting into keyboards and synthesizers 'cause I didn't want to get bogged down with complex packaging. Our thing has always been complex electronic design, with up to a 100 electronic parts, but we keep it relatively simple on the external packaging. As we got into the Mini, we'd say 'if it's got *that* and it has *that*, it'd only cost a little more to put *this* or *that* into it.' So what was gonna be a little 29 dollar organ grew and we spent a year nurturing it—we didn't rush this out—and it eventually became the Mini-Synthesizer. It's hot in Japan and we're in behind the Iron Curtain."

When it comes to the Mini-Synth's impact in Japan, Matthews is even understating the case a bit. This compact, versatile little unit has virtually taken the entire nation by storm—in an era of electronics when the opposite is usu-

ally true—to the extent that Electro-Harmonix is having its own two day exhibition for musicians and general consumers in Tokyo during the early part of November. Talk about taking coal to Newcastle! But, like Matthews' recent sortie to a Russian trade show which created a noticeable impact behind the Iron Curtain, this kind of move characterizes a

point-of-view from the man and his company which actually relishes competition.

"We're really excited about Casio entering the small keyboard market. They've got a nice polyphonic organ and we have a nice monophonic synthesizer and sooner or later we'll clash head on even though Roland, Yamaha and Norlin are more worried about *them*. Basically, we're taking a 'sub-set' of our 48th St. facility and the Russian show to Tokyo and it's exciting because we're gonna beat them. It's a challenge to go to Japan and compete directly with them."

During our conversation, Matthews is playing with a new, updated version of the Mini-Synthesizer which he hopes to introduce at this year's NAMM show in Anaheim and the International Trade Fair in Frankfurt, Germany. This "new & improved" version contains all of the features on the original plus a realistic echo effect—single repeat for slapback echo or multiple repeat for longer delays—that works amazingly well through such a small speaker and can also

function as a separate echo unit for other instruments. The new Mini-Synth also has a yet unnamed "gliss" feature for the flats section of the keyboard and the same "touch-sensitive" features found on the original.

With the Hall of Science and the Mini-Synthesizer representing another major stage of development for Electro-Harmonix, and a host of new products on the drawing board, I wrap up our discussion by asking Matthews about his company's ultimate goals for the future.

"Our ultimate goal is to defeat death. We're building up our scientific/industrial organization to bring the future into the present. A thousand years from now, if man doesn't wipe himself out which is a *big* if, we'll have licked the aging process. Man will be living longer, he'll be smarter and solving problems faster. Eventually he will catch up to and defeat death itself. We're building a base of technology on which to build another kind of technology which will in turn eventually pull this kind of thing into the present."

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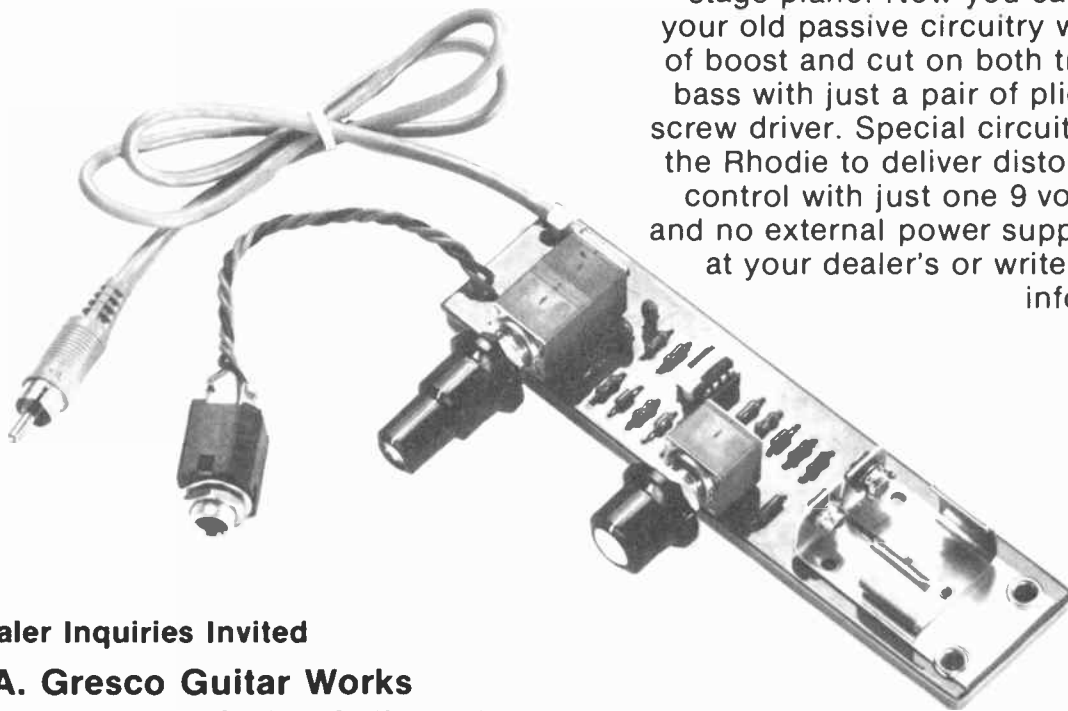


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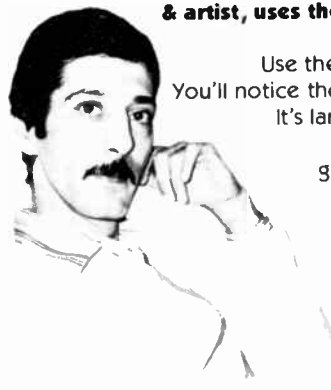


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# Keyboardcheck

## Hohner Pianet T

Being asked to review a Hohner Pianet is a bit like being asked what you think of an old friend's new hairstyle. Usually you tell them it's an improvement whether you actually think it is or not, but either way it doesn't really matter, because you know that, underneath, it's still the same old friend. And basically, that would be most pianists' response to the "new" Pianet T. Because Hohner has a long and well established history by now, if you asked many of the big keyboard stars which was their first electric piano, the most common answer would probably be a Pianet. There's much more competition nowadays in this area of the market, but a Pianet should be seriously considered by anyone shopping around for a budget-priced electric piano.

The contemporary Pianet comes in black-covered wood with a hinged cover which clips shut to the side or folds back to reveal the keys. The cover folds flat to the top, unlike some older Hohner models whose covers used to consist of two pieces which folded into a V-shaped music stand. There's also a suitcase handle on the side and obviously the Pianet is eminently portable, but it's certainly not that light compared to other

pianos in its price range. The reason for this is that, unlike many other cheaper electric pianos, the Pianet is actually an *acoustic* instrument with pickups. Therefore, there is a soundboard within the Pianet and the wood casing must be of sufficient thickness to provide an ambient chamber. Because the Pianet is essentially acoustic, it is audible, albeit quiet, without amplification and you don't have to plug it in, so there's no AC output, just a jack socket. As it is a "passive" instrument, it might seem less powerful in terms of volume, and feedback is possible when your amp is cranked up, especially when using echo. On the *credit* side of this system however, there is none of the excess noise and hum which seems to afflict every active electric piano, however expensive.

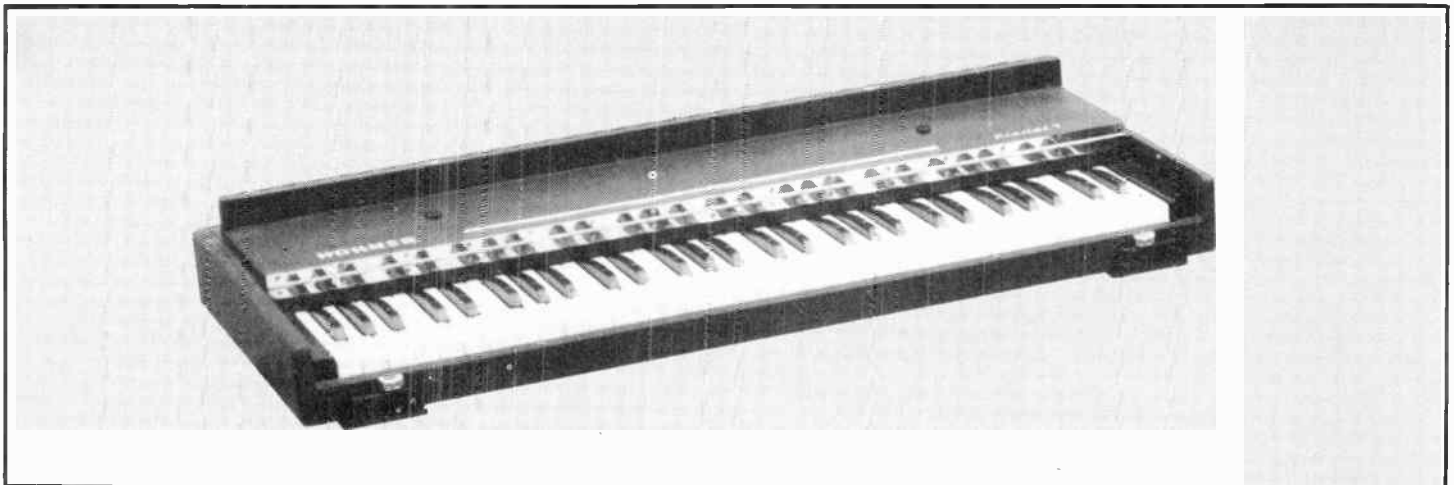
The Pianet T keyboard is five octaves long from F to F. I've always found Hohner's action rather enigmatic in that it feels spongy but is actually pretty fast. What happens inside the Pianet when a key is struck, is that the other end of the key rises to lift a little rubber damper off a metal strip which is screwed down at its other end. When the damper is removed, the strip springs up

and vibrates. The harder you hit the key, the more the spring vibrates and the greater the volume of sound picked up by a small metal coil beneath the spring. Presumably, the vibration changes a magnetic field which induces a current in the coil. So, in this sense the Pianet is "touch-sensitive" and approximates the effect of piano wire being struck by hammers in an acoustic piano. If the key remains depressed, there is a realistic long decay as the vibration of the spring gradually declines. If a key is released quickly, however, the rubber damper immediately mutes the spring and this tends to produce an unfortunate "plucking" effect which would not occur on an acoustic piano. Also, the sound of a single key on an acoustic piano is created by more than one vibrating string, a fact which provides the great tonal interest of that instrument. Thus, the harmonics produced by the Pianet method can sound restricted and occasionally inappropriate, making keys sound off-tone at times. Since each key has an individual vibrating strip, there can be no facility for altering the overall tuning on the Pianet.

Yet, despite these intrinsic detractions, many of you will

find that the Hohner action and sound is still preferable to active electric pianos whose tones are produced completely artificially. In this respect, the T Model Pianet represents good value compared to other products in its price range. Certainly the overall sound is pretty good. The contemporary Pianet approximates a Wurliizer or Rhodes type of sound more than its predecessors. It is excellent for accompaniment or atmospheric and jazzy styles. According to your individual taste, some of you may find it doesn't "cut" quite as much, or have as much treble end as its direct competitors; but, to many ears, I'm sure that Pianet would represent a more sophisticated sound. The Pianet has an established tradition on its side also, with a proven record of reliability and sturdiness. You know it can take its knocks and still do the job. As I stated at the outset of this piece, updating the appearance of an instrument of some years' standing is just a cosmetic improvement for a reliable old friend. So, in effect, the Pianet doesn't have to stand up to anyone's review because it has *already* stood the test of time.

Stan Shaw



# Soundcheck

## VOX Escort & V15

This is the part of an occasional series of reviews on low power portable combos. By only including amplifiers up to around 30 watts maximum, it is hoped to include only the range of so-called "Baby-Amps".

We kick off with two amps from Vox. Interestingly although they look fairly similar they are substantially different both in sound and electronics.

Most musicians have heard of the Vox Escort—a small completely transistorized 1 x 12, 30 watt combo. As is usual with Vox the cabinet and finishing is a scaled down version of the famous AC30. I personally think that the color scheme and trimming looks really superb.

The second amp on test is the Vox V15. This has a lower output power (15 watts) but is housed in a similar but larger cabinet—partly because it houses 2 x 10 loudspeakers and partly because it is an all-valve amp. The Escort measures 20" x 17" x 8" while

the V-15 is 24" x 17" x 9".

The two cabinets are obviously similar in construction and in looks. Three quarter inch chip-board is used for the woodwork, with the usual Vox type vinyl covering which can be described as a sort of black hessian finish. Whatever the type of protective covering, it certainly looks good and is very tough. Protection for the speakers is provided by a non-see-through black cloth with red/white and green checks. Again very familiar to Vox owners.

The cabinets are both finished off with the usual white piping, gold band, gold Vox badge and black plastic corner caps for protection, wide soft PVC feet are provided with on the Escort, a single carrying handle in the center top and on the V-15 a handle each end (because of ventilation grilles for the valve amp). Both cabinets work on the open back principle which in both cases gives a good sound.

As is customary with the

Vox combos the control panels are at the top rear of the units. The only thing is that on the V-15 you look from the front to operate the controls while on the Escort you look for the back — simple.

Right, now as the two amps are fundamentally different in design I will take each one separately, starting with the Escort.

This has three inputs — fuzz, normal, and bright with a separate volume control for each input (very useful). The tone controls are fairly basic just bass, middle and treble and operate on the typical American amp type principle whereby with no tone controls turned up you get no output signal. A mains on/off toggle is provided with next to it a 500mA fuse and an "on" LED indicator. A footswitch is also provided to switch on and off the fuzz effects which is controlled separately by a fuzz level control (only applies to the fuzz input). As has been mentioned already a single 12

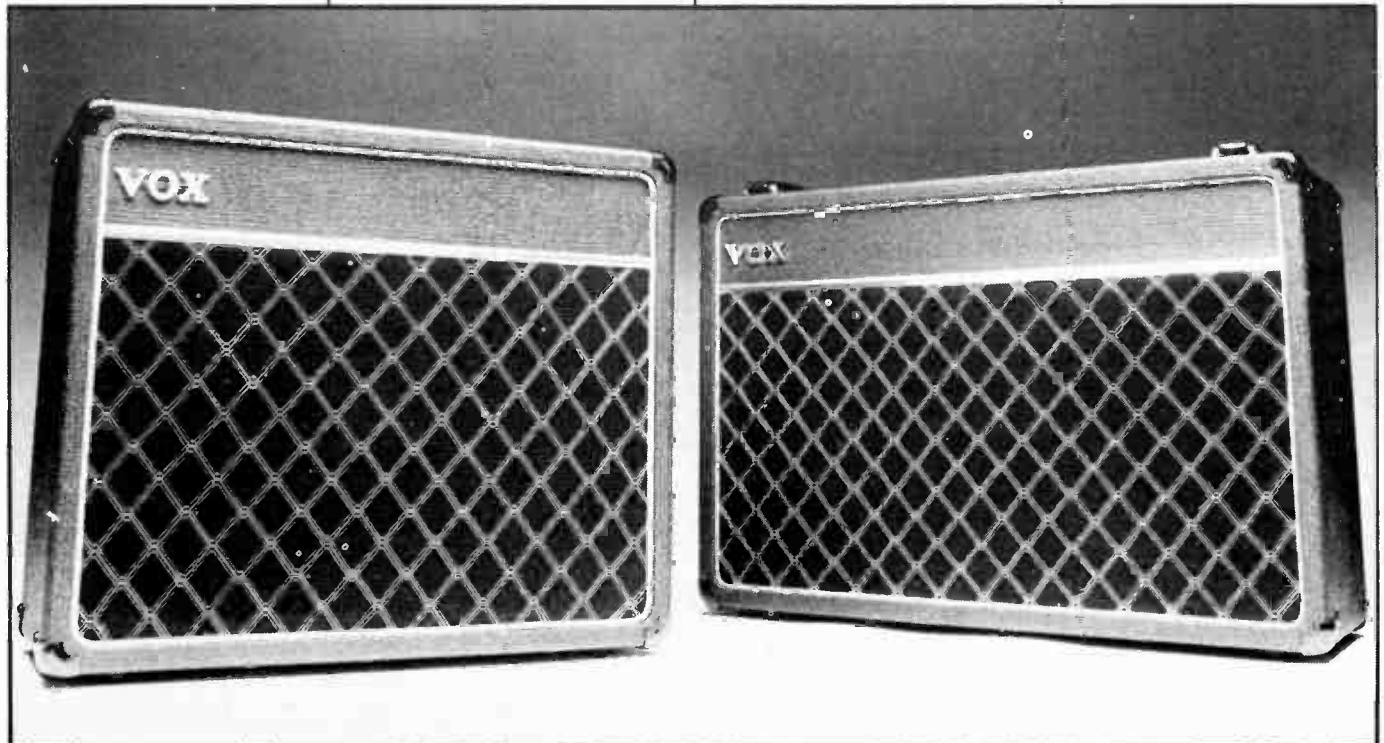
inch 8 ohm loudspeaker is provided.

All the components are mounted onto a single vertical printed circuit board (including power amp) and as far as I can see it is only supported by the soldered connections to the front panel controls. It does not look too strong.

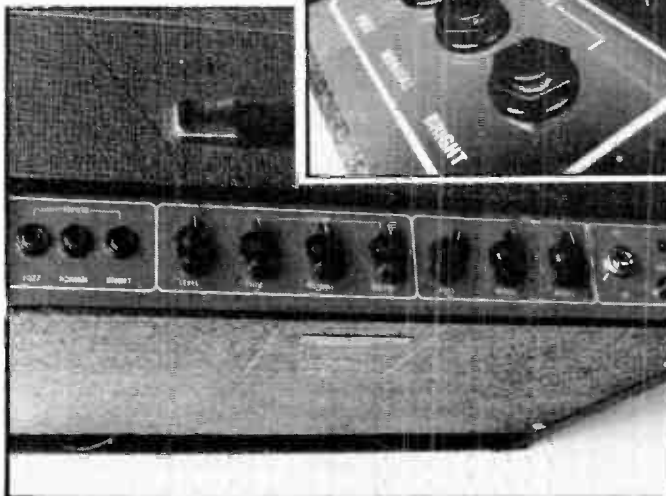
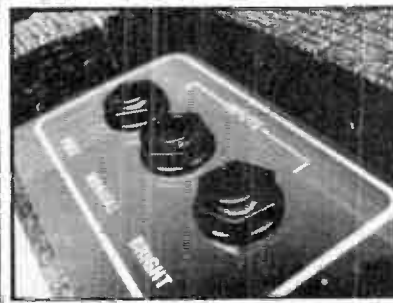
As far as performance goes this amp chucked out a fairly healthy 26 watts RMS prior to clipping not bad for a nominal 30 watt (at 10 per cent distortion?) amplifier.

The input sensitivity of each input was about the same as approximately 10mV — suitable for virtually any guitar. The fuzz level control, when advanced, provided a clipped waveform sounding not unlike a standard fuzz box (logical eh!).

The combo sounded quite loud when pushed hard but still retained a reasonable sound. The problem of course with a low power transistor amp is that it is more obvious when the clipping point oc-







curs. This meant that when pushed a little too hard, the combo sounded edgy and harsh but this effect is really unavoidable.

The tone controls gave a nice range of control, bearing in mind that output volume was affected as well when only one control was advanced. Because of this it was also very difficult to measure their effect, especially as there was considerable overlap on controls. However the basic sound of the amp was good and, as may be expected, the treble end particularly good.

The Vox-V15 may be of a little more interest to the valve sound purist and those who

haven't quite the strength to lift up an AC30!

Two inputs are provided—normal and brilliant (14mV sensitivity). The combo is a master volume type amp and so has both master and preamp volumes. As with the Escort, bass, middle and treble controls are provided with the same type of operation. A mains on/off switch and associated mains fuse and LED indicator are also provided.

