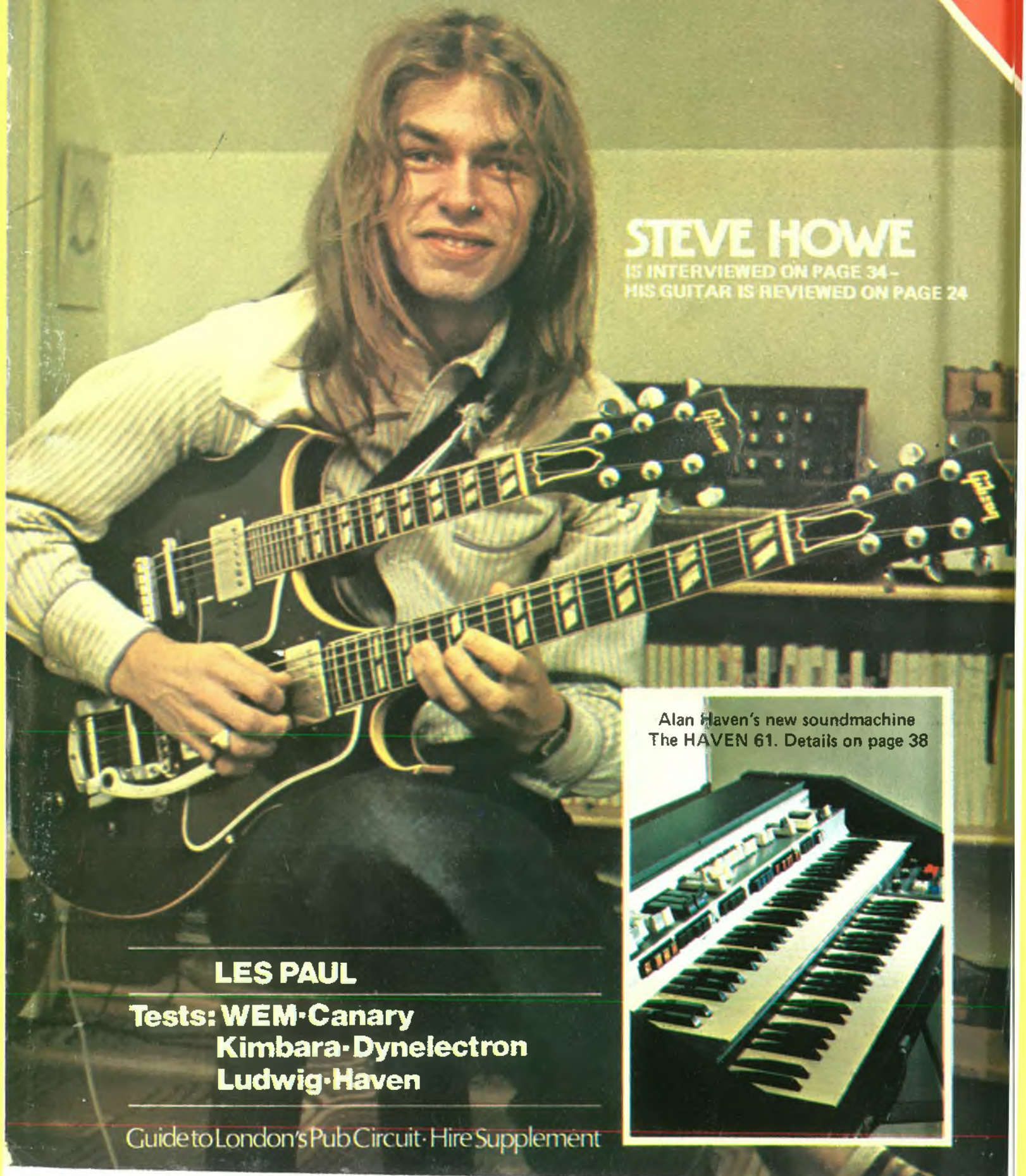


# INTERNATIONAL MUSICIAN AND RECORDING WORLD

NOVEMBER 1975 25p

GIANT PA  
COMPETITION



## STEVE HOWE

IS INTERVIEWED ON PAGE 34 -  
HIS GUITAR IS REVIEWED ON PAGE 24

Alan Haven's new soundmachine  
The HAVEN 61. Details on page 38



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### LES PAUL

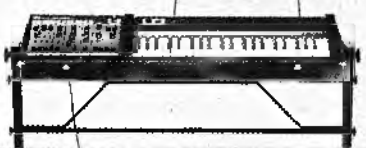



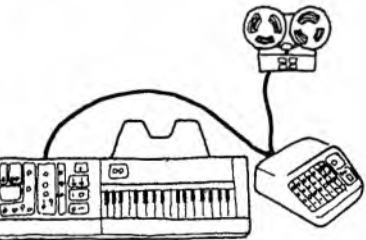
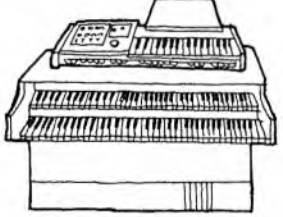