Output power is from two EL84's giving an output of 14 watts RMS before clipping into 16 ohms. As indicated before, two 10 inch loudspeakers are fitted as opposed to the single 12 inch in the Escort. Dealing

with such a modest power output, these speakers have a lower power rating each and seemed to be a lot more efficient than the 12 inch. When run side by side, the V-15 did seem to push out a little more acoustic output than the Escort but of course this is subjective.

As far as sound is concerned, for me this amp must have the edge being all valve and producing rather nice sustain. Being of the master volume type of design, separate control of preamp overload is provided. However it was not possible to obtain very much distortion simply by overdriving the preamp on its own. Turning the master volume up as well to overdrive, the output stage (apart from being quite loud) produced a really excellent sound. Again not masses of sustain but quite enough for most uses. In fact bags of treble and a nice presence which I think was due to the two 10 inch speakers contributed to a typical Vox AC30 type sound — I reckon this would actually be a much better bet for many guitarists.

#### Conclusion

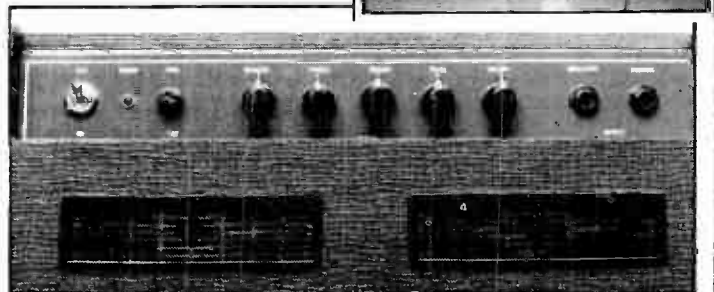
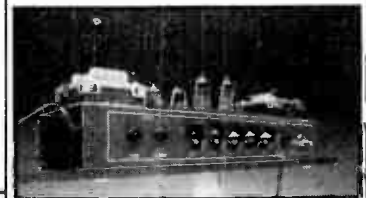
So, two rather interesting amps from Vox with two rather different designs — however it does seem that in the Escort, Vox have tried to produce a transistor amp that sounds as good as the valve ones. From the results of this test it seems that they have probably succeeded — the only problem being the obvious one of valve distortion.

Running the Escort at well below clipping, produced some very nice clean sounds with that characteristic jangly treble. But running at well below clipping means running the amp at a fairly low level. This is the main difference between the two amps — the gentle overload characteristic of the valve amp as it is turned up high and the harsh sudden threshold of the transistor amp as it reaches clipping point.

If there were any dislikes at all, then one of them must be the knobs. I know that the black pointer type knobs are Vox but on both these amps, the knobs were loose and even when tightened up worked loose again. Still, to end on a good note both amps, especially the V-15 are up to the usual Vox standard and I think are worth the money just on looks alone.

#### Dave Mann

*Dave Mann gained an honors degree in Electronic Engineering at Southampton University in 1972. Since then he has been working in television and sound studios with more recent involvement in the design of guitar amplifiers. He is also a member of a regularly gigging band.*



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# Drumcheck

## SLINGERLAND (Upbeat) 650T



The Slingerland Drum Company was founded in 1916 by H. H. Slingerland in a small suburb of Chicago called Niles. The list of famous players who have used their drums is endless and one of their vintage 'RADIO KING' sets can be seen in Jayne Ippolito's New York City store in absolutely 'mint' condition. Jayne's set once belonged to Gene Krupa but during the Forties (and of course before) just about every noteworthy drummer played and of course endorsed them. As we know Buddy Rich has had a love/hate relationship with them for years and I understand that even now he's with Ludwig there's still an exceptionally heavy demand for his distinctive single 13x9 and double 16x16 floor tom type sets. (Sonny Greer used to have his huge sets specially made at the Chicago factory

complete with roll-away bass drum and multi cuban tom toms. One of these can also be seen if you ask nicely at Professional Percussion, New York.)

As I've said before it's only within the Seventies that Slingerland have latched-on to a modern, powerful image. Until the last decade they were known as a very good drum set used in the main for all the different jazz styles very successfully but their sound was considered somehow too tight for rock'n'roll. However when the music became 'Rock' Slingerland's sound came much more into its own and these days many of the more jazzy rock players are playing the company's products. Slingerland of course have carefully capitalized on this new demand.

I have in the past happily owned a couple of Slingerland sets and would probably still

be with them if they made a fiberglass set.

Right, on with the work. This month's set is actually the 650T but Slingerland have seen fit to name it as well — it's also known as UPBEAT. As its numerical designation implies the set has five drums and its shells are made from five plies of wood. The set I saw was maple and had a 22" Bass Drum, 12x8, 13x9 and 16x16 tom toms with a five inch chrome plated bass shell snare drum. It comes as standard with a hi hat pedal, two straight cymbal stands and of course a snare drum stand and bass drum foot pedal. In Britain it has the more sophisticated 170 double tom holder, but in America it comes as in the catalog with the 160 holder which I feel is more than adequate. According to their catalog this (and any other) set is available also with

3-ply shells with solid maple glue rings although nowadays most guys are going for the thicker shells which of course don't need to have strengthening glue rings.

### Bass Drum:

The old 'Sound King' bass drum comes with this set — it's a 22x14 with a five ply 3/8" shell and solid maple chrome inlaid counter hoops. (There are extra deep 16" bass drum shells available with the three larger diameters available from Slingerland but none of their actual sets have them.) While I think of it the normal five ply shells are constructed from two different thicknesses of material with thicker cores, numbers two and four of poplar and the others of mahogany. However, for one of the actual wooden finish drums the outer layer would be of that specific wood — say walnut or maple.

This size bass drum has 20 large "bullet type" nut box casings and one pair of forward facing disappearing spurs fitted with a circlip to stop them disappearing completely inside the drum. The company supply a felt-strip damper for each head which as usual works adequately but while I was at the warehouse I discovered one of





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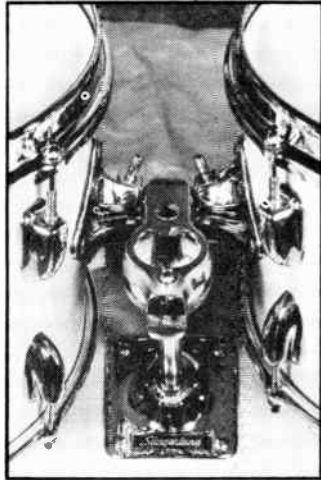
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Slingerland's old-fashioned adjustable external dampers which clamps onto the counter hoop and gives degrees of dampening. I've been using this one in the studio on a single headed drum and find it very successful used either on its own or in conjunction with a pillow. This item could be just what a studio player is looking for. I notice from their 1980 catalog that Slingerland also produce an internal adjustable-pressure damper with large twin pads. This model is changeable from *outside* the drum but as yet I haven't seen it. I'm still not "knocked out" by the drums' tension screws and pressed-steel, claw hooks — they still look more like nickel than chrome plate and their edges are still sharp enough to tear your pants on. This bass drum definitely has a no-nonsense sound with lots of definition. The drum I saw was not as per catalog fitted with Remo C.S. heads but had a pair of pin stripes on it. I haven't tried *two* of these heads on a bass drum but liked the sound so much that it prompted me to fit a pair to my own set. It's really a strong sound. Single headed of course the drum has Slingerland's ballsy thud.

### Tom Toms:

Slingerland were the first company to build tunable tom toms and I've always liked their unique double headed sound. For me it's an almost Timbale-like sound which doesn't seem to change whichever single ply head one uses. These double headers I prefer to the concert type drums but to be honest I've always had a soft spot for Slingerland's Sound King toms. As standard the set has 12x8, 13x9 and 16x16 toms all fitted with white C.S. heads (their concert toms all leave the factory with pin stripe heads). The 12" tom has six square



headed tensioners per head, so has the 13. The 16x16 floor tom has the usual eight top and bottom. All drums have Slingerland unique pressed steel rims with their own version of a triple flange. There are two versions of these forged hoops — one has a small radius at the top and the other, fitted as standard has a straight edge finished-off with a slight, flanged bend to strengthen it and save on stick wear. The rims are guaranteed for life and are very well designed and allow the head to fit uniformly.

Slingerland drums are very nicely finished off inside with several coats of hot lacquer and any screw or nut is agreeably finished off for my taste with a cup-type washer. The floor tom stands securely on three bent rod steel legs with rubber crutch tips which locate into cast blocks which do not have the benefit of eye rings inside them but which instead have their retaining screw tapped directly into them.

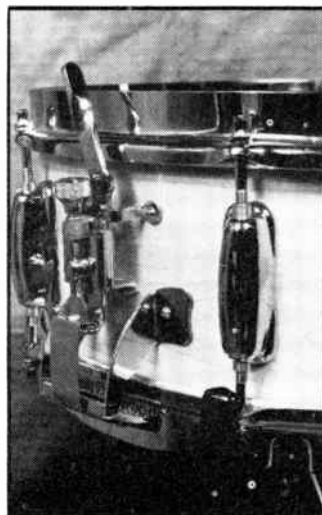
Each of the mounted toms have a female tom holder block fixed to their shell which I'll describe in the accessories section.

### Snare Drum:

The Slingerland company

make what I consider to be the most interesting selection of snare drums from the 192 with its five inch bass shell featured with this set through their 'TDR' models and two to one (with 12 tensioners on the batter head and six on the bottom) and 'Spitfire' (also with 12 tensioners but top and bottom). Finally there's what must be the top of the line their re-issue of the 'Radio King' all snare drums are available in either five ply wood or brass.

The 192 I saw was chrome brass but for a little extra it is available in *lacquered* brass. All Slingerland metal shell drums have a very contained sound which I find ideal for recording especially with the extra depth afforded by the 6½" 'deep shell' models. This drum used to be called the 'Sound King' when it was fitted with a 'Zoomatic' snare strainer. Nowadays it boasts the 'top of the range' TDR strainer which looks more solid and operated in a less complicated way. This past cast strainer has a positive, more traditional sideways-operating, cam action on/off mechanism and has a built in outrigger facility which serves to stretch the slightly extra length 20 strand metal snares out *over* the drum's bearing edge to give



better head coverage and match the plane of the head exactly. The butt end too has this outrigger fitment and it 'screw-clamp' attaches to the mechanism with Slingerland's doubled over packing-tape. (I've mentioned this very strong tape before which has many filaments of thread in it which I find ideal to replace the string or plastic strip ties normally found.) The drum is as usual finished very cleanly inside and its chromed shell doesn't have a strengthening centre bead (just three decorative lines cut in) but it does of course have an inverse flange and slight snare touch area dip. It has the flanged hoops found on the tom toms, ten double edged lugs, square tension screws and an internal under batter head operating damper which I still find a little flimsy even though it works reasonably well. The drum comes with rough coated Ambassador heads which give it a bright dry sound but I prefer it with the same *controlled sound* heads found on the tom toms since for me they give more resilience and snap. While I think of it Slingerland recommend a slightly different method of tuning their TDR drums which all have *ten* lugs. One tensions the first two screws as normal diametrically across the head. Then you miss out the next tensioner going counter-clockwise and tune the one after; then across again, miss one etc. etc. They recommend a looser than normal snare head approximately a third lower than the batter.

Slingerland seem to have discontinued their 15" diameter 'concert king' snare drums which I feel could be a premature move because a 15" drum has the penetration and balls which manufacturers appear to be striving for with their eight and ten inch deep 14" drums which for me have a 'tubby' sound.



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# Drumcheck

I saw and played the 'Radio King' while I was at the warehouse and even though it has nothing to do with the 650T set I'll describe it to you. It is not, I understand, an *exact* copy of the famous old one but it is made to roughly the same specifications especially in its shell. The shell is as far as I can see the 'raison d'être' of the 'Radio King' since it is painstakingly bent from *solid* wood and with solid glue rings. The head touches the shell on a *very* slight bearing edge which I suspect is not as before but the old fashioned snare indentation bed in the bottom edge of the shell is obviously the same as before. It can be supplied with ten or 12 tensioners which locate into Slingerland's normal double ended nut boxes which incidentally are padded inside with a small piece of plastic to cut out any spring rattle. The adjustable cam action snare strainer is made from pressed steel and I would presume it to be exactly the one used before on the 'Radio King'. It's not at all sophisticated and quite a bit smaller than the TDR strainer but it has a sensible large knurled knob to increase tension against the head. It has a 20 strand metal snare which is uniquely fixed to the strainer with a very thin metal strip in place of Slingerland's usual packing tape. This metal strip is bolted to the strainer mechanism and undoubtedly contributes to the very, very snappy sound of the drum. (The drum has the same outriggers I described before to stretch the snares batter across the head and these of course were originals on the 'Radio King'). Otherwise the drum has an internal damper and *three* air holes. The only other real difference between this and any modern drum is in the rims which are in the old style with straight edges without any 'stick saving' bead



at all. Obviously these hoops were fitted to the original drum but for us in this day and age would be *stick destroyers*. I think the classical concert player would be the only person unlikely to chew his sticks on them. I think any player who bought the drum to play (as opposed to a collector) would be forced to change at least the top hoop for one of Slingerland's more modern ones. The drum is available in two shell depth sizes 5½ and 6½. I saw one which was beautifully finished in natural maple but I understand it can be had in any of their finishes. However it looks absolutely traditional in Marine Pearl. It's a great drum with a very good *snare drum sound* in the traditional sense of the word. My only criticism is that it doesn't have the old 'Radio King' badge which is a real omission especially at the price which as far as I can gather is something like 80 per cent more.

## Accessories:

This set comes as standard with a pair of straight cymbal stands, a snare stand, hi hat stand, yellow jacket foot pedal and of course a double tom tom holder mounted on the bass drum. All the stands have

tubular steel legs with substantial rubber feet. There are available from Slingerland a completely new series of stands called 'Grandstand' which are much heavier but as of now the company do not put them with any kit as standard so I'll simply comment on the set-up as it is for 650T.

The cymbal stands are tall three section models with a large cast swivel tilter reminiscent of Pearl's, at least in its operation. It has a large serrated-edge boss moving inside a cast frame and has the cymbal tilter rod itself tapped directly into it.

The turning movement of this boss and ultimately the angle of the cymbal is arrested by a large wing bolt with shoulders on it larger than the slot in the framework. These shoulders pull the boss up against the side of its locking hole (in the framework) and wedge it there with pressure on the outside.

This cymbal rod itself extends far enough to put the instrument three inches from the pivot centre which means one can play it at almost any angle without it fouling its stand. All cymbal and tom stands use the same tripod bases with 13" radius tripod legs braced by

double flat steel stabilizing struts joined to pressed-steel collars sweated to the bottom of the largest down tube. This bottom tube has a replaceable nylon insert at its top to take the wear but for some obtuse reason the top of the middle stage has an old style cast block clamp fitting tightened by a largish wing-bolt.

The double tom tom holder works on the by now well known 'ball and adjustable cage principle' where a nylon ball is sandwiched and held in position with a drum key operated screw. The actual holder fits into a solid, locking, socket plate mounted on the bass drum shell which is shaped inside to stop the height adjustment tube from rotating. This same 'D' shaped hole is found on the tom tom shell mounted female plate to keep the drum from turning in its lateral position. This position is not adjustable horizontally (in this drum kit's case) but fixed solidly with another drum key operated screw. A jubilee type clip enables the height adjustment to remain vertically consistent every time. At the top of this vertical tube is sweated a 'T' piece which located into each of the receiver plates fixed to the tom toms. As you can see (I hope) the toms can't move independently of each other in any way but for me this puts them in the perfect double playing position. Slingerland also make a more sophisticated model which has a large cast framework and *two* independently adjustable arms which have exactly the same 'ball and cage' but much more lateral movement on their 'L' shaped arms.

The 1387 concert snare stand has an adjustable Buck Rogers type basket action with tubular tripod legs, flat stabilizing struts and a large four cornered aluminium locking nut to tighten the rubber sheathed



basket arms to the snare drum. Just like the other stand this one too has a nylon insert at its height adjustment clamp.

Slingerland's 809 (ex Dynamo) hi hat stand has a smooth action with the tubular steel tripod legs. No longer does the stand have spurs on every leg simply in the centre framework. It uses an adjustable compression spring with a heavy cast two-piece footplate which still doesn't match the bass drum pedals. It's a very reliable stand which extends to a reasonable height and can be locked at it with a jubilee type clip. It has a hexagonal center rod which makes sure the new style turned top cymbal clutch can't turn. The bottom cymbal has the usual screw-fittable bottom nylon seating cup.

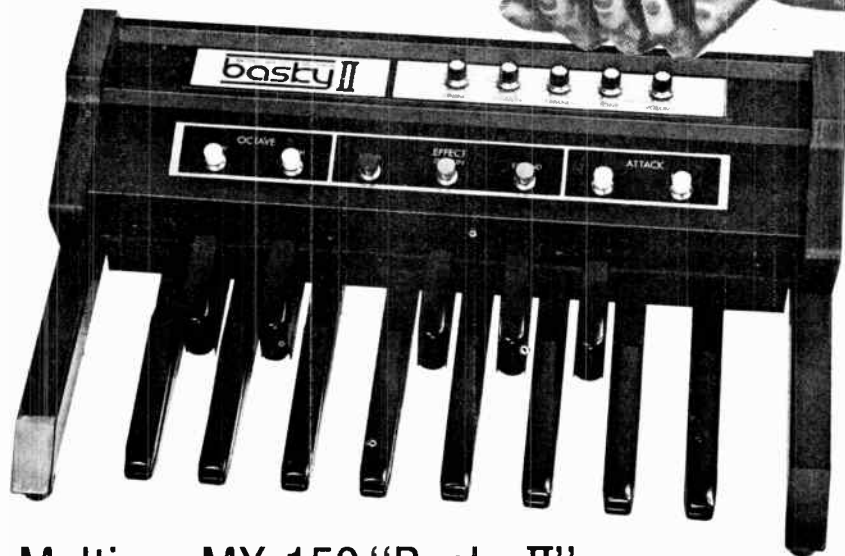
Upbeat's footpedal is the 'yellow jacket' (strangely enough only available as an option) which is actually colored black. It's somewhat the same as the old, sadly deleted 'Super Speed' which was Slingerland's compression spring answer to Ludwig's 'Speed King'. It fits to the drum hoop in an ingenious way. When you fit it for the first time you use a wing bolt on the clamp as usual — but from then on all you need to do to secure it is to move a cam lever from left to right. It's a very convenient feature. The pedal has a metal strap with a nylon bearing, and a pair of spring loaded spikes below the framework. The spring tension knob has a 'notch' machined into it to prevent the action loosening off while playing. The stroke adjustment is the same as on the old 'Tempo King' — three positions (hard, medium and soft) activated by changing the cam radius. There appears to be just one footplate available which is a two piece one. The set I saw was maple finished on the outside and looked superb — the interiors are hot

lacquered several times and nicely smooth. Thirty-two finishes are available and none are unacceptable as far as I'm concerned. Interestingly enough all the finishes, with the exception of spruce or rosewood, are the same price, which I think is good since

most of their superb natural wood finishes come at the same price as the plastics.

**Bob Henrit**

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# Guitarcheck

## CARVIN DC 150 Stereo

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by J.C. Costa

Carvin guitars invariably lead the way in arousing the curiosity of our readership because they are sold via direct mail and are consequently not physically present in retail outlets to be perused or examined. Nothing should be inferred from this except that this is the way Carvin chooses to do business and they have been gracious enough to loan us a Carvin DC 150 Stereo solid body guitar for evaluation in an attempt to answer some of the questions that we receive about this particular line of instruments.

The actual model under evaluation, the Carvin DC 150 CE (maple body & neck, ebony fingerboard and a clear finish) seems appropriate as a general example of the Carvin line in that it has all of the electronic and "playability" features built into it without some of the *extras* (24k gold-plated hardware, large mother-of-pearl block inlay, highly figured maple for the body) featured on top-of-the-line instruments.

As with virtually all of the Carvin models, the DC 150 CE features a body and neck made of "Eastern Hardrock Maple," a solid brass tail-piece and a tune-o-matic brass bridge. The body is finished with "high lustre" polyurethane and the hardware is triple-chrome plated. The neck, glued and "contoured" to the body, features either a maple or ebony finger-



board (24 $\frac{3}{4}$ " scale length) with 24 jumbo nickel silver frets, a solid brass nut and Schaller M6 "mini" machine heads on the headstock. All inlays on the fingerboard and headstock and the side dot position markers are abalone.

True to its name, the DC 150 Stereo has both a stereo and a monaural function—the user plugs into the main jack (the lower of the two) for mono and into both jacks for stereo capabilities. In stereo, the bridge (treble) pickup and controls are automatically separated from the fingerboard (bass) pickup and controls which allows the player to either plug the guitar into two separate amplifiers (spread wide apart on stage for maximum effect) or into two separate channels of a two channel amp. Carvin includes two shielded 15' cords to facilitate this and, without getting into a lengthy aside about the supposed virtues or drawbacks of stereo operation—in my experience, the bigger the overall setup, the more effective the stereo wiring becomes—suffice to say that this aspect checks out OK on this particular model and could be considered a plus. The advantages of plugging into both channels of a two channel amplifier (greater tonal spectrum theoretically) still escape me to a certain degree, but this is a fairly subjective judgement.

The on-board electronic system is built around two Carvin M22 humbucking

pickups which feature 22 individually adjustable pole pieces for hotter output and no loss of power between poles. Dual and single coil position switches for each pickup are provided as well as a phase switch to throw one of the pickups 180 degrees out of phase with the other. Because each pickup is on a separate circuit, the phase switch will not work when the guitar is in stereo.

Soundwise, the pickups work quite well in both clean and "dirty" modes, and the individual dual-single coil switches allow ample variety between combinations of the fatter humbucking sound and the thinner single coil sounds. The sustain provided by the M22's is quite good but I would certainly question the absolute necessity of having 22 pole pieces to eliminate, as Carvin claims in their promotional literature, "40% to 70% power loss between poles" on conventional six pole units. I have never noticed an *appreciable* power loss whenever bending strings away from a pole (after all, the six poles do create *one* magnetic field) in over fifteen years of playing electrics and, even in the technically demanding confines of professional recording studios like Atlantic or the Record Plant, have yet to notice a recording engineer having to compensate for such a power loss by using the board. Again, this is a highly subjective issue and if *you* can hear the difference, then more power to Carvin.

The guitar itself is well-made and nicely finished with special attention devoted to the frets, action and intonation. Carvin guarantees that the DC 150 will "play with all strings less than 1/16" away from the 24th fret, without any buzzing frets" and the instrument tested certainly justifies this claim. So the action is exceptionally low *and* fast, the intonation quite good and the Schaller machines excellent. The ample brass bridge and tail-piece also make for more sustain and the double cutaway body style (on this model) allows comfortable access to the upper registers. The

ebony fingerboard is nicely polished off and the polyurethane (as a traditionalist, I still lean to lacquers but polymers are obviously the way of the future) finish looks nice enough.

#### CONCLUSION

Considering the fact that Carvin offers a five year factory warranty (covers warped or excessively bowed necks, loose frets, faulty machine heads and failure of electrical components or wiring) and also has a ten day trial period wherein the guitar can be returned for a refund if not satisfied, I would say that the Carvin DC 150 CE is a

good value for the money. Carvin delivers on virtually everything promised in their brochures—M22's notwithstanding—and a good deal of thought about exactly *what* young rock & roll players want built into their solid bodies went into this instrument. To my ears, the Carvin is somewhat colorless in terms of overall tonal definition—not that it lacks power or sustain, just that it fails to exhibit a really distinct aural personality (like a Les Paul or Strat) of its own that might distinguish it from the myriad assortment of solid body electrics on the market. But for a young up-and-coming elec-

tric guitarist, the Carvin represents a very reasonably priced instrument with the kind of playability features unheard of just a few short years ago.

#### Dimensions/Specifications

Scale length: 24 3/4"  
 Neck: 1 5/8" wide at nut  
           2 3/16" wide at heel  
           3/4" thick (5th fret)  
 Overall: 39" long  
           12 1/2" wide  
           1 5/8" thick (body)  
 Weight: 8 1/2 lbs.

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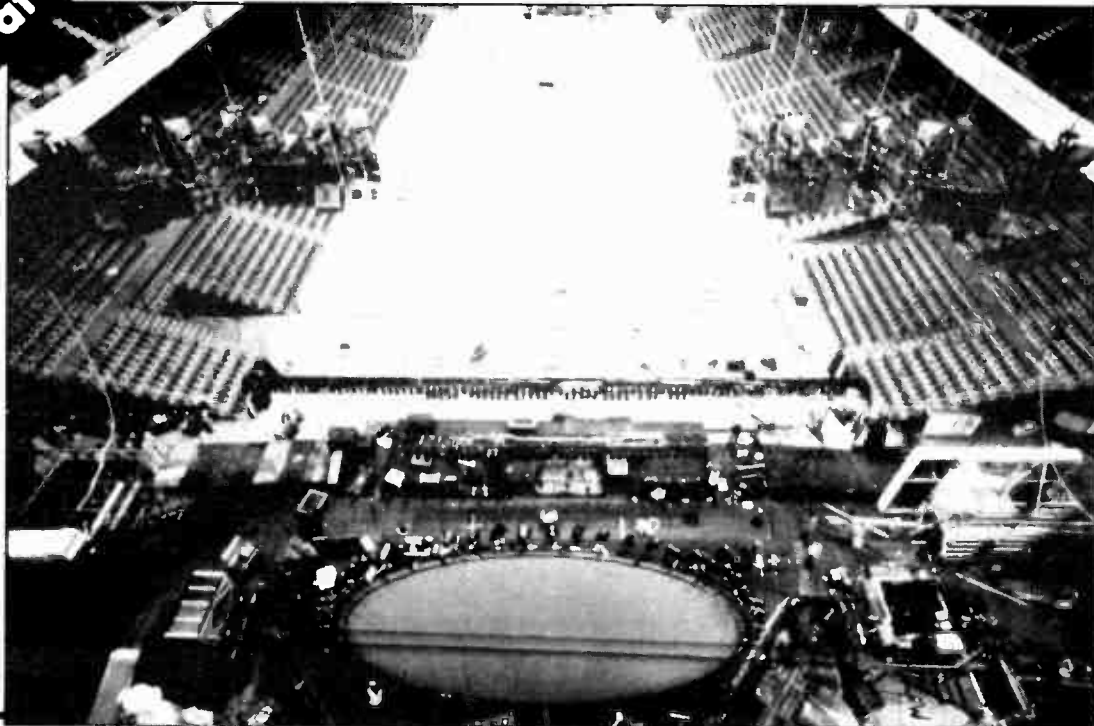
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# DIBBLE'S P.A. COLUMN



## PINK FLOYD

### Another Brick In The Wall

**Venue:** Earls Court

**Hire Company:**

**Britannia Row, London**

Not so much a rock concert — more a theatrical experience is how I would describe this incredible production which played to six capacity audiences of 10,000 plus in Earls Court during early August. Although grossly overplayed as an adjective, incredible is about the only word which adequately describes what took place.

The show opened with a large scale radio controlled model of a Messerschmidt plane making a circuit of the hall spitting venom at a bewildered audience to the accompaniment of some 106 decibels of quadrophonic engine sound effects while batteries of searchlights swept the night sky (or was it the roof of Earls Court?) for enemy aircraft. As the show got underway, gigantic marionettes of schoolmasters and other fantastic and evil looking creations

dangled from the roof and made their painfully slow way across the hall with the schoolmaster brandishing his cane all the way.

While all this was going on and while Floyd played through their first 50 minute set, armies of roadies were to be seen carrying huge bricks onto the stage, with which they proceeded to build a gigantic wall, some 10 metres high by the full width of Earls Court, right across the stage actually between the band and the audience. By the end of the first half, the band were literally completely walled in leaving just this huge blank wall to occupy the attentive gaze of the audience.

The second half opened with the band still playing behind this wall while the wall itself was used as a screen for three 35mm film projectors to throw up the most incredible cartoons which included the expected armies of marching hammers and children being put into a mincer and turned into sausage meat. Most of

the second set was occupied with these films, which were superbly imaginative and brilliantly executed.

About half way through, the band re-appeared in front of the wall, where a second set of equipment and instruments had been set up in readiness and continued to play — still with projected effects onto the wall, until eventually, with an almighty rumbling and roaring and flashing of lights, the wall collapsed into a smoking, smouldering heap of dust and rubble all over the stage and the show was over. As I said — incredible!

Equally incredible was the technical set-up on which the entire show hinged, not least of which was just about the largest and most sophisticated sound system I have ever seen anywhere, and it is difficult to know quite where to start to describe it. Perhaps I had better start with an explanation of the basic set-up in general terms before we start to examine the system in any detail.

Basically, there were four independent sound systems, the

stage monitor or foldback system, the main sound reinforcement system and a quadrophonic installation for three dimensional sound effects. In addition to this, was a low frequency reinforcement system comprising a large number of bass bins concealed beneath the tiered seating stands all round the auditorium, and this was capable of being used in conjunction with either the main sound system or with the quad system as and when required. Fig. 1 shows a general layout of the auditorium and stage areas with the loudspeaker positions marked on.

The driving end of the sound reinforcement and quad systems was quite mindblowing to anyone really into sound systems. It occupied a control station that must have been at least eight metres deep by 12 metres wide (approximately 25ft by 40ft) at the back of the stall seating area which was literally full of equipment and required a crew of about six engineers to operate it!

The whole front width was

occupied with mixing consoles giving a total system capability of 116 input channels mixing down into eight stereo sub-groups and six quadrophonic sub-groups, which in turn mixed down into a single quad master feeding the quadrophonic effects system and a single stereo master feeding the main PA. These desks were all manufactured by Midas and the installation was made up of three large desks, one of which was in fact in three sections.

Floyd's own custom built Midas is a 40-channel into eight stereo and six quad subs into quad and stereo masters and comes as two 20-channel input sections and the incredible master section. However, one of the 20-channel input sections was lost in the Ally Pally fire disaster and had been replaced by a standard Midas 32/8/2 desk which had been extensively modified by the addition of elaborate routing circuits so that the unit could interface with Floyd's eight stereo/stereo and six quad/quad master section. In addition to this main desk — which in effect had 52-channels, Floyd were also using a standard Midas 32/8/2 desk on which the mikes of all four drum kits were mixed, and two Midas 16-channel extender boards to make up the 116 channels.

All these desks were routed through the main Floyd desk master section and in order to provide control of routing of all five consoles at the central

master section position, all output groups and sub-groups of all desks were routed through a whole rack of Aphex voltage controlled amplifiers (VCA's for short) which were remotely controlled from a bank of routing switches added to the Floyd master section. This meant that any group or sub-group of any desk could be routed to any of the mixing busses of the main Floyd desk and therefore fed into any one or any combination of the eight stereo and six quadrophonic submixes or direct into the stereo or quad main groups.

In association with this amazing array of consoles was rack upon rack of auxiliary signal processing units, most of which were patched into individual channels rather than being used on the various auxiliary sends from the desks. For example, most of the drum kit mikes were fed through either parametric or sweep equalizers of various types and also through noise gates. All vocals, bass guitar, and various of the keyboard instruments were fed through limiters — usually Audio & Design Scamp modules, UREI limiting amplifiers, or dbx 160's.

The special effects units in use — some on auxiliary sends, some patched to individual channels, included two Eventide H910 Harmonizers, an AMS DMX 15/80 digital delay, a Klark Teknik DN70 digital delay with DN71 control unit, a Klark Teknik

DN34 Analog Time Processor, three Lexicon 102 digital delays and a Lexicon 224 Digital Reverb unit. I would hazard a guess that there were at least 12 racks, each about one metre high, full of auxiliary equipment of the types describes above.

In addition to all that, there was a whole bay of tape equipment comprising a Revox B77 to replay two track backing tracks and sound effects, a Brenell eight track used primarily for replay of the explosion sound effects in quad as the wall collapsed at the end of the show and it also doubled as a spare in case of failure of one of the other machines. An Otari eight track console machine was used for quadrophonic sound effects for most of the show, which also provided click tracks and synchronizing pulses to cue in the band when pre-recorded quadrophonic effects were being used. A Soundcraft eight track which besides doing much the same as the Otari during most of the show, was also used in conjunction with a Magnalink Synchronizer, to provide quadrophonic soundtracks and synchronizing pulses for the three 35mm cine projectors, so in effect, the Soundcraft, with the Magnalink unit, provided the "brain" behind the amazing cartoon projection system on all three screens simultaneously.

A fifth machine, a Studer B52, was used to make a two

## DIBBLE'S PA COLUMN



Photo Adrian Boot.

track stereo recording of the show at 19cm/sec (7½ips) from a pair of Neumann U-87's mounted high up over the audience at the back of the stalls.

Equally gross was the loudspeaker system. The main sound reinforcement system comprised four trusses flown very high overhead in a kind of arc formation. Fig. 2 shows a typical array as mounted on each truss, but the precise location and angle of the midrange and high frequency horns varied between the trusses so as to provide a completely uniform coverage of the auditorium from the front.

Each truss carried six Altec 817 low frequency bins fitted with Gauss 38cm (15") drivers, six or seven Altec Manta Ray bi-radial horns fitted mainly with Altec 291 compression drivers, a vertical line of three smaller radial horns, and either four or five clusters of small Altec 903 high frequency horns in groups of four. The crossover frequencies were 800Hz and 7.5kHz, as due to the outstanding directional control of the Altec Manta Ray

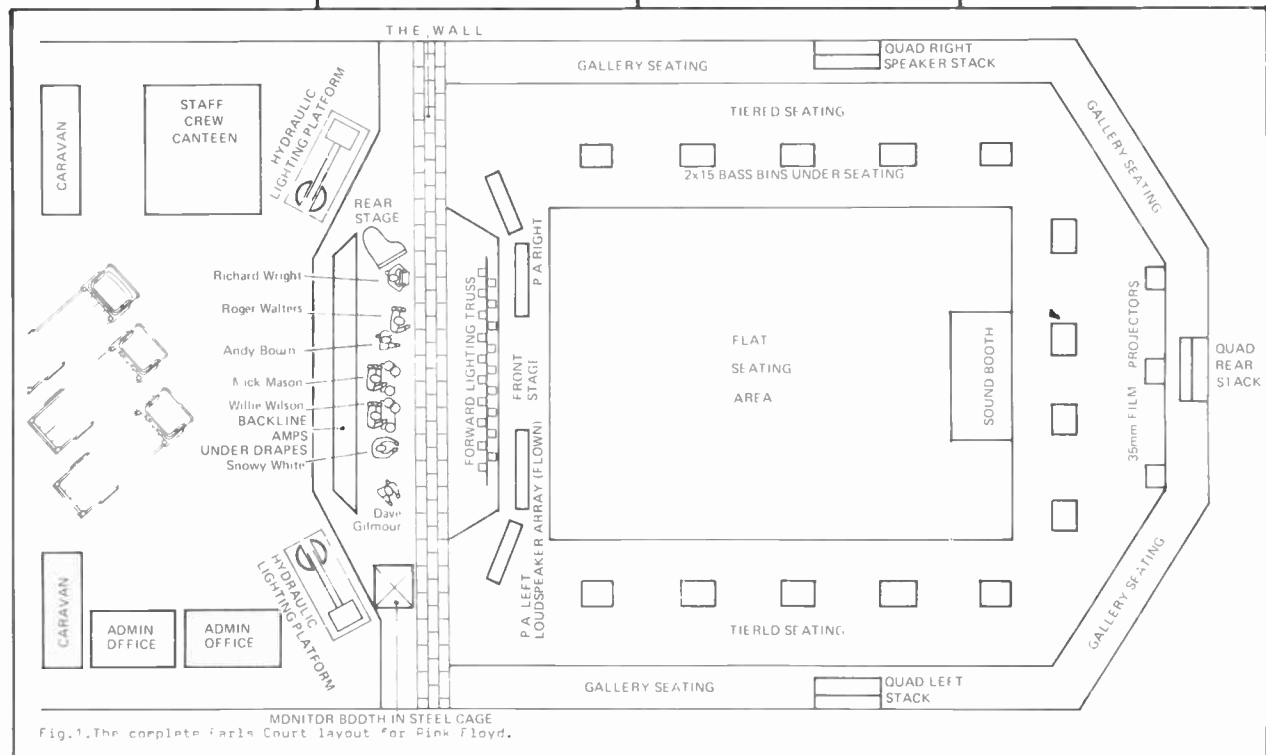


Fig.1. The complete Earl's Court layout for Pink Floyd.