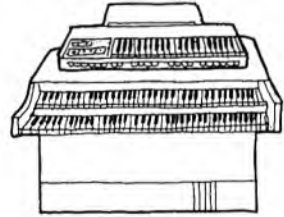
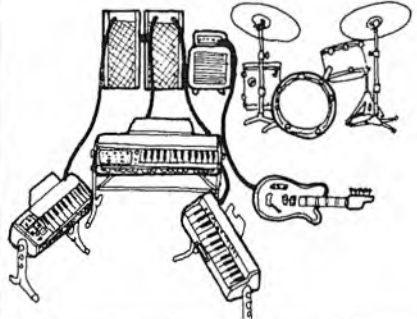
Tests: WEM·Canary  
Kimbara·Dynelectron  
Ludwig·Haven

---

Guide to London's Pub Circuit · Hire Supplement

# SYNTHESIZE THREE WAYS

## WHICH MODEL DO YOU PREFER?

TYPE		Free Producing type	Combination type	Preset type
		<b>ROLAND SH-3A</b>	<b>ROLAND SH-1000</b>	<b>ROLAND SH-2000</b>
MODEL				
KEYS				
PRESETS			Tuba Trumpet Saxophone Flute Clarinet Oboe Violin Bass Guitar Harpischord Piano	Musical Instruments <i>Wind Inst.</i> Violin Tuba Bass Guitar Trombone Hawaiian Guitar French Horn Banjo Trumpet Fuzz Guitar 1 Saxophone Fuzz Guitar 2 Bassoon <i>Percussion</i> Oboe <i>&amp; Keyboard</i> Flute Piano Clarinet Harpischord <i>String</i> Accordion Cello Vibraphone Xylophone <i>Particular Sound</i> Singing Voice Song Whistle Popcorn Space Reed Planet Frog Man Funny Cat Growl Wow Wind
FEATURES	VOICE OSCILLATOR	5 $\left[ \begin{array}{l} 32' \ 4' \\ 16' \ 2' \\ 8' \end{array} \right.$	5 $\left[ \begin{array}{l} 32' \ 4' \\ 16' \ 2' \\ 8' \end{array} \right.$	5 $\left[ \begin{array}{l} 32' \ 4' \\ 16' \ 2' \\ 8' \end{array} \right.$
	MODULATION OSCILLATOR	3 $\left[ \begin{array}{l} \text{M} \\ \text{r} \end{array} \right.$ 8' Chorus	2 $\left[ \begin{array}{l} \text{M} \\ \text{r} \end{array} \right.$	3 $\left[ \begin{array}{l} \text{r} \\ \text{r} \end{array} \right.$ Chorus Growl
	WAVEFORM MIXING	5 $\left[ \begin{array}{l} 32' \ (\text{r}/\text{r}/\text{r}) \\ 16' \ (\text{r}/\text{r}/\text{r}) \\ 8' \ (\text{r}/\text{r}/\text{r}) \\ 4' \ (\text{r}/\text{r}/\text{r}) \\ 2' \ (\text{r}/\text{r}/\text{r}) \end{array} \right.$	8 $\left[ \begin{array}{l} 32' \ \text{M} \ 8' \ \text{r} \\ 16' \ \text{r} \ 8' \ \text{M} \\ 16' \ \text{r} \ 4' \ \text{M} \\ 8' \ \text{r} \ 2' \ \text{r} \end{array} \right.$	10 $\left[ \begin{array}{l} 32' \ \text{r} \ 8' \ \text{r} \\ 32' \ \text{r} \ 8' \ \text{r} \\ 16' \ \text{r} \ 4' \ \text{r} \\ 16' \ \text{r} \ 4' \ \text{r} \\ 8' \ \text{r} \ 8' + 2' \ \text{r} \end{array} \right.$
	ENVELOPE	Envelope Selector Hold $\left[ \begin{array}{l} \text{ADSR} \\ \text{r} \\ \text{r} \\ \text{r} \end{array} \right.$	Tablet $\left[ \begin{array}{l} \text{ADSR} \\ \text{Slow Attack} \\ \text{Staccato} \\ \text{Percussion} \\ \text{Hold} \end{array} \right.$	Tablet $\left[ \begin{array}{l} \text{Repeat} \\ \text{Long Sustain} \\ \text{Hold} \end{array} \right.$
	NOISE	White/Pink	White/Pink	Preset "Wind"
MAIN USE		<ul style="list-style-type: none"> <li>In a combo style </li> <li>For recording </li> </ul>	<ul style="list-style-type: none"> <li>On an electronic Organ </li> <li>In Combos </li> </ul>	<ul style="list-style-type: none"> <li>On an electronic Organ </li> <li>In combos with the other keyboards </li> </ul>

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NOV  
1975

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INTERNATIONAL  
**Musician**  
AND RECORDING WORLD

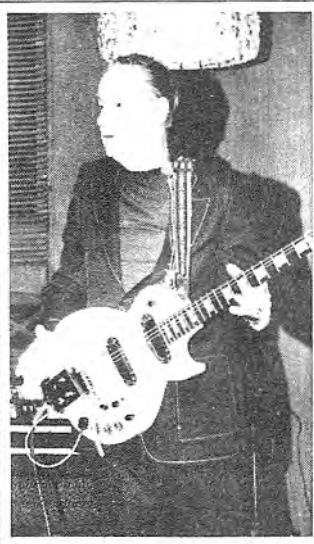
International Musician & Recording World  
17 Tavistock Street, London WC2E 7PA  
Tel: 01-836-5061

Here is the biggest ever issue of *International Musician and Recording World*! Since our first issue in March of this year, this magazine has grown in size and rapidly grown up in attitude and coverage. We feel lucky that so many of our readers tell us what they like and what they don't like about the magazine - your chance is on page 126 -- and we hope that we've managed to incorporate many of your ideas as we've gone along.

By way of giving something back to the thousands of musicians who have supported us each month, there's a giant competition in this issue with well over £1,000 worth of prizes - a PA system, Custom amp etc. - and we hope you'll have a go.

However, our main aim is to make each issue of *International Musician* worth much more than it costs to every reader. Starting next month we're starting a **NATIONAL GIG FINDER** - yes we're going to help with the gig situation! By way of a pilot we've published a guide to gigs in London pubs in this issue, but next month we're going to list venues, promoters (plus telephone numbers), types of band required, gig values, method of payment, operating nights and any other information that will help your band to find work. The gigs we cover will range from the "£15 for four hours boys" to the better kind of support at concerts or in colleges. Please **HELP** us compile this list. Send in details of the venues you know, the type of bands they take, the price paid and so on. In return you should discover more venues in the magazine that will be of use to you and we should be able to publish an up to date list that will be of tremendous value and perhaps start to break the stranglehold that agents and managers have got on the business.

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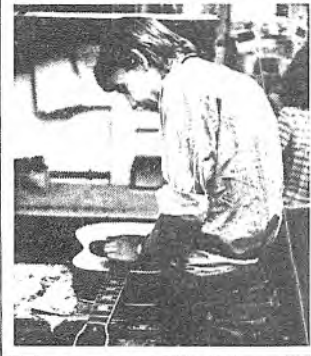
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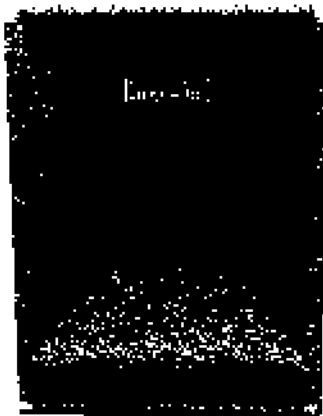
### 5 NEW MODELS

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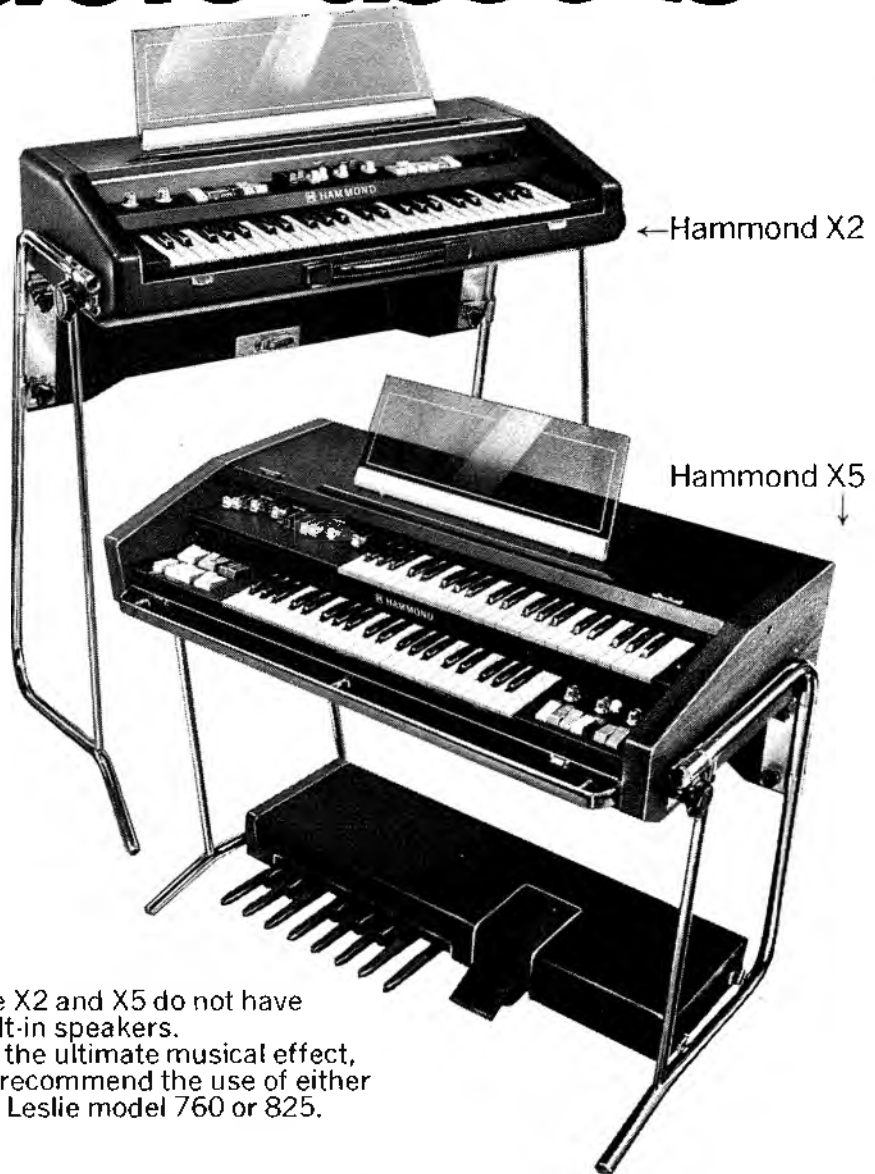
### Loud is Beautiful...if it's clean