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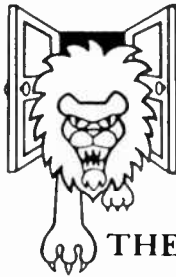
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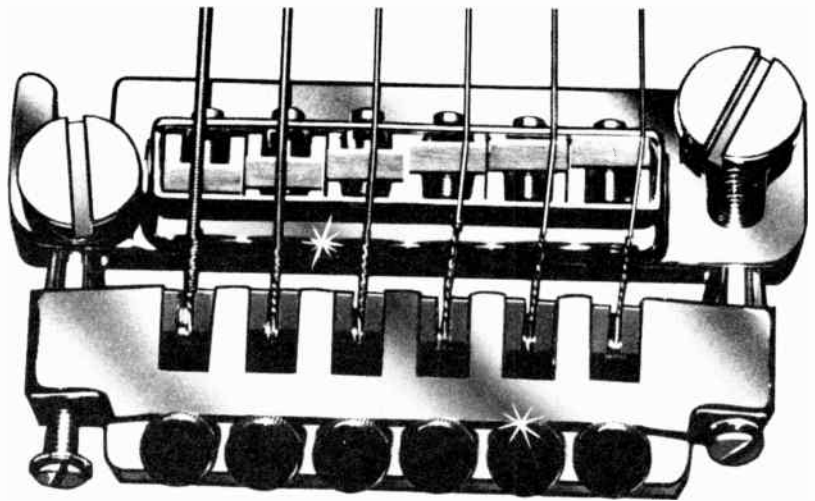


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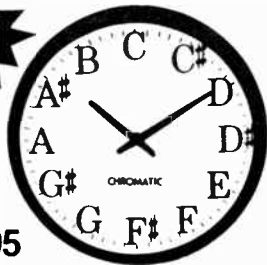


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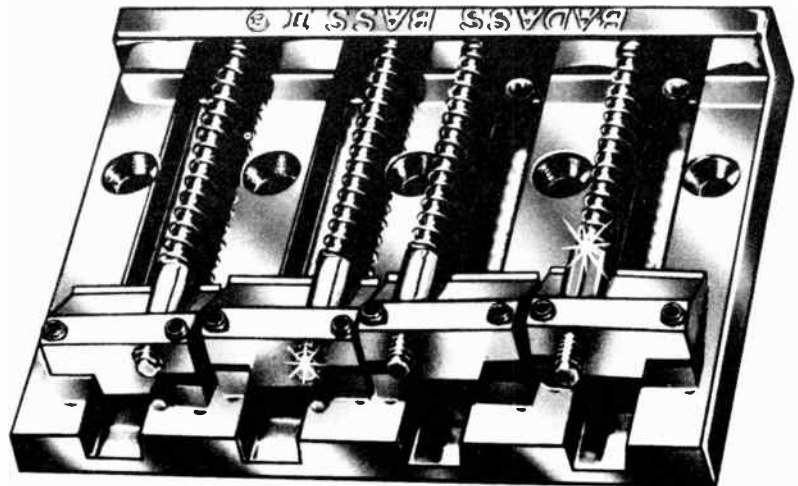
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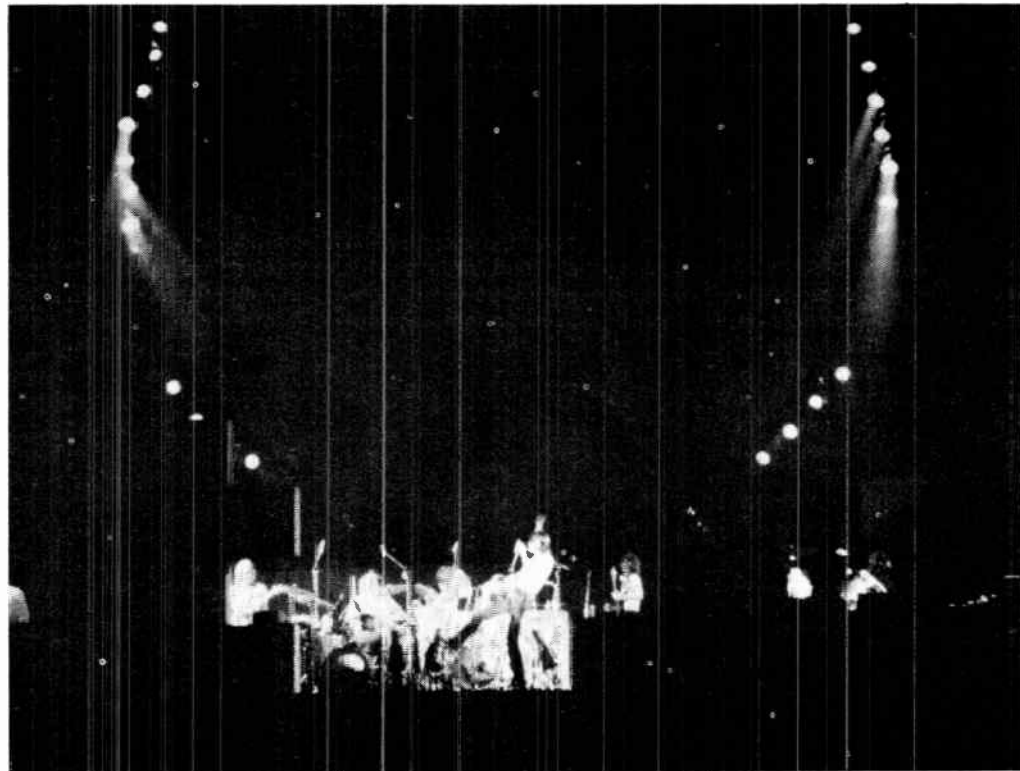
horns, a single driver is used to handle the whole of the range between 800Hz and 7.5kHz, thereby permitting a three-way rather than four or five way system to be used.

The system was powered by a combination of Phase Linear 700B's and Altec 9440A's, which were in racks underneath the stage and coupled to the loudspeaker trusses by very heavy duty multiway cables. Brooke Siran Systems crossovers with Limiters and Klark Tekniks 27-band graphic equalizers were used.

The loudspeaker systems for the quad left, right and rear channels were positioned as shown in Fig. 1 and located very high up in the upper seating gallery. The front channel of the quad system was split equally between the left and right main loudspeaker arrays so as to give a central source image. Each of the three separate quad stacks comprised eight Court Acoustics 2x15 bins fitted with JBL K140 drivers, 9 Court Acoustics 2x12 midrange bins fitted with JBL K120 units, four JBL 2355 radial horns and four JBL 2390 crinkle plate lenses, all fitted with JBL 2441 compression drive units, and two clusters of four JBL 2402 bullet high frequency units. Crossover was four-way active using a Brook Siran systems crossover unit with Limiters and Phase Linear 700B and Altec 9440A power amps in racks right behind each stack. Fig. 3 gives some idea of the scale of each stack.

I remember thinking as the show started and that plane roared overhead, that there is no way that the incredibly high levels of pure low frequency sound from the model's engines were being produced in an auditorium of this size by just 24 Altec 2x15 bins, or for that matter, by the eight Court bins of each quad stack. The same observation applied to the kick drum sound and to the synthesizer bass sounds. It would also have applied to the roaring that accompanied the collapse of the wall at the end of the show had I not by that time have sussed out what was going on.

It turned out that all the fundamental low frequency sounds of the type I have mentioned were not only fed



through the 24 Altecs flown on the four trusses, but also at certain times through all 24 Court Acoustics 2x15 bins in all three quad stacks, and through a further system of some 16 Altec 2x15 subwoofers each containing two Altec 421-8LF's which had been concealed underneath the tiered seating stands on three sides of the auditorium, giving therefore a total of some 64, 2x15 bins distributed all around the auditorium at the sound crew's disposal to reproduce earth shaking low frequencies.

Of course, the ear is not sensitive to sound direction at low frequencies, so provided that the mids and highs continue to emanate from the appropriate stack to give the desired directional effect, the audience will only be aware of high levels of low frequency energy — not of the fact that it is literally creeping out from every nook and cranny in the building, and most likely, from under their very seats as well! Besides which, anyone who heard Stephen Court's demonstration at the Audio Engineering Society's convention in London last year, when he used a field recording of shell fire from a Centurion tank to put his 2x15 bin through its paces and brought down half the

ceiling in the process, will be only too well aware as to what a Court Acoustics 2x15 bin can do!

The stage was set out in two halves, with a complete equipment line-up behind and in front of the wall, including separate monitor systems. Each monitor system comprised a Midas 24 into eight PR series monitor console feeding either Martin Audio LE300 or large Altec floor monitor loudspeakers or headphones to each member of the band. Unusually, there was no elaborate high level monitoring system for the drummers — just one of the Altec wedges.

Besides hearing the appropriate monitor mix of the rest of the band through the monitors, each member also received the pre-recorded backing tracks and sound effects from the tape machines as well as their click tracks for cuing in and synchronising. The entire monitor control facility was built into a steel framed enclosure with a strong wire mesh top so as to protect the equipment and the monitor engineers from damage due to falling masonry when the wall collapsed.

Just to give some idea of the equipment used on stage by the band, I shall briefly run through the gear as used

behind the wall on the main stage — from where most of the concert was actually performed. The equipment used in front of the wall was basically similar but scaled down somewhat to allow rapid erection and dismantling by the road crew during the show. All the backline loudspeaker systems and power amplifiers were concealed behind drapes.

### Dave Gilmour:

Fender Strat, Les Paul Gold Top, Charwell customized Telecaster and Ovation electric/acoustic. The main amplifier was a Hiwatt Custom 100 feeding two WEM 4x12 cabinets, but was supplemented by an Alembic guitar pre-amp unit feeding two Yamaha Leslie type cabinets and also a Mesa Boogie combo. A whole host of pedal effects units were in use, all assembled into a custom pedal board, but exactly what pedals there were, or how they were used I did not have time to establish. Dave was also using a Shafer guitar transmitter and receiver system to avoid the encumbrance of a guitar lead, and had another fine toy in a Roland Compurhythm unit. All the band had MXR digital delay units, and these were all

interlinked and coupled to Dave Gilmour's master override unit so that all the DDL's could be synchronized to the same setting and delay the whole band together by exactly the same degree. Also, all the musicians had Conn Strobotuners.

### Snowy White

Les Paul and various acoustics including Ovation 12-string fed through custom pedal board and Hiwatt/WEM system as Dave Gilmour, and Fender Dual Showman amp and cabinet. The only other obvious effects unit was the MXR DDL linked to Gilmour's master unit.

### Roger Waters

Fender Precision bass and Ovation 6-string electric acoustic feeding via custom pedal board as Gilmour's into Alembic guitar pre-amp and two BGW 750C power amplifiers. The loudspeaker system comprised a Court Acoustics 2x15 LF bin, Court 2x12 MR cabinet and a JBL radial horn fitted with 2482 compression driver. Again, the linked in MXR DDL and Conn Strobotone unit.

### Andy Bown

Fender Precision std. and fretless Precision feeding identical Olympic/BGW/Court/JBL 3-way active system as Roger Waters except for addition of another Shafer guitar transmitter/receiver system.

### Richard Wright

Steinway concert grand piano (no Yamaha C70 electric grands for this guy!) two Prophet 5-string synths, ARP Quadra, Fender Rhodes and Wurlitzer electric pianos and Hammond C3 organ. Effects included Eventide H910 harmonizer, Roland Space-Echo RE201 and the MXR DDL linked to Gilmour's master unit. This lot was DI'd into the PA and monitor system via a 12/4 desk and used two of the large Altec 2x12+ horn wedges on the monitor system as well as separate backline amplification.

### Nick Mason

Fairly conventional Ludwig kit miked up with AKG D12 on kick drum, D202's on tom-toms, D224 on snare, Beyer

M201 on hi-hat with M88's on everything else, and AKG C451's as overheads. There was no elaborate high level monitoring system as seems to be the trend for drummers these days — just basic Martin 1x15 wedge.

### Willie Wilson

Second drum kit very similar to Nick Mason's with similar monitoring system.

The lighting system was surprisingly simple — but nevertheless extremely effective. Unlike current trends to cover the roof of the stage with as many trusses as possible and the competition between lighting companies to see who can hang the most lights on a tour, the Floyd system utilized only one relatively simple

overhead truss, and relied instead on two clusters of lights of various optical characteristics each mounted on a hydraulic platform trailer stationed one at each side of the stage and a huge hoop with a fine mesh screen stretched over it, set vertically at the back of the rear stage behind the drum rostrum, and lit by lamps crossfired across it from the perimeter hoop.

The two hydraulic platform clusters included Par 38's, pin spots and manually operated follow spots, and each platform could of course be moved to practically any required position and at any elevation from floor level upwards within the reach and height capabilities of the hydraulic platform unit. These four in-

## DIBBLE'S PA. COLUMN



stallations — one truss, one illuminated hoop and the two moving platforms, coupled with a certain amount of additional lighting directed upwards from the stage floor, and extensive use of pin spots from the galleries, was all the lighting that seem to be in use on the rear stage behind the

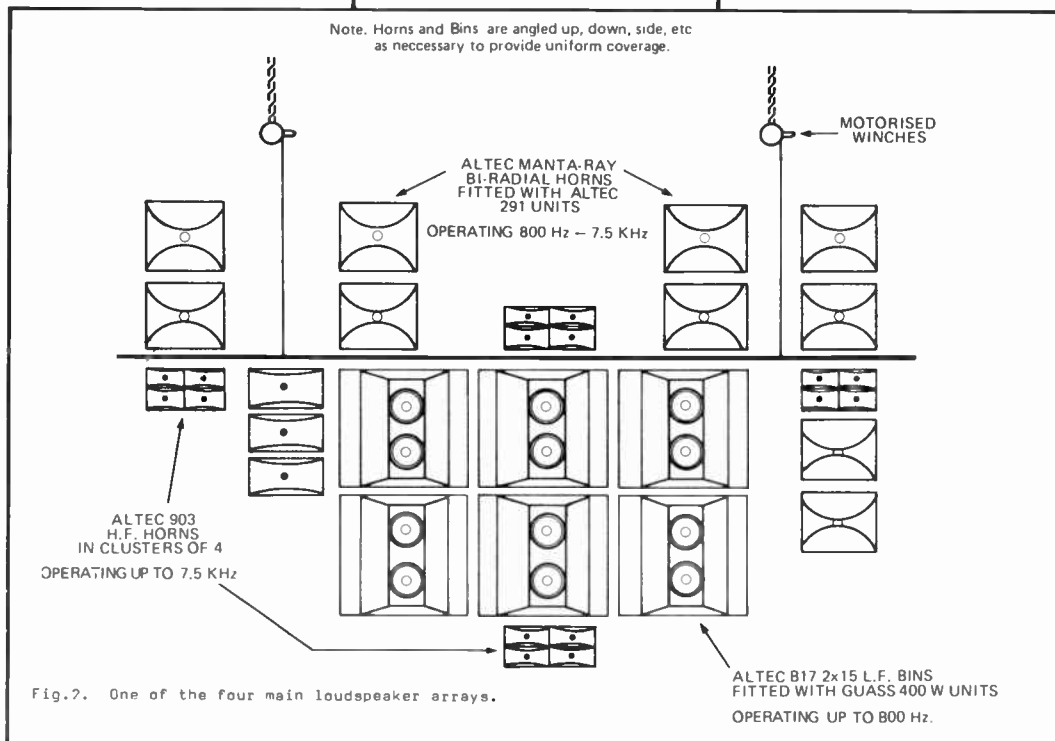


Fig. 2. One of the four main loudspeaker arrays.

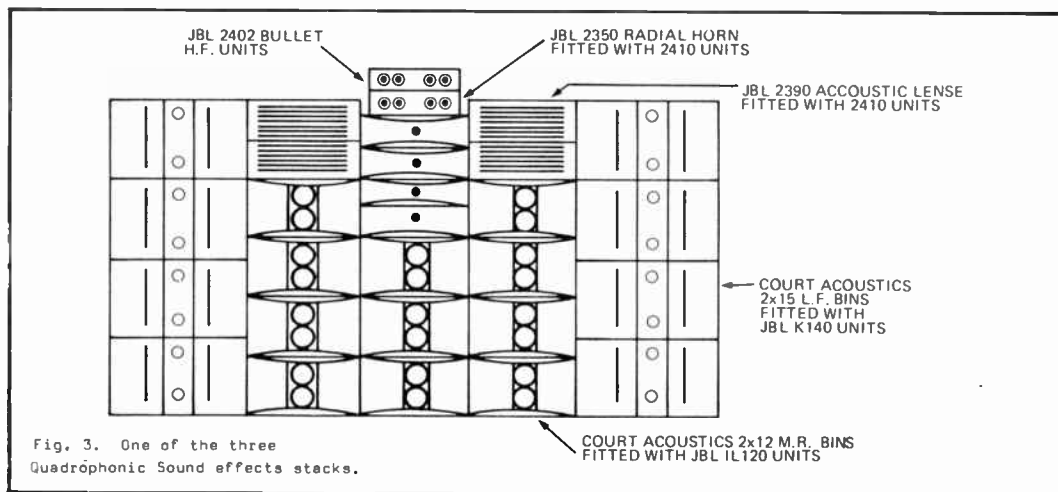
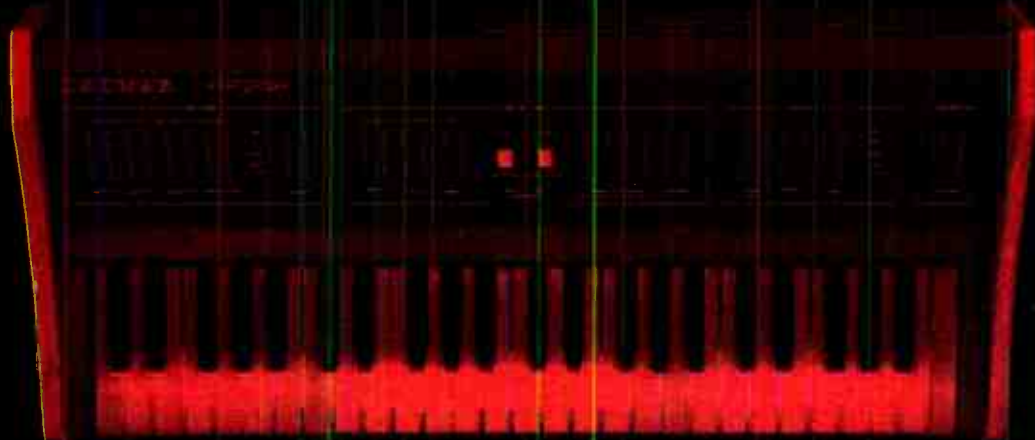


Fig. 3. One of the three Quadrophonic Sound effects stacks.

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wall.

However, midway through the second half, when the band appeared in front of the wall, two huge lighting trusses, one over 80 feet in length, adorned with over 200 assorted colored Par lamps, descended from the roof along with two manned follow-spot "pods". The effect was mind-blowing.

Well — was it all worth it? It must have taken a week's work at least to set up the hall for this show and many months of preparation beforehand. Literally armies of roadies, managers, engineers, technicians and security staff were employed — to such an extent that mobile administration offices and a crew canteen had been set up backstage. The equipment alone was worth a fortune quite apart from the production costs and staffing. It was an extravaganza in the full sense of the word.

I think that the unequivocal answer must be affirmative. It was without doubt a most fascinating spectacle to see, and the technical production was brilliantly executed. All the



cues were perfectly timed between pre-recorded backing and sound effects, lighting, other effects such as the plane, the marionettes, the films, the building and destruction of the wall, etc., and the band playing away on stage. Everyone involved obviously knew exactly what had to be done and the whole show went like clockwork.

The sound quality was superb in every respect — absolutely clean, with all the vocals clearly audible above the instruments, and due to

the careful alignment of the loudspeaker arrays, there were very few seats in the whole of this huge auditorium where the sound was anything less than good. Average sound pressure level was about 104dB(A) over most of the auditorium — which as far as I am concerned, is quite loud enough to make the old adrenalin flow, but not unnecessarily loud, and this must be the sensible level at which to run sound systems for rock music.

The system seemed to be easily capable of maintaining

**DIBBLE'S PA.  
COLUMN**



this level in this huge hall with no evidence whatsoever of stress — even at the occasional peaks of 108dB(A) there was no problem and no deterioration of sound quality. Of course, the plane, the collapse of the wall, and other occasional sound effects when all 70 2x15 bass bins were brought into play was quite mind blowing and one's head was simply swimming in a sea of low frequency which seemed to come from everywhere at once — which of course it did!

As far as I am concerned, full marks. Floyd have done it again!

**Ken Dibble**

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Cont. from Page 24

thing, if it sounded good I'd use it and to hell with it, whereas before that I'd worry about what the Ventures would have used on it or something. There was a song we did on one of the earlier albums called "Yours and Mine," I used a real cheap acoustic guitar and I had an octave G-string on it, the guitar couldn't have been worth more than forty, fifty dollars but it just had a sound I couldn't get on any other acoustic guitar. It was really hard to play, I had to tune it down just a couple of steps and use a capo just to make the chords, but the sound was worth it. Back in the days of the Classics IV I got a certain sound just by double-tracking, just playing the same thing twice and detuning slightly for the second take, but with the advent of digital you can do that with one guitar and one take now. Like the guitar sound on "Spooky," that's how I got the sound on that, it gets a really floating spacey type sound.

**IMRW:** *Dog Days* had pretty much the same sound as *Third Annual Pipe Dream*, but then *Red Tape* was a much harder sound.

**J.R.:** From the beginning of our career, because we've used a little more sophisticated chords and rhythms, we were always tagged as maybe a jazz group, or a little softer than rock. From time to time we go

into the studio and play something real dirty, real hard, and we did a lot of that on that album.

**IMRW:** Did you change your sound then at all?

**J.R.:** I think I started to use a big amp more in the studio, the Ampeg, to get the distortion and sustain. You can get it with smaller amps but it has a different sound.

**IMRW:** By the time of *Rock and Roll Alternative* the band's sound seemed to jell, not just in the playing but the recording, just as there was in the Classics IV. You were a key part of that.

**J.R.:** Rodney Mills had been our engineer for a pretty good time and was beginning to do some things. The equipment in the studio had been upgraded and we'd also had a little more experience playing live. When we first got together we didn't play that many jobs live. I think we used that energy more on that album.