# Hammond portables movable assets

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Both the X2 and X5 offer the 'big organ' performance benefits of Hammond tonebars and touch response percussion yet can be easily dismantled for transportation.

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The X2 and X5 do not have built-in speakers. For the ultimate musical effect, we recommend the use of either the Leslie model 760 or 825.



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edited by  
Eamonn Percival

Sir: As a musician of meagre funds, I find that the best ways to obtain a decent 100 watt guitar or bass system is to buy a good high-quality amplifier (in my case a Dan Armstrong 100 watt graphic equaliser amp) and then to build my own speaker cabs, using reputable speakers such as Goodman, Celestion, or Fane Crescendo. I'm not the only one who makes, rather than buys, speaker cabs as I know a lot of other musicians and bands who use their own speaker cabs. Despite the loathing of local music shops to deal with or help with home-made cabinets, with a lot of care and attention such cabinets can be of a very reasonable quality, and here is the heart of the problem. I have never seen an article in any music paper dealing with the construction and fitting of home-made cabinets. How about answering the following?

1. Does the internal dimensions of a cab alter the sound from the amp, providing it has the correct internal volume, i.e. a tall shallow cab as opposed to a short deep cab.
2. Should cabinets be lined with some form of acoustic padding? Why?
- 3a) Under what conditions should cabs be ported and how big should the ports be?
- b) Does a ported cab reduce feedback problems?
4. Is a 4 x 12 cab more efficient than a 2 x 12 or 1 x 15 of the same power rating?

G.A. Mcigh  
Staffs.

1. The internal volume of an enclosure has got to be calculated to give the correct acoustic loading, but the volume or area is not enough on it's own. It is also necessary to have the correct acoustic design, around the internal volume.

2. It is not entirely necessary to line cabinets with acoustic padding, providing the cabinets are acoustically well-designed and well-constructed. However, in more specific areas of enclosure design, i.e. hi-fi cabinets and studio monitor cabinets, acoustic lining material is sometimes necessary to get certain response characteristics and a particularly smooth sound. Certain speaker manufacturers (e.g. JBL, Altec etc.) recommend cabinet designs for their speakers, and they would specify whether acoustic padding was required for a particular enclosure.

3. In the design of reflex enclosures, a porting method is sometimes used to improve bass performance, and the cross-sectional area of the ports must be calculated in accordance with the internal area of the enclosure which handles the bass driver. It should also result in the elimination of unwanted resonances, and should reduce feedback problems to an extent. However, feedback can result from many different areas of a sound system, and will be discussed in detail in a forthcoming article on PA systems.

4. Not necessarily. It depends entirely on the acoustic design of the cabinets, and the efficiency of the speaker units used.

Sir: I have recently bought a Colorsound Tone Bender and a Top Gear Wah-Wah, which I use linked together through a 100 watt amp (transistor). This gives me the sound I want but I am having terrible problems with feedback and this prevents me from playing at the required volume. Is there anything I can do to correct this?

Dave Green,  
Northwich.

Through driving the amplifier from the effects pedals, you are obviously inducing a high-level signal, boosting the middle frequencies and this could be causing a form of "instability" with the amplifier. We would suggest you try altering the amplifier's tone controls slightly (possibly the presence or treble), or try to reduce the signal going into the amp by reducing the guitar volume and compensating for the loss of volume by turning up the amplifier volume. Another test would be for you to get the pedals checked, if the amp works perfectly well with the guitar plugged in direct.