**IMRW:** The rhythm guitar is a fuller part of the sound on that record.

**J.R.:** They started to mix it up higher than they had before. One of the reasons for that was that we changed the way we recorded the backing tracks for that album. We'd start out with just bass, drums and myself, with maybe a piano later on. But the lead wasn't on all the tracks to

start with. Before that we always tried to put the lead on while we were doing the backing track. So I think my sound had more presence since it was the only guitar on the first track we recorded.

**IMRW:** It sounds like you're using more of the R&B jazz, spacy rhythm that has been a trademark of your playing since "Spooky."

**J.R.:** Listening to it now I can hear it more than I did at the time. That's why I think maybe it was the way we recorded it. 'Cause I was by myself and didn't have to worry about the lead so much because I kind of knew what Barry was going to do anyway. They gave the rhythm guitar more attention then—it was recorded hotter, for one thing. I've always had a tendency when I'm playing by myself to do more of that type of rhythm that you're talking about than I do when there's a lot of other people playing, because there's nothing to clash with. That being on the original makes anybody who plays on it later tend to start playing that way.

**IMRW:** Rhythm guitar used to be a more important element than it's become. You're one of the people who specialize in it. Why do you think it's less popular now?

**J.R.:** I think the fact that it's less showboat, it's not as out front as lead guitar, makes most young guitar players want to play lead. Buddy Owens, the guy from the music store I told you about, told me one time that a good rhythm guitarist made the lead player sound better. I always tried to think of it in those terms rather than being second guitar or just to make a sound to fill in the holes. I never thought of it that way because when we got together as a vocal group with the Classics IV, a lot of times the guitar was the only chordal instrument on the session. I didn't have a piano to lean on so maybe I gave it extra attention, but it never has seemed to me inferior to lead guitar, both of them have their place and when they're used right together you get a good sound.

**IMRW:** Had you been using the same guitar and set up when you recorded *Alternative*?

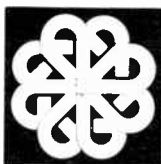
**J.R.:** When I was writing a song with Buddy or whatever I would use a guitar while we were writing it and invariably whichever one I used would become part of the final song when we recorded it. If Buddy was writing it with me, he'd want to hear that part when we went to record it or it wouldn't seem like the same song. I started to experiment more with a Stratocaster and I had a Gretsch "Tennessean" that I used a lot, like

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on "Angel," different types of vibrato in the amp and the digital thing started to happen.

**IMRW:** What kind of guitar did you use on "So In To You?"

*J.R.:* A Stratocaster.

**IMRW:** Did you do anything different with it?

*J.R.:* I had it wired where you can get the stuck position between the two back pickups that everybody had to use. It's a real middle-y sound. Now they make them with a five position switch on it that you can get that sound but the guitar I had at that time only had three positions on the switch and you had to kind of stick it between the two.

**IMRW:** The only record I didn't like was *Underdog*.

*J.R.:* That was about the time we were having problems with Robert Nix, our drummer, and Robert actually left during the making of that album. We had to get two of the songs on a click track, which is not inspiring.

**IMRW:** The records since *Alternative* have a really identifiable style. I think that has a lot to do with the fact that you've consistently had hit singles since then.

*J.R.:* I think it's hurt us and it's helped us. I also think in the near future you'll hear a lot more experimentation from us. It worked and it made hit records and people liked it but it's beginning, at least to us, to feel stale. And so we're changing some things now. We're just going to experiment and let our ears be the guide. I hope it works.

\* \* \*

## BARRY BAILEY

**IMRW:** What guitar did you start out with?

*B.B.:* It was a \$20.00 Sears Silver-tone guitar. It's kind of a cliché now. My father didn't want to invest a whole lot of money. I took guitar lessons for a while, learning to read, basics and maybe a few standards like "Where Or When." For some reason that one sticks out to me.

**IMRW:** Any interest in rock & roll at that point?

*B.B.:* Oh yes. In fact I found the lessons quite boring. I think I learned more from listening and playing along to records, playing by ear.

**IMRW:** What were you listening to?

*B.B.:* Mostly whatever was popular, usually rock & roll. That was early '60s, I was twelve or thirteen and I was listening to Duane Eddy, the Ventures, a lot of guitar music plus I was listening to blues things, Jimmy Reed, B.B. King and Albert King, plus the R&B things like Ray Charles.



**IMRW:** When did you get your first electric guitar?

*B.B.:* About a year after I got the Silver-tone, I got a Les Paul Jr. for my birthday. It's a guitar that I still have, which I'm glad for. Solid body, double cutaway and all that. I didn't get another electric guitar for three more years. The next step was to go to a Gretsch "Country Gentleman" which seems to have been about the time the Beatles were happening. I was also listening to Chet Atkins which probably had a lot to do with my picking a Gretsch. I was playing in bands at high school hops, doing a lot of instrumentals.

**IMRW:** How did you graduate from that circuit?

*B.B.:* In my senior year in high school, about '65, I got my introduction to recording and expanded the performing end by going on the road. I was backing up a singer doing mostly R&B things. One of the first dates we did was with the Yardbirds, we were opening for them. Beck was with them. We played Memphis and Little Rock opening for them and we went to Chip Moman's studio in Memphis and were supposed to record there. The Yardbirds were recording on the same deal and I remember sitting around all night waiting for them to finish recording in the studio and apparently they never did. We had to come back to Atlanta to record. I was very much impressed with Jeff Beck—still am. That year I did my first sessions with Joe South.

**IMRW:** How did you meet South?

*B.B.:* Through another member of the band I was in at the time, Emory Gordy. He was playing bass and I was

playing guitar and sometimes we would trade off. He was already doing a bit of session work with Joe South and he brought me along to a session and I ended up playing. The first thing I worked on was "Birds of a Feather."

**IMRW:** That was on the *Introspect* record.

*B.B.:* Yeah, I didn't get credit on that record, but I'm pretty sure I was included in it.

**IMRW:** That record was the first indication that something new was happening in Atlanta. It was the first conceptual record made there.

*B.B.:* That confirmed my sense that I wanted to be a musician. I worked with Joe South for several years after that on and off. I was still involved in other bands as well. By then I was doing a lot of work in a sideman situation where maybe a local promoter who happened to be a musician would put a band together for a singer coming to town, Lou Christie comes to mind, Billy Joe Royal, Rufus Thomas, some others. We'd maybe rehearse one night and learn that particular artist's hits and go out the next day and play some shows.

**IMRW:** How did you meet Buie?

*B.B.:* It was almost the same situation as Joe South. Emory introduced me to Buddy at about the time the Candyman broke up because I remember it was a group led by John Rainey Atkins. I was already doing a lot of sessions and one of the few producers I hadn't worked with was Buddy. He was impressed with my playing which led to the ARS in that one of his first ideas was to do an instrumental album. This was about '68 or '69. He did

some shopping for a deal featuring me because he signed me as an artist first. The first idea was an instrumental concept and we added Rodney Justo later. We did some recording before Justo was involved. This was when we were jumping around from Master Sound to Lefevre, using both studios. After that first introduction to Buie, I was involved in all his sessions after that, which included the Classics IV, who were still going pretty strong then.

**IMRW: What kind of material were you going to use for the instrumental album?**

**B.B.:** There were plans for writing but we never did anything, just talked about it. We recorded a jam on the song "Something In the Air." Part of the melody for "Dorville" came out during one of those sessions, I was playing some lines that sort of stuck out and later on Robert and Buddy and myself wrote the song out of that.

**IMRW: What kind of equipment were you using then?**

**B.B.:** I had pretty much put the Gretsch away. As far as my studio work around then, I was using a Telecaster and I'd kind of brought that Les Paul Jr. out of retirement. This is when Cream was happening. I was using the Fender a lot in the studio because that seemed to be one of the happening guitars at the time. But I still preferred the Les Paul when I played live. I preferred the action of the Les Paul and the fullness of the sound. I like the Fender for other things, but as far as my own sound went the Gibson was more to my liking. At that point I bought a Les Paul Deluxe which is still my main guitar. I bought it from J.R.

**IMRW: What kind of amplification were you using?**

**B.B.:** In the studio I was using a little Maestro amplifier that must have been twenty years old at the time. It had an eight inch speaker. It was made by Gibson. I loved recording with that. It had a clean kind of distortion, if that's not a contradiction in terms. It had a good full sound for a little amp, and pretty clear.

**IMRW: How about live?**

**B.B.:** I had acquired my first Marshall at that time through Roy Orbison. It was a 100 Watt Marshall stack. One top, two cabinets, but when we were recording I rarely used both cabinets. In '68 or '69 Paul and I had a Canadian tour to do with Orbison, it was a couple of weeks long. Roy had just been to England and I think he brought some of the first Marshalls back with him. Part of the deal was for Paul and I to keep one of the Marshalls apiece. Part of that rig I'm still using now. At this

point, every change that can be made has been done to it. But it still retains that basic original Marshall tube-type sound.

**IMRW: Do you have a sense of each record being different or do they run together?**

**B.B.:** At this point they more or less run together for me.

**IMRW: Have you kept the same guitar and amplification all the way through?**

**B.B.:** Pretty much. From time to time I try something different, which doesn't seem to alter my sound all that much.

**IMRW: On *Red Tape* they started splicing different solos together, taking them from a number of different takes.**

**B.B.:** I'm not even sure exactly how that came about. Every time I did a solo, from the beginning, I always did about two or three tracks, then listened back and picked the better of them. The way it came about, I think, was that there were different parts in each solo that we wanted to keep so we just sandwiched them all together.

**IMRW: I remember when you were making *Dog Days* you did an amazing number of alternate takes.**

**B.B.:** Lemme tell you something about that. At the time there was a little bit of artificial stimulation involved, which kind of made me . . . when I'd taken speed it was fun to play over and over. I've done that, I must admit, and thoroughly enjoyed amusing myself.

**IMRW: Since *Alternative*, the band has had a stylistic formula that has**

**been reproduced on each of the records since then. How do you arrive at your role in that sound?**

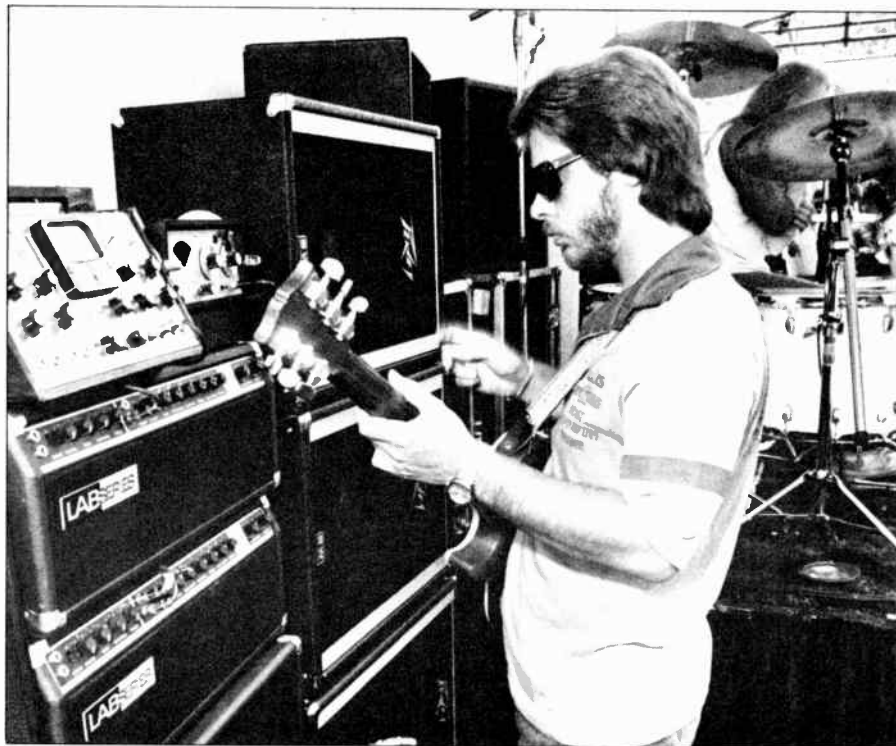
**B.B.:** The digital delay is used often. One thing I've been using since about '72 is a Maestro echoplex tape pickup, which is a pretty old piece of equipment. I've always used it on stage. These particular units are very hard to come by, there could easily be something else on the market that is as good or better, but the Maestro you don't see much anymore. We really got some interesting looks when we were setting up for sound checks in Japan. Along the same lines I am using another amp live—I'm kind of getting away from the Marshalls although I still very much depend on them in the studio. But lately, I've been using a Lab Series amplifier which is solid state, which is still pretty hard for me to deal with. Like most solid state amplifiers it's a cleaner sound, not the kind of distortion I prefer. A deader sound I'm afraid it is.

\* \* \*

## PAUL GODDARD

**IMRW: What kind of recording was going on in Atlanta back then?**

**P.G.:** Buddy Buie was doing the Candyman and Joe South was producing a lot of stuff, he was doing the Tams, himself and Lowery's usual





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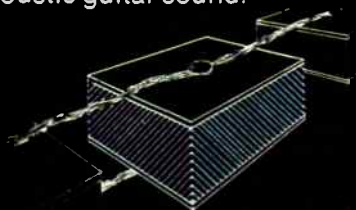
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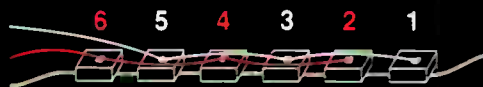
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flock of people, Ray Stevens, Billy Joe Royal. There was a black singer that St. John & the Cardinals backed up who called himself the Mighty Hannibal, and we cut a record with him at Master Sound which became a smash hit called 'Jerkin' the Dog.'

Me and Barry and Emory Gordy used to be like the Three Musketeers. Gordy was in both St. John & the Cardinals and the Kommotions. He introduced me to Buie. When St. John went to L.A. Gordy went with him and Buie needed a bass player. Buddy tried a lot of people after Gordy left and the group he liked to work with the best was me, Barry Bailey, Robert Nix, Dean Daughtry and J.R. Cobb. We'd do anything. Barry and I would be doing gospel sessions in the morning and Buddy's sessions at night. There was one year when we were working from eight in the morning till two at night. Sounds like we were rich but we really weren't, you can do three commercials and make \$12.00. The people at Doppler got to feeling sorry for us and put us on a \$100.00 a week salary. Barry and I were the first members of the black musicians union in Atlanta. We joined the black union because we liked the black musicians better, and it was cheaper, too. The scales were the same but it cost something like \$150.00 to join the white union and \$32.00 to join the black one, so we went over to Auburn Ave. and joined up.

**IMRW: When did you decide to become the ARS?**

*P.G.:* If we had some extra time after we finished the Classics album and Buddy didn't want to waste it, I believe that's how it came about. One day Buddy had some extra time booked at Lefevre studios and he said "Well, we're through with the Classics album, let's just come in and screw around." So we cut an instrumental of "Something In the Air" which was one of the most incredible things I've ever played on. We did that and three other songs, funky instrumentals. We called up Rodney Justo, the old Candyman lead singer. We all knew Justo, I think he was living down in Florida at the time. In the meantime, Buddy decided to build his own studio because he was spending too much money at Lefevre and we started working on our first album when the studio was half completed, with make-shift equipment. Nothing was really working right. Our engineer, Rodney Mills, had to solder the bass plug to wires under the board, it was really funny.

**IMRW: What kind of bass did you have?**

*P.G.:* Just an old stock Fender

which was a pretty bad bass . . . Later on I bought a classic Fender bass from J.R. He really gave it to me, I gave him \$200.00 and it was worth two or three thousand.

**IMRW: That was the bass you used for *Back Up Against the Wall* and *Third Annual Pipe Dream*?**

*P.G.:* I used that until *Champagne Jam*, when I got my Rickenbacker.

**IMRW: What kind of amplification did you use?**

*P.G.:* Anything I could get to work. In the studio we ran direct, which I hated. I wanted to run through an amplifier but Rodney ran me direct because we didn't have enough microphones. On *Third Annual Pipe Dream*, I finally got enough money to buy some amps and got to do it the way I wanted.

**IMRW: At the time you recorded that first album you were also the Classics IV in the studio.**

*P.G.:* That was the problem, we wanted to form a band but we didn't want to give up our session work. I think we only toured as the ARS in 1970 for eleven days. One gig we didn't play in Canada, one where the headliner didn't show up and three days at the Whisky Au Go Go in Los Angeles. Then we went back to Studio One and cut B.J. Thomas albums. Justo was disenchanted because there wasn't anything for him to do so he quit, went to Florida and joined another band. Ronnie Hammond joined the band for the second album. This time we had more microphones and a better bass and a few amps. It took us a long time to make because of the way we recorded it. We'd work six weeks on the album, then we'd cut a B.J. Thomas record. We'd work two weeks on the album then we'd cut a Donna Theodore record. When we made *Third Annual Pipe Dream*, I was getting excited because that's what I wanted to do.

**IMRW: How did you get the bass sound on *Third Annual Pipe Dream*?**

*P.G.:* I was still playing a Fender bass. The closest sound I could get to what I wanted was through an Ampeg SVT top. I had been playing through Sunn amps, which had good speakers, but the heads had no tone. We ran direct and through the amp, and mixed them together. All I did was boost the high end on the SVT and keep changing my strings. That's the secret to getting that sound, you've got to change your strings after playing them for about an hour, otherwise they lose that twang.

**IMRW: With *A Rock and Roll Alternative* you developed the sound you've used ever since.**

*P.G.:* Part of it was that Rodney Mills bought an Eventide Harmonizer.

Everything except the bass and drums was run through it. You tune it to get an octave above or an octave below the note you play and you can detune it just a bit. We used to do it the hard way by detuning the guitar and doubling the track. J.R. always did that, especially if it was the acoustic parts. The old southern expression is tune out and play it again.

**IMRW: How did you record the latest album, *The Boys From Doraville*?**

*P.G.:* That album went pretty fast, next to *Rock and Roll Alternative* this is the shortest time it took for us to record an album. The good ones seem to go quickly. None of the basic tracks were done with Barry around, so that was different. It was kind of spooky recording that way.

**IMRW: What's your stage equipment?**

*P.G.:* I have a customized Peavey system. I have two guitar heads instead of bass heads. I only use one of them, the other's a spare. I have a parametric equalizer on that. We're only using the preamp, we're not using the power amp on those at all. The equalizer is run into two CS800 Peavey power amps, which are usually used for PAs, they're gigantic. I'm putting the low end through four eighteen inch Black Widow speakers and the high end through four fifteen inch Black Widows and four horn tweeters. It's actually a PA cabinet, it's never been used for a bass before but I'm such a freak for high frequencies on bass that they decided to use it. The kind of bass sound I like is a lot of boost in the lower range, what's normally thought of as organ bass, down in the 20, 30, 40, 50 cycle range. I boost that a lot on the low end and cut the highs completely off that channel. That's the kind of bass you feel in your feet. On the high end I cut all the midrange out. That's the secret to the sound I like, take the midrange and turn it off and to boost the 5,000, 8,000, and 15,000 cycles as far as the highs will go. That's that really tinny twangy sound.

Like Buddy always says, we're a guitar band. Instead of playing intricate parts, the guitars are constantly hitting full chords. The kind of tones Barry and J.R. like are mostly mid range, they don't like a real trebly high pitched guitar sound. For me to be heard above them without trying to overwhelm them with sheer volume, I had to get in the frequency spaces where they're not. Therefore if I could boost the low end and get under them and boost the high end and get above them we can all be heard without cancelling each other out.