Sir: I have purchased a second-hand Hayman 3030, but unfortunately cannot find any information or second-hand price in your magazine. I am quite happy with the guitar, but I have heard a lot of talk about Hayman going bankrupt. I wonder if you would please give me some information on this subject, and possibly the second-hand value. (I noticed you had an article on Hayman in your first edition).

Peter Scott,  
Altrincham.

The Hayman range of guitars were manufactured by Dallas Musical Ltd., who were a subsidiary of John E. Dallas & Sons Ltd. When the latter went into liquidation earlier this year, CBS Arbiter acquired Dallas Musical Ltd., who are still handling Hayman guitars and drums as a subsidiary of CBS Arbiter. The Hayman 3030 originally cost around £160, and the second-hand value should be about £100 - £120 depending on the condition.

Sir: I am hoping you can help me. A couple of weeks ago, I bought a Carlbro 60 TC combo amp. It is fine in that it has a nice tone range, but one thing worries me. When I have the amp set for a trebly sound and play fairly high notes on my guitar, I get an irritating high-pitched metallic rattle. It seems to come from the speaker itself, as I have gone around the cabinet and cannot find my loose fittings. I hope you can advise me as to what it might be as I am still at school, and therefore cannot afford to replace faulty equipment. Thanks.

Paul Greenstreet,  
Margate.

There could be a variety of reasons for this. You could possibly be feeding too high a signal level into the amplifier, which could result in a certain amount of distortion. It may be the tone settings you are using, in which case you should try altering the treble controls on both the guitar and amplifier. One or more

of the speakers could be at fault, so you should return the combo to the shop where it was bought, and they will check the unit for speaker faults. You don't specify whether you bought it new, but if it is still covered by a guarantee, the replacement of a faulty speaker would be carried out free of charge.



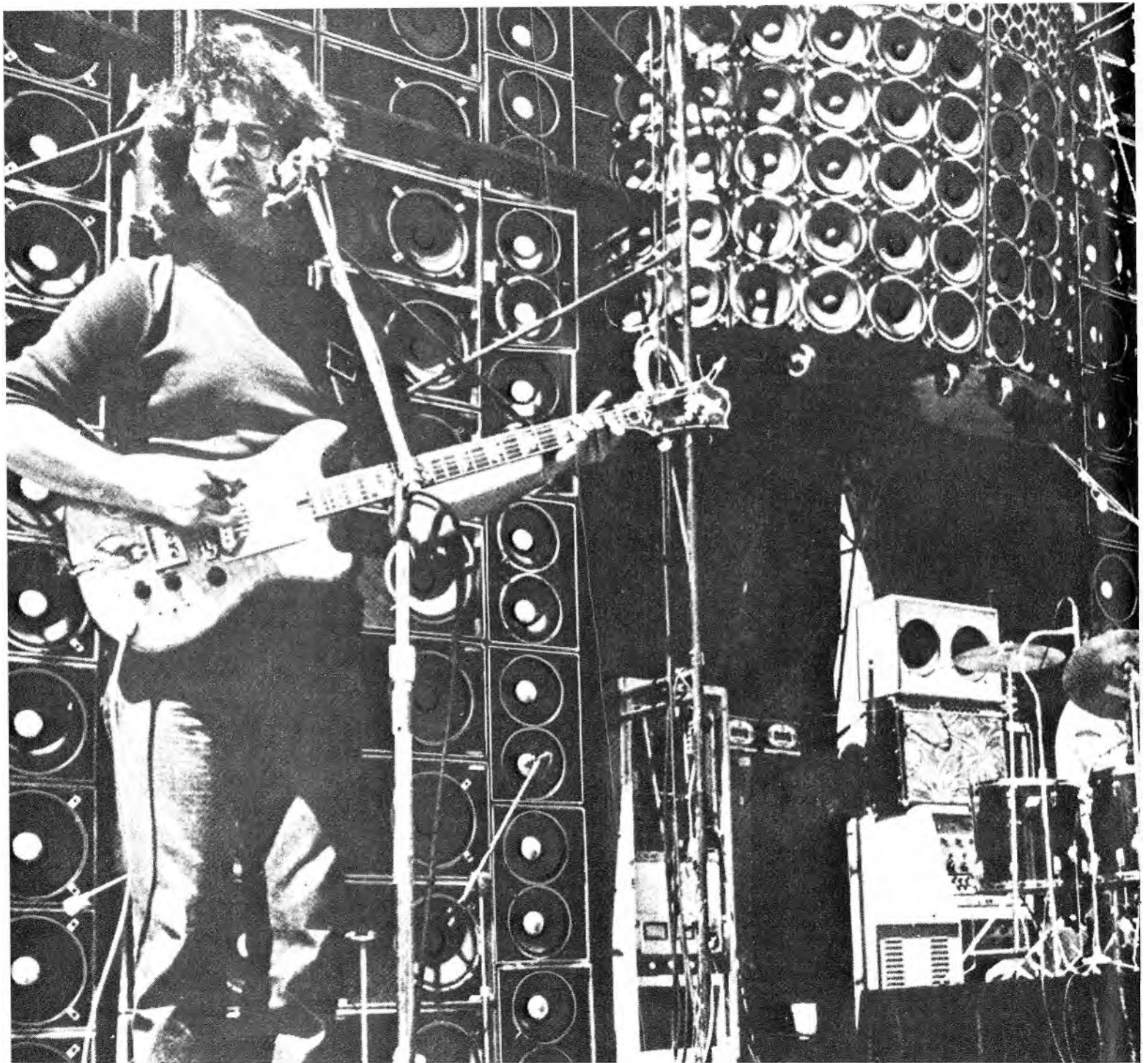
Simms-Watts Vocal Blender - won't relace stacks