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## TEAC 22-4

List Price \$1,425.00

The model 22-4 is TEAC's most recent addition to the Tascam series. Consistent with the Tascam system design approach, the principal emphasis is on economy and simplicity. Although the 22-4 would not be considered a "professional" deck by recording industry standards, we find that it is certainly capable of making multitrack recordings of fully professional quality.

The control layout and operation of this machine are designed primarily for the recording of new material, one element at a time, rather than the duplication of prerecorded or artistically complete works, such as records or radio broadcasts. The 22-4 is not a stand-alone domestic reel to reel tape deck, but is intended to be the heart of a complete recording system incorporating a mixer, signal processing

equipment, and a monitor system. It is not surprising, then, that the connectors, input and output levels on this machine are set up to match TEAC's M2A and MB-20 mixer and mixing console.

A very unusual feature of the 22-4 is its built-in provision for a "dbx" noise reduction system. On the back panel, in addition to the normal line input/output jacks, there is a block of 16 jacks to furnish the send and receive connections to a TEAC RX-9 decoder/encoder dbx noise reduction unit. In addition, the deck provides internally generated control signals available through a multiplier connector for the RX-9. Anyone who has struggled with the usual maze of connectors, cables, patchbays and calibrations needed for a dbx system backup will appreciate this feature. The RX-9 dbx noise reduction

unit was specifically designed for use with the 22-4 and introduces you to the world of professional noise reduction (signal-to-noise ratio as high as 95 dB) at a fraction of the cost of the standard outboard unit.

Multitrack recordings, mix-downs, and countless overdubs result in a big buildup of tape noise to an intolerable level. For series multitrack recording, a noise reduction system is mandatory. The 22-4, RX-9 combination will surely take a lot of the pain and cost out of setting up such a system.

On the subject of nice features, we must mention the headphone monitor controls. Four push-buttons let you select which track or tracks you wish to hear and a monitor volume control permits the headphone level to be adjusted without affecting the line out levels.

Full four channel metering and monitoring can be selected to operate in source, play and sync mode. With the combination of separate track record/play selectability and the selectable output modes, multitrack recording procedures such as overdubbing and mixdown are a piece of cake.

Pitch control permits up to a  $\pm 6\%$  speed change. This feature is very useful for correcting intonation between keyboard instruments, or correcting differences between instruments that can't be tuned, such as a harmonica.

As you see in the test section of this report, the 22-4 meets or exceeds the manufacturers claimed specifications. All things considered, TEAC's newest addition to the Tascam series, the Model 22-4, is a natural for the musician or small studio that makes multitrack recordings of small groups.



### Specifications and Performance Evaluation

#### Mechanical Description

<b>Tape:</b>	¼-inch tape width
<b>Format:</b>	4-track, 4-channel, 0.043-inch (1.1 mm) track width
<b>Reel size:</b>	7 inches, maximum
<b>Head configuration:</b>	3-head; erase, record and playback
<b>Head material:</b>	Permalloy
<b>Capstan motor:</b>	DC servo motor, frequency generator controlled
<b>Reel motors:</b>	2 AC outer-rotor induction motors
<b>Dimensions:</b>	16 3/8" W x 16 1/8 H x 10 1/4 D (416 mm x 410 mm x 260 mm)
<b>Weight:</b>	40 lbs (18 kg)
<b>Power consumption:</b>	117 V, 60 Hz, 70 W

#### Mechanical Performance

Parameter	Measured	Claimed
<b>Tape speed</b>	15 ips $\pm 0.3\%$ to $\pm 0.2\%$ from beginning to end of reel	15 ips $\pm 0.5\%$
	7½ ips $\pm 0.35\%$ to $\pm 0.2\%$ from beginning to end of reel	7½ ips $\pm 0.5\%$

Wow and flutter	15 ips: 0.036%	0.04%
	(NAB weighted)	
	0.07%	0.07%
	(NAB weighted)	
7½ ips:	0.05%	0.05%
	(NAB weighted)	
	0.08%	0.08%
	(NAB weighted)	
Pitch control	+ 6%, - 7%	± 6%
Fast wind time	116 seconds for 1800 feet	120 seconds

**Electrical Specifications**

<b>Line input:</b>		
Impedance:	50k ohms, unbalanced	
Nominal level:	-10 dBv (0.3V RMS)	
<b>Line output:</b>		
Impedance:	1K ohms, unbalanced	
nominal level	-10 dBv (0.3V RMS)	
Headphone output:	100 mW at 8 ohms	
Record level	0 VU is referenced to 185 nWb/m at 1 kHz	
calibration:		
Bias frequency:	100 kHz	

**Electrical Performance and Evaluation**

Parameter	Measured	Claimed
<b>Playback frequency response</b>		
50 Hz	*Track 1: -1 dB @ 15 kHz; 0 dB @ 5 kHz	—
15 kHz	*Track 3: -3 dB @ 15 kHz; -0.5 dB @ 5 kHz;	—
	*Track 2: -2 dB @ 15 kHz; -0.3 dB @ 5 kHz	—
	*Track 4: -1.5 dB @ 15 kHz; -0.25 dB @ 5 kHz	—
	**Track 1: 0 dB @ 15 kHz; +1 dB @ 5 kHz	—
	**Track 3: 0 dB @ 15 kHz; +1 dB @ 5 kHz	—
	**Track 2: 0 dB @ 15 kHz; +1 dB @ 5 kHz	—
	**Track 4: 0 dB @ 15 kHz; +1 dB @ 5 kHz	—

\* Before alignment      \*\*After alignment

Total harmonic distortion:	0.55% at 0 VU @ 1 kHz	1%
Signal to noise ratio at 1 kHz +10 VU above 0 VU:	2.4% at +10 VU @ 1 kHz	3%
Adjacent channel separation:	15 ips: 61 dB, A weighted	61 dB
Record/playback frequency response:	56 dB, unweighted	56 dB
	7½ ips: 60 dB, A weighted	60 dB
	55 dB, unweighted	55 dB
Record/playback frequency response:	45 dB at 1 kHz	better than 40 dB
	15 ips: 40 Hz to 26 kHz	40 Hz-22 kHz
	-3 dB at 0 VU	± 3 dB
	35 Hz to 30 kHz	35 Hz-25 kHz
	-3 dB at -10 VU	± 3 dB
	7½ ips: 40 Hz to 18 kHz	40 Hz-16 kHz
	-3 dB at 0 VU	± 3 dB
	40 Hz to 23 kHz	40 Hz-20 kHz
	-3 dB at -10 VU	± 3 dB
Sync response at -10 VU:	15 ips: 50 Hz to 9 kHz	50 Hz-8 kHz
	-3 dB	± 3 dB
	7½ ips: 40 Hz to 7.5 kHz	40 Hz-6.3 kHz
	-3 dB	± 3 dB

**Harry Kolbe**

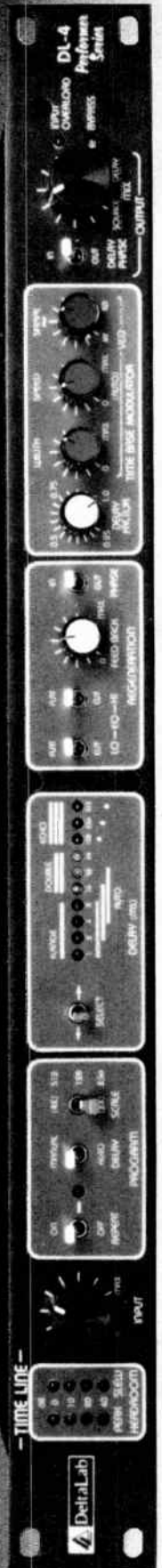
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# TAPCO C-12/SERIES TWO MIXING SYSTEM

List Price 2,695.00

The Tapco C-12/Series Two mixing console is a further development of the popular and highly respected C-12 mixing system. Like the original C-12, the new Series Two is a multi-purpose, 12 input, 4 X 2 X 1 output mixing system designed for use in broadcast, production and recording studios, and sound reinforcement situations. With the C-8E/Series Two Expander this mixing system's input capabilities can be increased to 20, 28, 36 or even 44 inputs. Its size and weight make it a natural for sound companies, equipment rental operations and touring bands that carry their own P.A. Let me add, however, that the C-12/Series Two is a more than adequate mixing system for recording.

Although the C-12/Series Two leaves little to be desired as a recording mixing system, it really comes into its own as a P.A. board. The unusual P.A. versatility of the board is due to its ability to route the input channel signals directly to the four subgroups while simultaneously allowing assignment directly to the main outputs and bypassing the subgroups. This allows for applications such as making a stereo mix for P.A. with a simultaneous 4-track recording feed, with the recording feed being totally separate and isolated from the P.A. feed, or the four subgroup outputs can be used as separate monitor sends.

Another handy feature is the channel patching facility. The Send/Return insert point is right after the first stage preamp, allowing external signal processing to be done before signals pass through the channel's EQ and fader.

Patching at this point in the circuit is unusual, and offers a few operational advantages. The EQ circuitry is available to help compensate for noisy external equipment, and to help bring out the best of certain effects. In a pinch, the return jack can be used as a channel input without losing the use of the EQ and fader. The Send/Receive patching jacks are conveniently located on the front panel. Also located on the front panel are the channel Direct Out jacks. The Direct Out comes after the EQ and fader so it can easily be used for a direct send to a multitrack recorder, as an individual cue or effects send, or for a patch to another point in the mixer.

Each channel has a Trim control to match the gain of the first preamp stage to the signal strength of the source being run through the channel. Peak LED monitors sense levels after both the first stage preamp and the EQ and fader stages.

The slide faders (100 mm travel) control the output

levels of the channels as fed to the subgroup. These faders are not the usual loss-causing passive attenuators, but rather an active gain changing control that preserves headroom and the signal-to-noise ratio.

The four subgroups can be controlled to provide a variety of outputs: mono P.A. out, stereo out, stereo headphone amplifier drive, etc.

The EQ deserves mention. Each input channel sports an EQ section consisting of  $\pm 18$  dB shelving type bass and treble controls and a quasi-parametric (adjustable frequency, 300 Hz to 6 kHz,  $\pm 12$  dB peak/dip) type mid-range control. This type of EQ is extremely useful for dealing with difficult acoustical environments. All of the EQ controls have center detents which take the EQ fully out of the circuit when centered.

Any input channel may be fed to any or all subgroups by using the proper combination of Channel assign switches and Pan for positioning.

Each submaster has a pan-pot to allow the submaster to be panned between the Left and Right Stereo outputs.

The double Solo system is another extremely useful feature of the C-12/Series Two. Not only does each channel have solo capabilities but each of the submasters also has a Solo switch.

In addition to the Solo switch, each channel has a Mute switch, allowing mixing of post fader functions of the input channels without affecting pre-fader or solo functions. Effectively, this gives a "pre-fade listen."

## CONCLUSION

I could go on for some time talking about all the features and possible functions of the C-12/Series Two, but I have covered the usual features which give this board its extensive flexibility and usability. As for the many remaining features, they are what you would expect to find on any well-engineered professional mixing system.







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## SPECIFICATIONS

<b>Dimensions:</b>	W — 28.5"
	H — 9.5"
	D — 29.0"
<b>Weight:</b>	49 lbs.
<b>Power Requirements:</b>	120V, 60Hz, 60W
<b>Phantom Power:</b>	+48V DC regulated 60 mA maximum current

## SPECIFICATIONS AND TEST EVALUATION

Parameter	Claimed	Measured
Frequency response	Mic input $\pm 1.0$ dB	+ 0.5 dB
	20 Hz to 20 kHz (44 dB gain, +4 dBm at stereo outputs)	20 Hz to 20 kHz
Line input $\pm 0.5$ dB	20 Hz to 20 kHz	+ 0.2 dB, -0.1 dB; 20 Hz to 20 kHz
	(14 dB gain, + 4 dBm at stereo outputs)	

Parameter	Claimed	Measured	
Total Harmonic Distortion	Mic input:		
	0.4% at 20 Hz	0.25% at 20 Hz	
	0.01% at 1kHz	0.006% at 1 kHz	
Line input:	0.02% at 20kHz	0.01% at 20 kHz	
	(44 dB gain, +4 dBm at stereo outputs)		
	0.02% at 20kHz	0.01% at 20 kHz	
CCIF IM Distortion (19 kHz & 20 kHz mixed 1:1)	0.02% (+4 dBm at stereo outputs, Mic or Line input)	0.014%	
	Equivalent Input Noise	-129 dBV	confirmed
		(20 Hz to 20 kHz NBW, 40 dB gain, 150 ohm source, measured at Channel Patch Send)	

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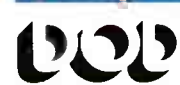
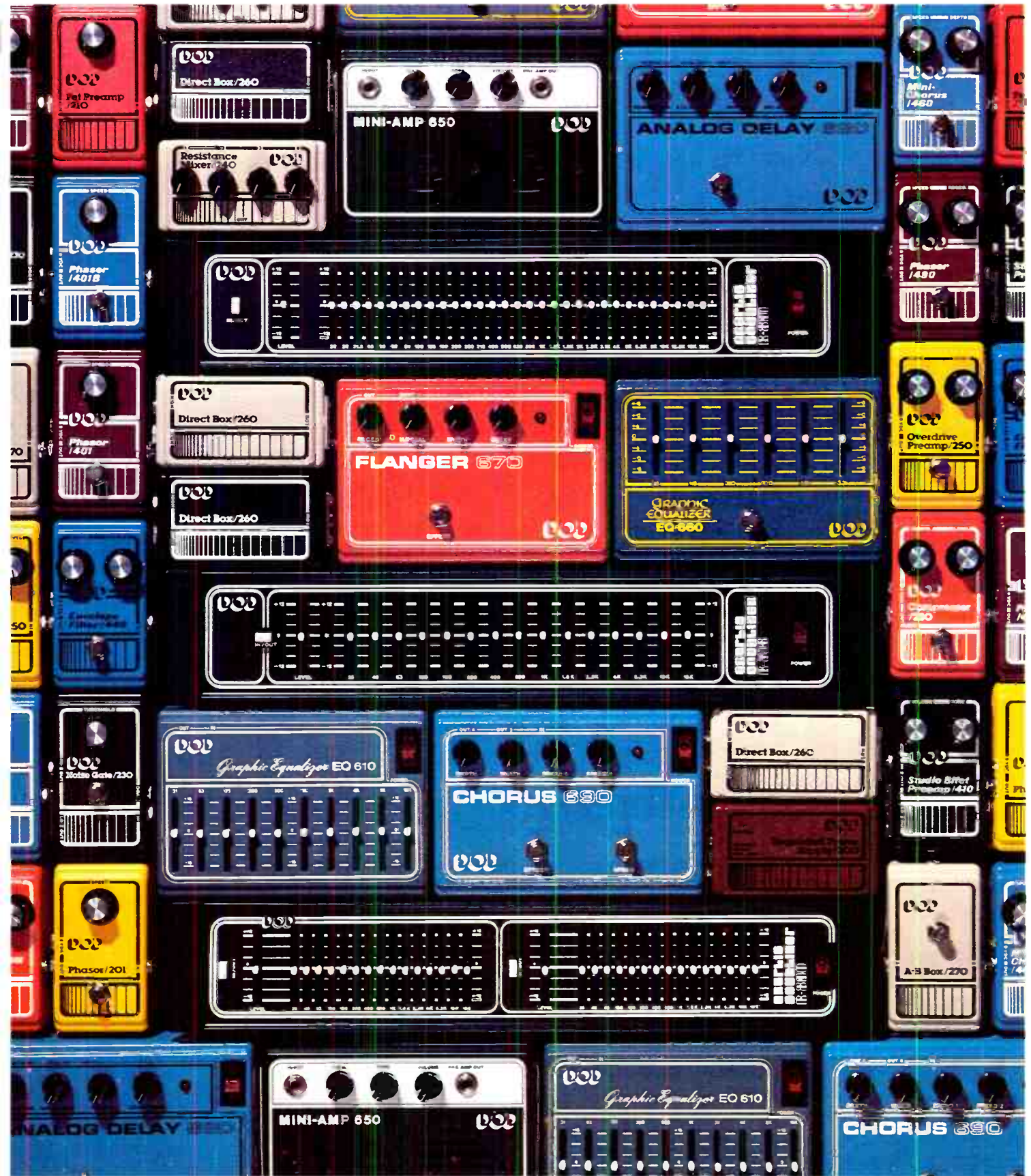
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<b>Output Noise</b>	
-80 dBV, 1 channel assigned	confirmed
-72 dBV, 12 channels assigned (20 Hz to 20 kHz NBW, measured at stereo output)	
<b>Maximum Mic Input Level</b>	
0 dBu (1 kHz) (0.775 Vrms)	confirmed
<b>Maximum Line Input Level</b>	
+30 dBu (1 kHz) (25 Vrms)	confirmed
<b>Maximum Pre-amp Gain</b>	
50 dB	confirmed
<b>Total Gain</b>	
Mic input 84 dB	confirmed
Line input 54 dB	
<b>Input Channel Equalizer</b>	
$\pm 18$ dB at 50 Hz, shelving	confirmed
$\pm 18$ dB at 15 kHz, shelving	
$\pm 12$ dB peaking, sweep range 300 Hz to 6 kHz	

by Harry Kolbe

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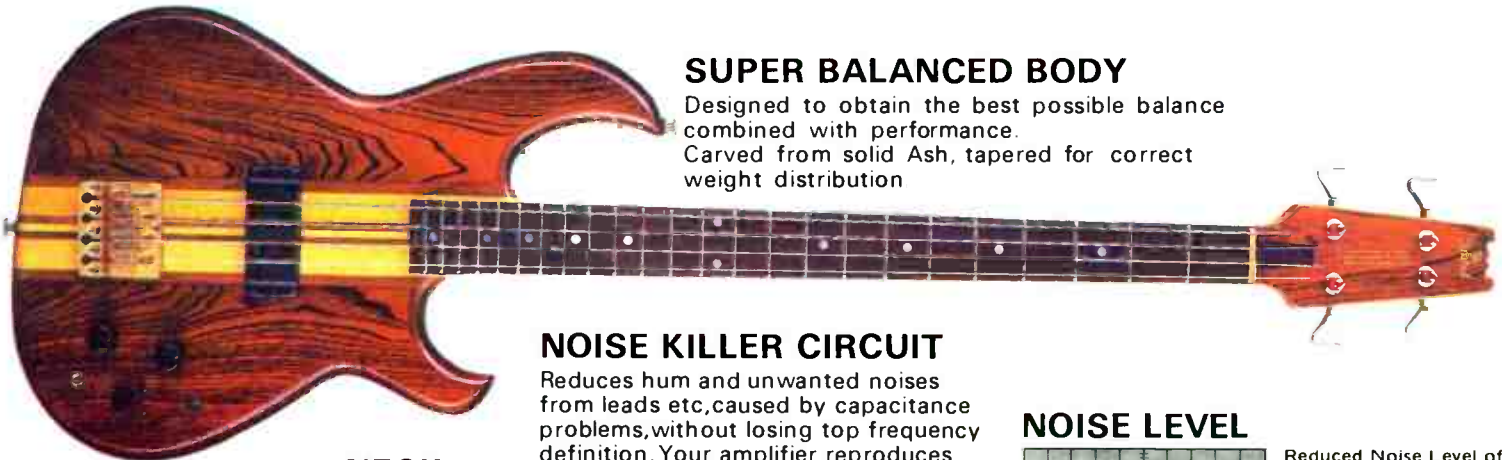
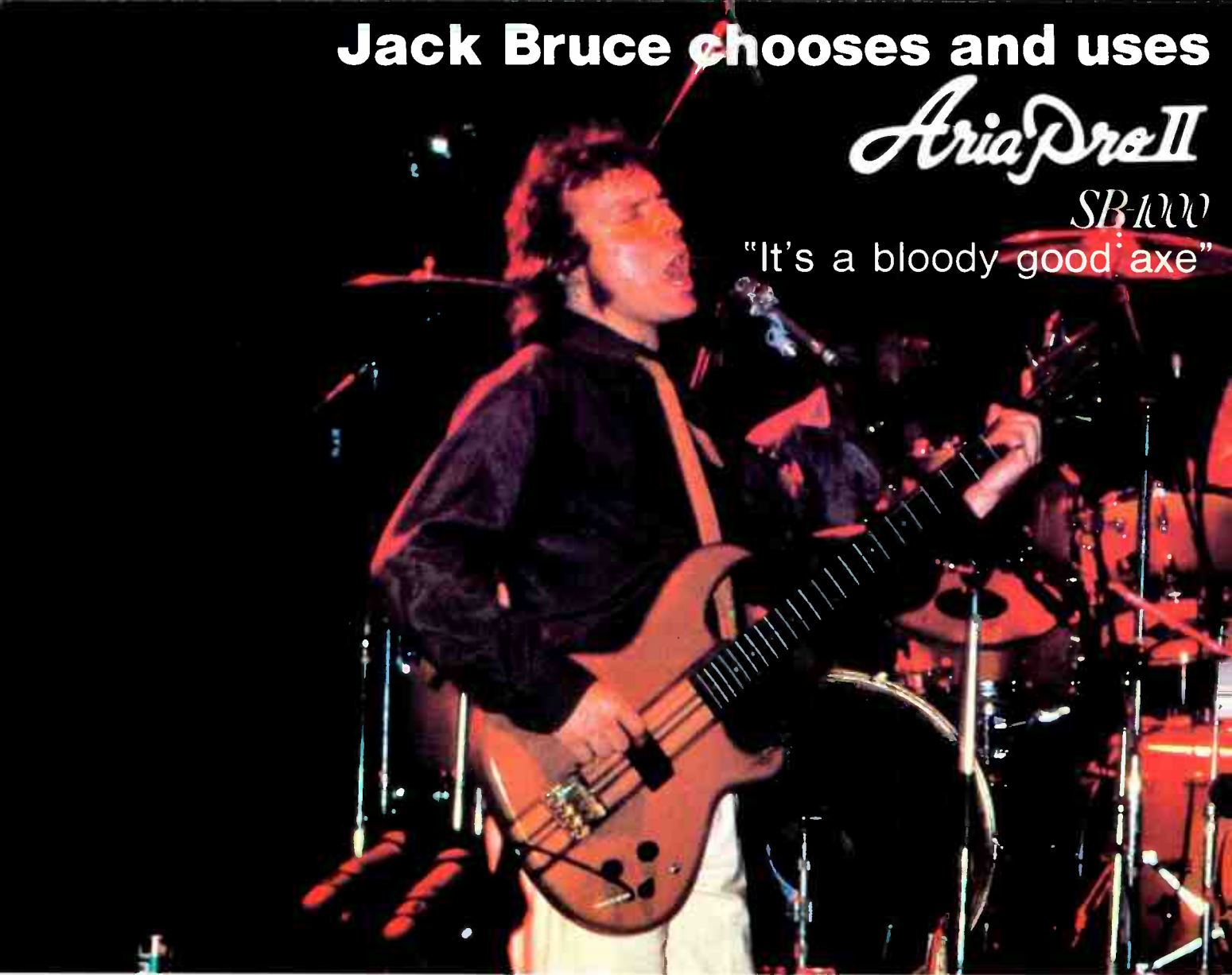
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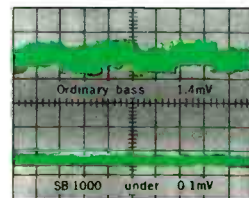
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## ON TEST

# Audio-Technica ATM41

Before this microphone arrived for review, I had only heard the name of Audio-Technica in connection with their range of phono cartridges which are well established in hi-fi circles. It appears, however, that the Audio-Technica Corporation of Japan are manufacturing a much wider base of products including headphones, record care products, tone arms and microphones. Microphones and headphones are of course not that different from cartridges, all three being transducers of one kind or other and requiring high precision in design and manufacture. Knowing their cartridges to be of high quality, I approached this microphone with interest.

The ATM41 is a low impedance moving coil dynamic microphone with a cardioid response pattern. It was principally designed for stage and sound reinforcement use but it is also claimed to be equally at home for remote recording and studio use. The specific requirements for these differing uses vary considerably, but for stage use ruggedness is of prime importance and the ATM41 certainly appears to be that. The body of the microphone is constructed so solidly that I am sure if you were to stamp on it your foot would suffer most.

The design is not revolutionary by any means but some thought has been applied particularly to making it comfortable for hand held use. The body tapers toward the base quite steeply, while the band just below the wind shield has been 'waisted' for a better hold between the thumb and forefinger. Most of the weight of the mike appears to act at this point as well. This makes the mike feel light to move around but this is only

an illusion as the construction gives the mike a total weight of 10ozs. From wind shield to base is a little over seven inches and the complete mike is finished in 'low reflectance matte'. The connector is a Switchcraft A3F XLR type insert recessed into the base of the mike and wired to the accepted convention of a positive acoustic pressure producing a positive signal on pin 2 of the socket.

Audio-Technica describe the wind shield as being over-size. The construction is multi-layered with coarse mesh, fine

mesh and a gauze forming the body of the shield while the front two thirds of the shield has a thin foam material internally. The diaphragm is located just under one inch behind the front of the grill. The capsule is isolated from the body of the mike by rubber sleeving. It is possible to remove the wind shield by unscrewing at its base should you need to clean it.

I found the sound of the mike to be very 'warm' and full bodied but retaining reasonable definition — not boomy. Audio-Technica make

a point of mentioning the proximity effect in connection with the ATM41 and it is certainly very pronounced. (This is the boost the bass frequencies receive as the mike is moved close to the sound source. All microphones have this effect to a certain degree unless steps are taken in the design to avoid it.) The cardioid response is very defined with sharp attenuation of the sound beyond the front area but an even response is maintained over the front of the mike so moving around in relation to the axis will not cause much alteration in the frequency response. I also found the mike to be slightly more sensitive than one would expect although handling noise was quite acceptable. Aside from voice I tried several other instruments and the ATM41 achieved fair results but I would not specifically select it for use when I did not need its robustness such as in a studio environment. On stage its versatility would I feel however be very useful.

The ATM41 comes with a storage case, a storage bag and a mike holder to take the tapered body of the mike. This is of course one point against the design of the ATM41 you have to use its special clip as it will not fit any of the normal types.

The ATM41 appears to be a very good robust microphone with stage applications in mind and flexible enough for a variety of applications. One point that cannot of course be tested is long term reliability, but I have no reason to believe that it would not be quite acceptable in this respect and bearing in mind its very reasonable price, the ATM41 is certain to give the established names a bit of stiff competition.

**Keith Spencer-Allen**



## ALAN HOLMES

Continuing the saga of what was new for the reed player at the London trade show, I spent a very interesting five minutes with Ted Planas, the woodwind consultant for Selmer Paris, in London. He has had a hand in designing a new crook for the Selmer Mk7 alto, which improves the intonation and is said to cure the previous problems with tuning. Metal reflector discs have also been fitted to the saxes, reverting back to the original equipment of the Mk6 of 20 years ago. Also on display was the Mk7 baritone which I didn't personally play, but was assured by a member of the London Saxophone Quartet that it is without doubt the finest baritone in the world.

I was privileged to try the new Herb Couf Superba 1 alto and tenor which are made by the Julius Keilwerth Company in Nauheim, West Germany. These excellent instruments have been developed from the Keilwerth "Toneking Special" model and are used by Grover Washington and many other fine saxophonists. I would like to add these models to my collection, but the price seems to be a bit on the steep side for us music-recession struck reed players here on the other side of the Atlantic. Even though we are not expecting to be able to buy any because all production is scheduled for you lucky guys in the States, there is a back order of 90 saxes. Used with the specially designed H Couf mouthpiece the tuning is excellent, but there is some doubt that the mouthpieces for Selmer instruments will play in tune on them or vice versa.

The Armstrong Heritage saxes have virtually the same body as the Superba 1, the main differences being the crook and bell and also the price. I was very impressed with the Armstrong student instruments too, as they have all their holes in the same place as the Superba and so have excellent intonation.

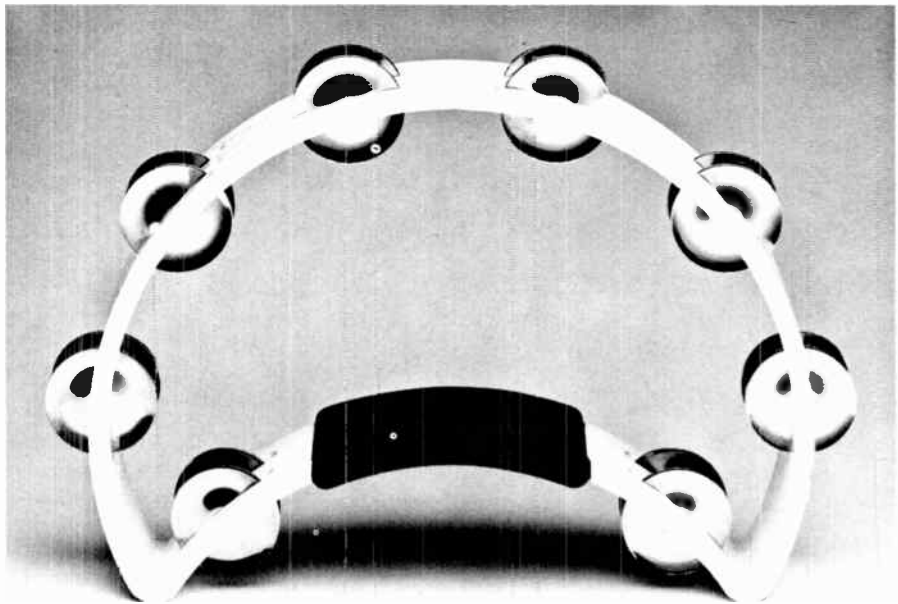
The Armstrong new scale flutes seem very reasonably priced and are the only student instruments on the market with a Cooper scale. In a test I conducted for some educationalists, the Armstrong 104 model was voted the best all round out of 15 other makes in the same price scale. So if you are looking for a really good

cheap flute for yourself or a pupil, check out the Armstrong, and if you can afford the silver head model you could get an instrument that plays like one three times its price.

There is a big trap for the unwary when trading up from a good student flute to the all silver tube and head models.

Silver is so soft that it's very easy for the head joint and the embrochure hole to vary considerably and many expensive silver flutes are actually worse than the mass produced student models, so you really have to try several to avoid paying more and getting less.

© 1980 Rhythm Tech Inc.



**THIS IS THE RHYTHM TECH TAMBOURINE.**

It looks different because it's designed to feel different. The difference is the location of a cushioned grip within the frame's overall center of gravity. This patented design puts more perceived mass where it belongs: in your hand. That makes a big difference in control and response, and that's the important difference to you, the player. The Rhythm Tech Tambourine requires less effort to play, which conserves your energy and enhances your technique and endurance.

**Our sound is different, too.**

Stage and recording professionals helped us develop an optimal jingle formula. As a result, the Rhythm Tech Tambourine creates a clear distinctive sound that holds its own in today's multi-track environment.

Professionals like Ralph MacDonald, Steve Gadd, Jeff Porcaro and Lenny White appreciate the difference of this instrument. It's not your standard tambourine...but it will be.

 **RhythmTech**

511 CENTER AVE. MAMARONECK, NY 10543

# fact: the PRO MASTER™ system is built to withstand road abuse

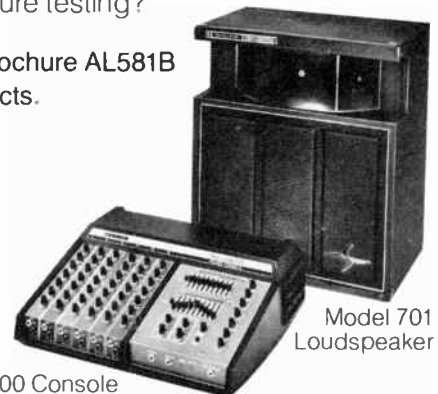
Shure's reputation for quality and dependability is no accident. We earn it every day.



To maintain Shure's pace-setting Reliability Assurance standards, we take representative PRO MASTER Power Consoles right off the line and deliberately drop them on a hard concrete floor. Randomly selected consoles are also mounted to heavy-duty industrial shaker tables and must endure punishing vibration for 30 minutes in each of three different directions...and not only survive, but meet or exceed all published specifications. We subject them to extremes of temperature and humidity. We run them at full power with punishing loads, and more! Then we test the consoles to make certain they still work perfectly. PRO MASTER speakers get similar treatment...with similar results. This ensures that your system will perform as well at the last stop on a long road tour as it did before you left home.

We don't expect you to abuse such fine products, but accidents do happen. Isn't it good to know that you're backed by the proven reliability that comes from this kind of torture testing?

Send for Brochure AL581B  
for all the facts.



Model 700 Console

Model 701  
Loudspeaker

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In Canada: A. C. Simmonds & Sons Limited

Manufacturers of high fidelity components, microphones, sound systems and related circuitry.



# NOW YOU DON'T HAVE TO BE RICH AND FAMOUS TO OWN AN ARP.

Introducing ARP's new Solus, the world-class synthesizer that gives you the same sound quality, versatility and reliability of the ARP live performance, lead-line synthesizers, at a price almost anyone can afford.

**SOLUS:**  
**THE FEATURES**  
**YOU'D EXPECT FROM**  
**ARP, AT A PRICE YOU**  
**WOULDN'T.**

**SOUND** When you buy a synthesizer, sound quality is the key. The Solus has two oscillators so you get the fat, electronic lead-line sound you want. Their mixable sawtooth and pulse wave outputs can be phase-synced to produce a wide range of classic electronic sounds. And the four-pole filter can be modulated with inverted ADSR for special effects. **CONTROL** The Solus has a complete four-function envelope generator so you get total control over articulation. Attack, decay, sustain and release. That's one more articulation feature than you get with many



synthesizers. And a lot more control. **RANGE** Unlike many comparably-priced synthesizers, the Solus has a full three-octave keyboard. And the keyboard can be transposed up or down an octave — quickly during live performance — for even greater range.

**EXTRAS** In addition, the Solus gives you a number of extra features you wouldn't expect from a synthesizer of its price. You can control vibrato, adjust pitch sharp or flat, and add portamento slurs to your music, just to mention a few. Why, the Solus even comes in its own traveling case!

**PRICE** With the cost somewhere down around \$16 a key, Solus is the ARP synthesizer you can afford even if your fame extends only next door. It gives you a lot of sound for the money. And the quality you'd expect from an ARP.

You can play the ARP Solus at selected ARP Dealers throughout the United States and Canada.

For the names of Certified ARP Dealers in your area, write:



ARP Instruments, Inc.  
45 Hartwell Avenue  
Lexington, MA 02173  
Or call: (617) 861-6000

# How serious are you about a synthesizer?



Even if you don't have an unlimited budget, you still want virtually unlimited expression from your synthesizer. Yamaha knows this. We also know what kinds of features and functions give you this expression. The musicians who evaluated our prototypes told us. And we listened. The result is a new line of affordable synthesizers from Yamaha built especially for live performances. They are capable of many of the sounds of our larger, costlier models, and have all of the quality and reliability.

**CS-40M.** Duophonic, programmable and highly portable describes this top model in the new line. It has four VCO's, two VCF's and two VCA's plus a Ring Modulator, an Attack/Decay EG for the LFO and Ring Modulator, and a unison mode which converts the unit to mono operation

by doubling up the VCO's for richer sound. The keyboard has 44 keys.

The CS-40M can store and recall, at the push of a button, up to 20 sounds that you've created, even after the power is shut off. Interface with a tape recorder requires just two patch cords.

**CS-20M.** Up to 8 voices can be stored and recalled in this model. The CS-20M has two VCO's, an LFO, a noise generator, a mixer (for the VCO's and the noise), a 3-way VCF and a VCA. It is a monophonic instrument with a 37-note keyboard.

Both models have keyboard trigger in/out jacks and control voltage in/out jacks for convenient use with a sequencer. Rear panel jacks are provided for ON-OFF foot switching of Sustain and Portamento/ Glissando effects, and for foot-pedal control of the filter and volume.

**CS-15.** This compact, very affordable synthesizer has two VCO's, two VCF's, two VCA's, two EG's and one LFO. One-touch knobs and switches free you from complicated patch work. Sawtooth wave, square wave, white noise, and triangle wave give unique tonal characteristics.

MODEL	KEYS	VCO	VCF	EG	NOTES	DIGITAL MEMORIES
CS-5	37	1	1	1	1	N/A
CS-15	37	2	2	2	1	N/A
CS-20M	37	2	1	2	1	8
CS-40M	44	4	2	2	2	20



**CS-5.** This is our most compact monophonic synthesizer. It has 37 keys, but with the 6-setting Feet selector switch, the instrument's range is extended to a full 8 octaves. A Sample and Hold circuit allows you to automatically play a continuous random pattern. There are many other features that make this model's very affordable price even more attractive.

For more information on the full line, write: Yamaha, Box 6600, Buena Park, CA 90622. (In Canada, write: 135 Milner Ave., Scarb., Ont. M1S 3R1.) Or better yet, visit your Yamaha dealer for a demonstration of the synthesizers that take both your creative desires and your budget considerations seriously.

Because you're serious.



# Carvin The "GUITARIST" SUPER MARKET

These top musicians use Carvin M22 PICKUPS and PARTS for their superior performance.

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DEEP PURPLE  
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THE KNACK  
GREY STAR  
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## CARVIN M22 HUMBUCKER

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SPECIAL DESIGNED NON-ROCKING BEZEL  
DROP-REPLACEMENT FOR ALL GIBSON HUMBUCKING PICKUPS

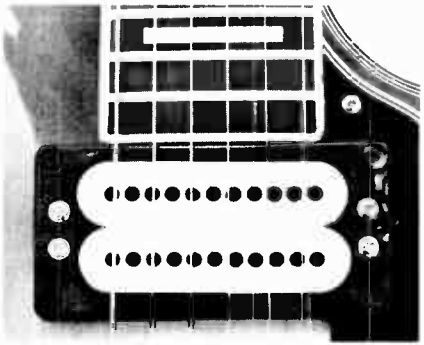
The M22 is more than just a hot pickup with lots of power, it's a super sounding pickup that has clarity and definition. Many pickups on the market today have good output but their sounds are over distorted and muddy.

Now you can bend your strings without sustain loss! The ultimate design of the M22 features 22 poles which can be adjusted for string differences without power loss between poles.

Give the M22's a try and hear the improvement. It's the best sounding pickup yet! (If you're not satisfied after using them for 10 days, we'll buy them back).

Available in 4 Models

M22 w Cream or Black Bezel  
M22B for Bass Guitar w Cream or Black Bezel



The M22's are now selling for \$44.95 (Direct Only) List \$85. If you do not wish the 4 wire output for Dual to Single Coil & Phase Switching, you may deduct \$5.00 (\$39.95) and specify M22-S. All M22's feature a built-in copper shield to prevent R.F. and Hum interference.

## PRECISION BRASS BRIDGE ASSEMBLES



The TB6 CARVIN Tune-O-Matic Bridge is made from heavy solid brass for richer, greater sustain capabilities. Each string insert is locked in place to minimize intonation error. Direct replacement for Gibson Tune-O-Matic.