Sir: I am forming a band, and am thinking of injecting all the instruments direct into a 6-shot desk e.g. Simms-Watts Vocal Blender, or similar equipment by Davoli, Yamaha etc. Since we cannot afford a soundman, I have considered siting the desk on stage and the columns backstage allowing the players to adjust the controls on their channel as they would adjust their amp in a normal set-up. This obviates the need for monitor bins until we expand, means we can rehearse from the monitor output in our flat, tape direct, and is cheaper and more compact than individual stacks. Can you see any problems with this? If not, why doesn't everybody do it? I play lead guitar and dislike a valve sound, so there's no loss there. Hope you can assist.

Stu Lambert,  
Chesham.

I can see quite a few problems with a set-up like this. To begin with, there would be feedback from the microphones, as they would be positioned right in front of the speaker columns, so the volume would have to be kept at a minimum - probably not enough for the sound to carry at a gig. You would also have trouble in getting anything like a good bass sound by feeding the bass straight into a mixer. The sound produced would be very dead and flat, and I doubt very much if a normal column would handle the low frequencies from a bass guitar.

If you don't want to use stacks, you could have each instrument going through small combination amps, and these in turn could be "miked up" through the mixer and the overall volume controlled from the mixer. Of course, the columns would be best situated on either side of the front of the stage.



## Has your sound system reached the he

Don't get us wrong. We're great fans of the Grateful Dead.

But just look at their bank of equipment.

It's getting to the stage where it takes a fleet of pantechicians to transport it. And scaffolding to erect it.

And whether you're an established band or just getting it together, things won't get any lighter with ordinary equipment.

Enter Bose.

We arrived on the American scene in '71. And already, many of their bands have got rid of their old gear in favour of ours.

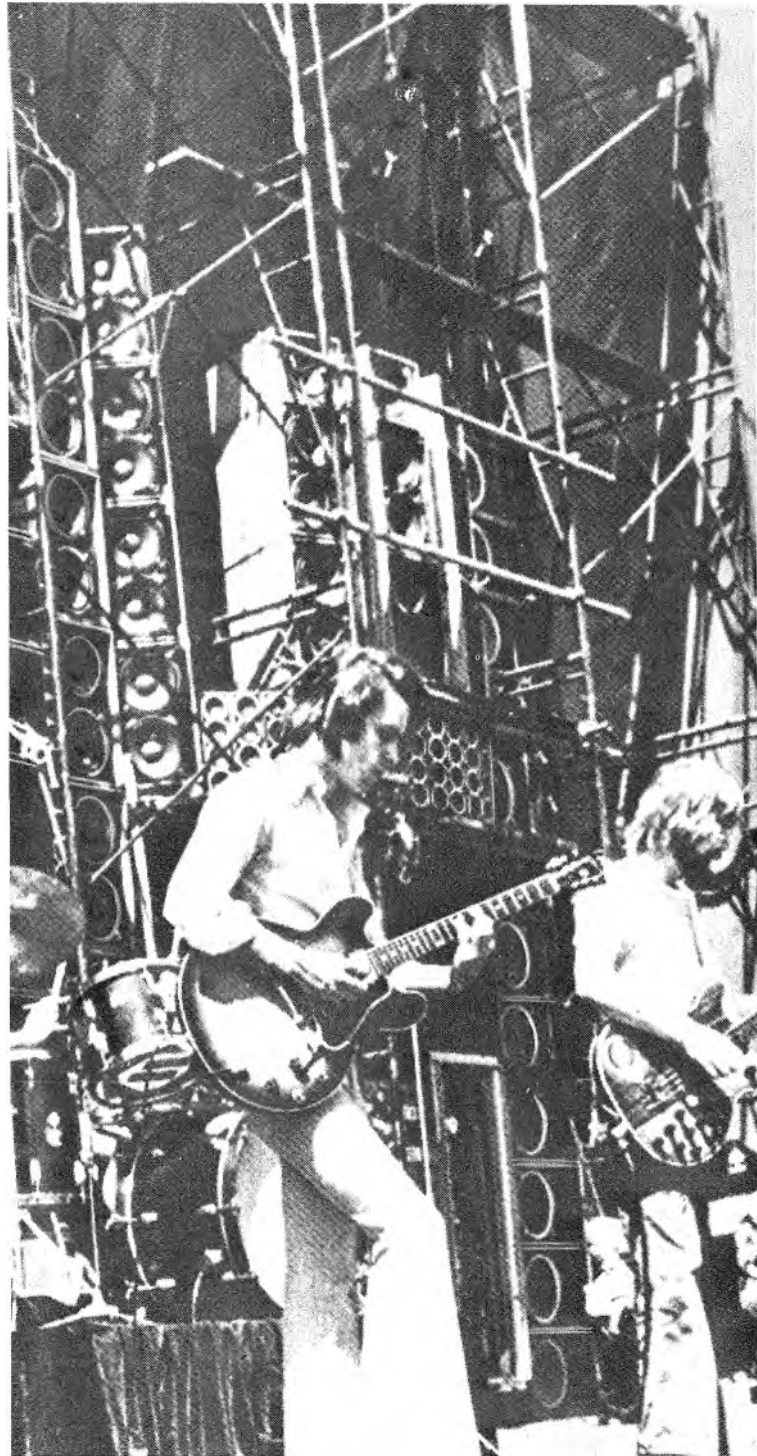
Because Bose amps and speakers are small and light. (You don't need to be a muscle-bound roadie to lift our 43 lb speakers or our 80 lb amps.)

But incredibly, Bose 800 speakers and 1800 amps give a quality and volume no ordinary system can achieve.

(It only takes eight pairs of our speakers to fill a 20,000 seat sports arena with sound.)

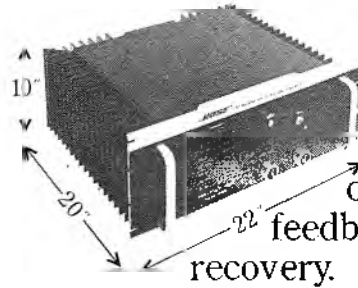
So when, for instance, James Last plays an open-air concert, he doesn't ask for Bose equipment. He insists on it.





While in order to cut power transistor stress, our amp shares out the power between 14 transistors.

The Bose 1800 amp (with case).



The 1800 also has a special overload recovery circuit which senses power overload and adjusts to feedback to ensure rapid recovery.

And just in case there are abnormal load conditions, it's equipped with electronic current limiting.

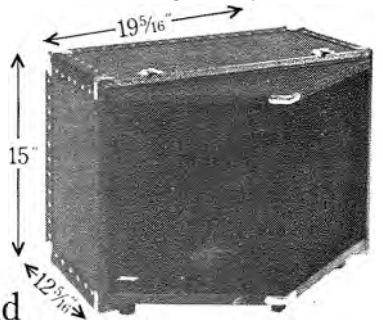
Bose 800 speakers.

Our speakers have multiple drivers in an air-sealed enclosure.

This gives smoother response than ported bass cabinets (which are often 'boomy') and horn-loaded drivers (which often sound 'peaky').

Excellent transient response is another feature of the 800.

The Bose 800 speaker (with cover).



Small cones powered by massive magnetic structures provide rapid response to transient signals.

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## ight of absurdity?

Bose 1800 amps.

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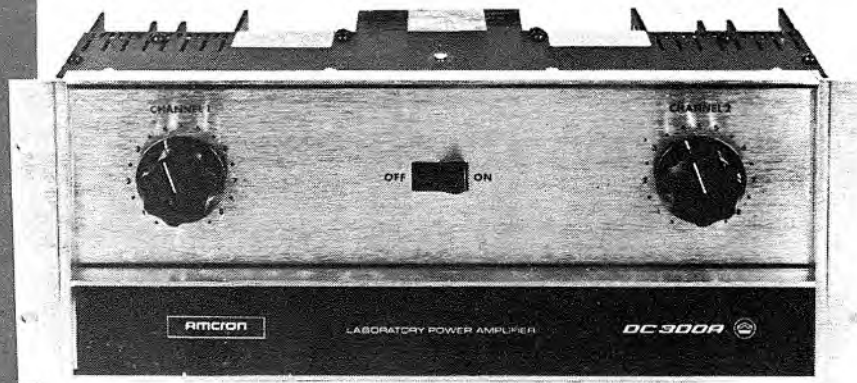
The LED's also provide rapid response and a wide dynamic range.

A special delay circuit is used to limit power supply inrush currents at the instant of turn-on. This extends the life of power supply capacitors, rectifiers and pilot lights.