TB6-Chrome Your Price \$24.95 list \$54.95  
TB6-Gold \$35.00 \$74.95



The N6 CARVIN Tail Piece is made from heavy solid brass and features precision milled slots designed to stop uncontrolled resonances caused by poor string coupling to the guitar body.

N6-Chrome Your Price \$14.95 list \$29.95  
N6-Gold \$19.95 \$39.95



The TB8 CARVIN Bass Tail Piece & Bridge is made from heavy solid brass which eliminates bridge flexing and adds to the overall rich tone quality of the guitar. Precision milled slots couple the strings securely to the body. Precision string saddles are fully adjustable for both height & intonation. Fits guitars with 2 1/8" space between saddles centers.

TB8-Chrome Your Price \$34.95 list \$79.95  
TB8-Gold \$49.95 \$98.95

SCHALLER the world's finest Machine Heads. M6, M6-Mini, M6L-Mini, M4S-Bass, M4SL-Bass. All Models in CHROME at Your Price of \$35.95 ea. set. List \$64.95 GOLD also available in M6 model at Your Price of \$49.95 List \$94.95



## GUITAR COMPONENTS

(All Components Pictured Left to Right)

P1	500K VOLUME Potentiometer w smooth action 6mm shaft	\$ 3.50
P2	500K TONE Potentiometer w smooth action 6mm shaft	\$ 3.50
L11	Switchcraft Input JACK (open circuit)	\$ 1.00
L2	Switchcraft Input JACK (closed circuit)	\$ 1.50
E2	Strap Button machine out of brass & nickel plated	\$ 1.50
S3	Sub-miniature DPDT SWITCH (for phase switching)	\$ 4.00
S4	Sub-miniature SPST SWITCH (for dual to single coil)	\$ 3.00
C1	Switchcraft LEVER SWITCH (for pickup selection)	\$ 6.75
S1	.022 Mylar CAPACITOR for Guitar tone circuits	\$ 1.00
C2	.047 Mylar CAPACITOR for Bass Guitar tone	\$ 1.00
JP1	Mono JACKPLATE made from brass & chrome plated	\$ 4.00
JP2	Stereo JACKPLATE made from brass & chrome plated	\$ 4.00
K1	KNOB w 6mm shaft, 1 1/8" Dia with Numerals	\$ 2.00
BN6	Brass NUT measures 1 3/4" L x 3/16" W x 5/16" H	\$ 3.00
WS1	Wiring & Shielding Kit which includes 3 mill adhesive copper tape w wire and solder for superior shielding	\$12.00

SAVE \$25.20 on a complete GUITAR KIT-10 which includes (2) M22 Pickups, (2) P1 Controls, (2) P2 Controls, (1) S1 Switch, (1) S3 Switch, (2) S4 Switches, (1) L11 Jack, (1) L2A Jack for stereo wiring, (2) C1 Capacitor, (4) K1 Knobs, & (1) WS1 Wiring & Shielding Kit. PRICED SEPARATELY \$145.15 #KIT-10 PRICE \$119.95.

## HEAVY-DUTY REPLACEMENT SPEAKERS & HORNS



Model	Description	Imp	DIRECT	list
1021	10" MagnaLab 50W Guitar Spk	8	\$29	\$45
1224	12" MagnaLab 80W Guitar Spk	16	\$39	\$65
1588	15" MagnaLab 100W Bass Spk	8	\$49	\$85
G12	12" Celestion 30W Guitar	16	\$59	\$89
4224	12" Super Duty Eminence 125W	8	\$69	\$95
4828	15" Super Duty Eminence 150W	8	\$79	\$110
E120	12" JBL 150W (Full Range)	8	\$139	\$159
E130	15" JBL 150W (Full Range)	8	\$145	\$165
E140	15" JBL 200W (Bass)	8	\$149	\$168
440	800Hz HEPNER 40W Horn (16KHz)	16	\$49	\$79
6016	Piezo Super Tweeter 100w	8	\$11	\$19
2461	JBL 16 Ohm 50W Horn Driver	16	\$199	\$222
SSD1800-16	Renkus-Heinz 40W Driver	16	\$159	\$195
XC1200	Fused 2-Way 1200 Hz Crossover	100W	\$37	\$65
XC806	Fused 2-Way 800 Hz Crossover	150W	\$59	\$90
R500	Professional 30' Fiberglass Radial Horn for JBL & Renkus-Heinz Drivers 22" W x 8" H x 16" D		\$129	\$210

All spks include 1 yr warranty against factory defects (5 yrs on JBL spks)

4 SPEAKER ENCLOSURE PLANS AVAILABLE Entire Set \$400

## CABINET HARDWARE & GRILL CLOTH

(A) Rap-around corner (set of 4)	\$3.50
(B) Tri-Corner (set of 4)	\$3.50
(C) Edge Corner (set of 4)	\$3.50
Heavy Duty Cover Latch (set of 4)	\$8.00
Steel Bumper Feet (set of 4)	\$2.50
Rubber Bumper Feet (set of 4)	\$2.50
Cabinet Handle (Chrome strap type)	\$3.95
Cabinet Handle (large recessed type)	\$10.00
Black Vinyl Grill Cloth 48" x 58"	\$19.50
Black TOLEX Covering 54" x 72"	\$21.50
3M Spray Adhesive for above TOLEX size	\$5.95

## PRO MONITOR AND P.A. CABINETS



#620M 2-Way Hi-Powered Monitor complete with 1224 & 6016 components with Fused Input in a Monitor TOLEX Covered Plywood Enclosure. Imp. 16 Ohms 80W RMS. Size 25" W x 18" D x 15" H. DIRECT \$119. List \$209

#840M 3-Way Hi-Powered P.A. Speaker complete with 1588, 440, 6016, & XC-1200 components mounted in a tuned-porced TOLEX Covered Plywood Enclosure. Imp. 8 Ohms 100W RMS. Size 20" W x 12" D x 25" H. DIRECT \$199. List \$299

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565 SD-C	00	\$205.00
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SM58-CN	5.00	\$235.00

## HEAVY DUTY MIC. & SPEAKER CABLES w SWITCHCRAFT STEEL CONNECTORS

15' 2 cond. shielded cable w steel phone plugs	#PH-15 \$12.00
50' 2 cond. #16 spk cable w steel phone plugs	#PH-50 \$23.00
25' 3 cond. Bal shielded cable w XLR connectors	#XLR-25 \$22.00
50' 3 cond. Bal shielded cable w XLR connectors	#XLR-50 \$30.00

## PREMIUM G.E. PRE-TESTED TUBES

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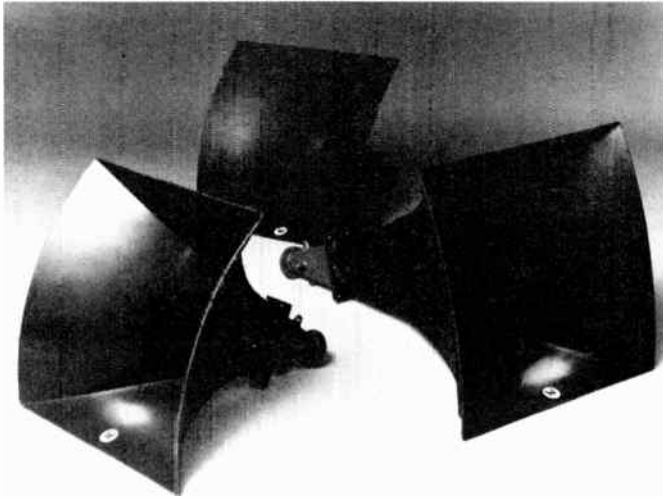
Think of the best place on earth to write your songs. Somewhere remote and quiet where you can work. Now, all you need is a piano.

May we suggest you take along a Hohner Pianet T. It sounds and feels just like a piano, but at 38 pounds, it travels a lot lighter. It's electro/mechanical, so you won't need a wall outlet or batteries. If you use amplified headphones you can work all night without disturbing a soul. You'll have 60 keys and five full octaves to work with. And you can add sound modifiers and volume pedals for special effects.

So follow your music wherever it sends you. And carry the songwriter's typewriter. The Pianet T from Hohner. M. Hohner, Inc., Andrews Road, Hicksville, NY 11802. Phone (516) 935-8500.

# New Products

## JBL Bi-Radial "Constant Coverage" Horns



James B. Lansing Sound Inc. recently announced three new Bi-Radial "Constant Coverage" horns, the models 2360, 2365 and 2366. "Ideal for fixed installation applications," these horns provide uniform on and off axis response from below 500 Hz to beyond 16 kHz. Designed to simplify cluster lay-out and eliminate the need for horn

overlapping, the three models are available with nominal coverage angles of  $90^{\circ} \times 40^{\circ}$ ,  $60^{\circ} \times 40^{\circ}$  and  $40^{\circ} \times 20^{\circ}$  (-6 dB beamwidth, horizontal and vertical) and all three also feature  $31 \frac{5}{16}$ " square mouth dimensions with a cast aluminum throat that will accept JBL 2440, 2441 or 2484 two inch diameter compression drivers.

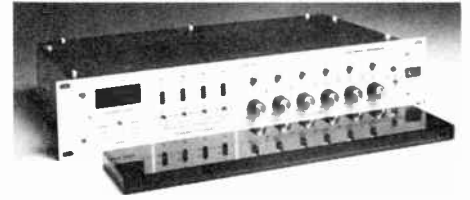
## Sansui FR-D25 Belt-Drive Turntable

The new Sansui FR-D25 Belt Drive turntable features a phase locked loop servo drive to prevent speed deviations caused by changes in ambient temperature or length of use while locking in accurate platter speed for "absolute rotational steadiness." Platter speed selection ( $33 \frac{1}{3}$  or 45 rpm) is accomplished by electrically changing the speed of the DC motor and there is also a plus/minus pitch control.

The FR-D25 also has a sensitive, statically balanced

tonearm "guaranteed to track at a minimum force of 1.0 gram." All controls except the cueing lever are up front and other features include a lighted direct readoff strobe with a wide viewing angle of 45 degrees from the horizontal plane, a concave platter mat that "hugs" the platter to prevent slips and slurs, an anti-skate control to eliminate uneven stylus wear and a "mirror-finished tapered platter skirt for easy removal or changing of records."

## UREI Model 525 Electronic Crossover



Premiered at the May AES Convention, the new UREI 525 Electronic Crossover offers four panel-selectable operating modes: stereo 2-way or 3-way and mono 4-way or 5-way. Crossover frequencies are continuously adjustable from 50 Hz to 10 kHz, the actual frequency

measured and displayed on a digital frequency counter, with 1 Hz resolution. A subsonic filter is included (switch selectable on rear panel) to roll off frequencies below 30 Hz and all of the inputs and outputs are XLR/QG connectors or terminal strips.

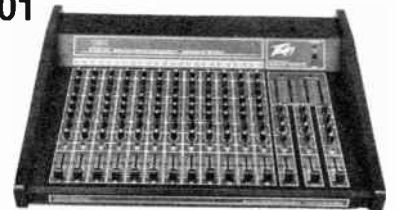
## SONY MDR-7 Stereo Headphone

Based on the design of the popular Sony MDR-3's, the new MDR series headphones feature a smaller but more efficient "complex high excursion diaphragm" which makes for more sound with a lot less power. These phones can be used with lower output portables and cassette decks. These phones also feature a Samarium Cobalt magnet "three times more powerful than conventional types."

The new SONY MDR-7

is a "bantamweight" headphone with a frequency response that goes from 16-22,000 Hz to "easily reproduce the deepest pedal notes on an organ or high pitched harmonic overtones." Weighing in at a mere 55 grams and incorporating gimbel mounted earphones, the MDR-7 also features a "tangle-free one-side cord design and the one-handed headband adjustment."

## Peavey Mark I Series 801 & 1201 Consoles



Peavey Electronics new Mark I Series 801 and 1201 stereo mixing consoles feature (per channel) two separate pre-monitor sends, three-band EQ, post effects send, unbalanced high Z line/mike input, balanced low Z input, pre in/out patching jacks on

each channel, PFL/cue button, gain input trim control and slide type channel faders.

The master section contains features like "Sum" output, provision for mixing reverb and/or effects back into the monitor busses and PFL buttons on the main outs.

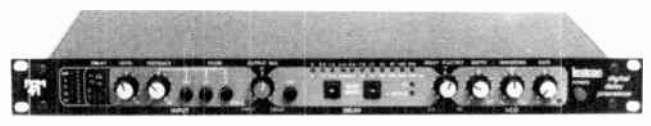
# WIREWOKS "Expanded" Cable Line

Wireworks Corporation recently announced the expansion of their line of low impedance microphone cables to include five different jacket types and fifteen different colors. Designed to fill virtually any application, five different jacket types are now available: Rubber, Miniature Rubber, Hypalon, Neoprene and PVC. Each type is

stocked in 5', 10', 25', 50' and 100' lengths and feature Switchcraft QG Series XLR type audio connectors. PVC jacketed microphone cables are available in a choice of fifteen extruded colors including black, blue, bronze, brown, green, grey, light blue, metallic blue, orange, red, pink, tan, violet, white and yellow.



# Lexicon PCM 41 Digital Delay



The PCM 41 provides a complete repertoire of effects including double tracking, flanging, vibrato/tremolo, arpeggio, doppler pitch shift, slap echo, infinite repeat etc. All major functions can be foot switch controlled and this system contains 400 ms of delay in X1 mode (full bandwidth) and 800 ms in the X2 mode.

Billed as "a new low cost digital delay processor designed specifically for entertainers and small studios," Lexicon's PCM 41 (Baby Prime Time) uses studio quality pulse code modulation encoding for all delayed audio signals with a bandwidth of 20 Hz to 16kHz and less than 0.1% distortion at all frequencies and delay settings.

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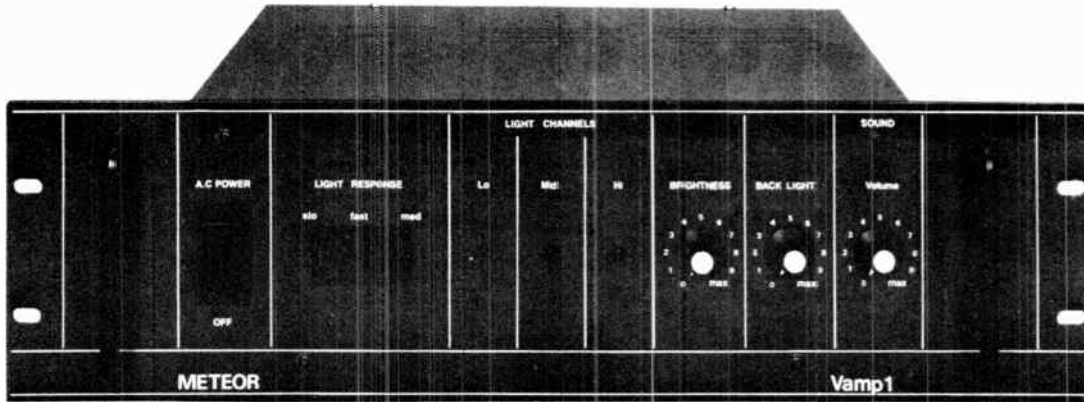


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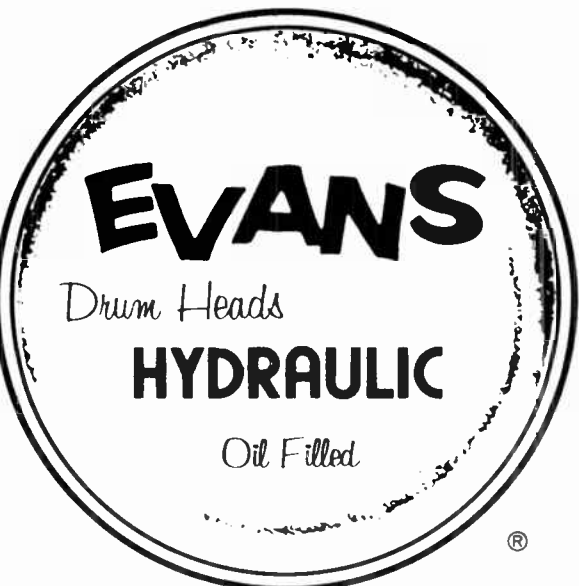
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## Groove Tubes?

What do the Doobie Brothers, Robben Ford, Ambrosia, Tim Bogart, Chicago and Dan Armstrong have in common? They've discovered Groove Tubes and have been using them in their amps with fantastic results. What, you say, are Groove Tubes? They are something *really* new and wonderful for the musician. We think they will do more for the sound of your amp and range of your expression than any modification possible.

The folks at Groove Tubes have developed a system for matching power tubes using actual amps to monitor tube performance character. The Groove Tubes for the pre-amp have also been individually tested by ear, not machine. Thousands are listened to but most are rejected because of excess noise, microphonics or just poor sound. When you've put a set of Groove Tubes in your amp you can expect more balance, sustain and punch.

California musicians have been able to buy Groove Tubes from their local Pro-Music shops but it may take months before Groove Tubes can provide distribution to your favorite store. Aspen & Associates *does* have Groove Tubes for every model amp, and we can ship them anywhere fast and safe.

To order your Groove Tubes, just give us a call, and we'll pay for the shipping. Or drop us a line and we'll send you a brochure, with prices and ordering information. As always, Aspen & Associates guarantees complete satisfaction.

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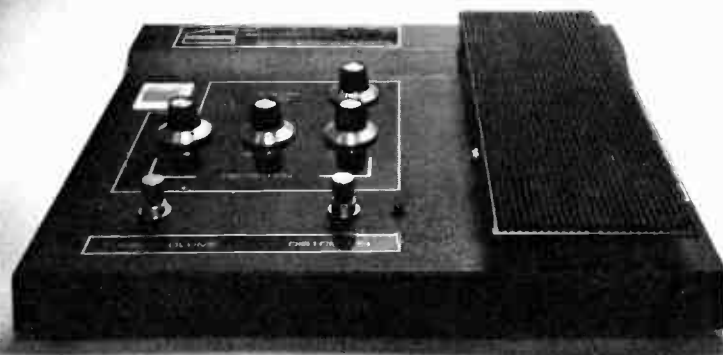
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Left to right: Plant Mgr., John Karpowicz, Kenny King, Rick "Goldie" Smith, Jerrold Tiers.

By comparing the workmanship, materials, and performance features of CRATE to the competition, you'll be able to see why CRATES have caught on in a market already crammed with amplifier brand names.

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## The Bolt Strikes

In the past few years, you've probably heard many amplifier manufacturers claiming that their solid state amplifier has that "tube amp sound." Granted, it was close, but still... no cigar. You've remained unconvinced, and so have we.

The fact is nothing can get a tube amplifier sound like a tube amplifier. But the problem is that generally you've had to give up a lot of the advantages of solid state technology in order to appreciate the sound of the tubes.

The Bolt strikes. The Bolt 60 is a 60 watt (R.M.S.) amplifier that features the standard vacuum tube configuration (one 12AT7 and two 6L6GC) to produce that inimitable warm sound rich with harmonic overtones. But unlike other

tube amps, the Bolt 60 employs F.E.T. circuitry which, among other things, greatly reduces excess noise, especially when operating at high output levels.

The F.E.T. circuitry also gives the Bolt 60's bass, middle and treble controls, the kind of flexibility musicians demand for attaining their own personal sound.

The Bolt 60 has two separate channels for immediate switching between clean and distorted sounds. Channel one features two volume controls and a master volume control to produce the classic cranked-up sound even at low volumes.

The effects section of the Bolt features a self contained reverb, and an effects loop that can be routed either pre or

post EQ, or post volume controls, so that effects can be used effectively—and silently.

The Bolt is a unique amplifier. Unique because it combines the technology of the future with the integrity of the past. Get struck by the Bolt—

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