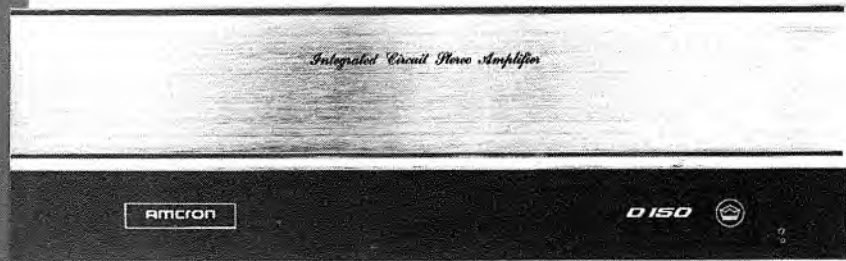
M600



DC300A



D150



D60



# Pass Go: Collect £200

Buy an Amcron Power Amp and when Rock Monopoly sends you on to Park Lane, you're ready ... for anything.

Insist on buying outmoded 100 watt slaves and you're taking a chance of throwing away at least £200 when the band's success demands more sophisticated amplification.

Invest your money wisely - with an Amcron amp, you won't have to go to the bank when your band takes off.

*The M600*, While maintaining the exact performance standards of the DC300A produces 750 watts (monaural) into an 8 ohm load, and 1350 watts into a 4 ohm load. Built for durability and trouble-free operation, the M600 includes built-in cooling which permits continuous full power operation. R.M.S. Power Response +1, -0dB DC -20 KHz at 600 W into 8 +1, -0dB DC -15KHz at 1 KW into 4 Hum and noise (20Hz to 20 KHz) 120 dB below 600 W into 8 Typ.

*The New DC300A* will give up to 500 watts from one channel with distortion lower than 0.05%. Hum and noise is below 110dB below 150 watts, and the DC300A is now able to operate into loads as low as 1 ohm. Power Response + 1dB, -0db DC - 20 KHz @ 150 watts into 8

*The new D150* offers up to 180 watts from each channel or 330 watts as a mono amplifier. Again very low distortion and rugged construction make the D150 ideal for smaller PAs and fold back systems. The Power Response of the new D150 extends from DC to 20 KHz.

*The D60* will provide up to 60 watts from each channel, and is of the same high quality as the D150. As a mono amplifier it will give over 100 watts. The D60 is only 1 1/4 in. thin. Power Response +1 db 5 Hz - 30 KHz at 30 watts into 8

*The VFX2 Electronic Crossover* is suitable for use with any of the above amplifiers and provides a two-way stereo or three-way mono crossover.

For full details contact



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# It's about time this country had a new reliable Transistor Amplifier

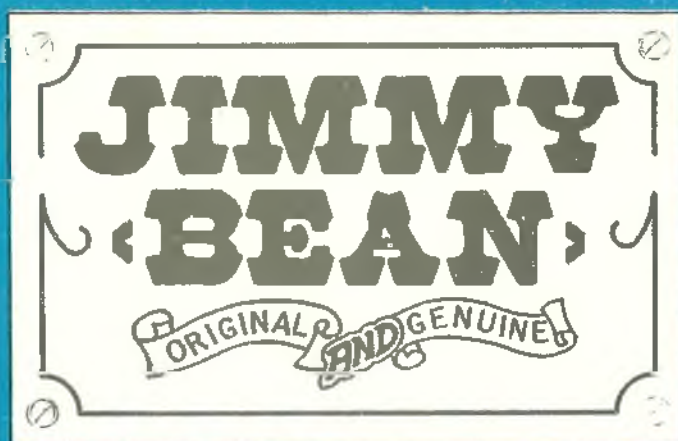


How about an amplifier:-

- With \* Real jean denim covering
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- With \* Stereo pre-amplifier — with 4 switchable channels.
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- Avec \* Sustain control
- Con \* Tremelo & footswitch
- Med \* Master volume controls.
- Visa \* 150 watts output
- Leis \* 4 Transistors for output instead of the usual 2 ( ensuring cool reliable operation)
- Im \* Probably the quietest amplifier available
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Les Paul is rightly called the "Father of Electric Guitarists." He's also the father of multitrack recording and many other musical inventions. He's a fine guitar player — perhaps not as good as he was at his peak — but still, very, very able. We spoke to him during his recent flying visit to London.

*I want to talk about your present rather than your past. You're still doing a lot of engineering in your own studio; after so long in recording, how are your ears? Can you still hear above 16 kc?*

I can hear to 16 and that's it, I can hear to 16 on this ear (*points to his right ear*) and this cotton wool is only in here because of scar tissue built up from an operation. I've had two operations on this ear and they've put a new ear drum in. *So you've not been affected by sitting under monitors for so long?*

No . . . . well . . . I've got to retract that, re-wind that tape. What happened is that with my good ear I can only hear to about 12 or 13 kc.

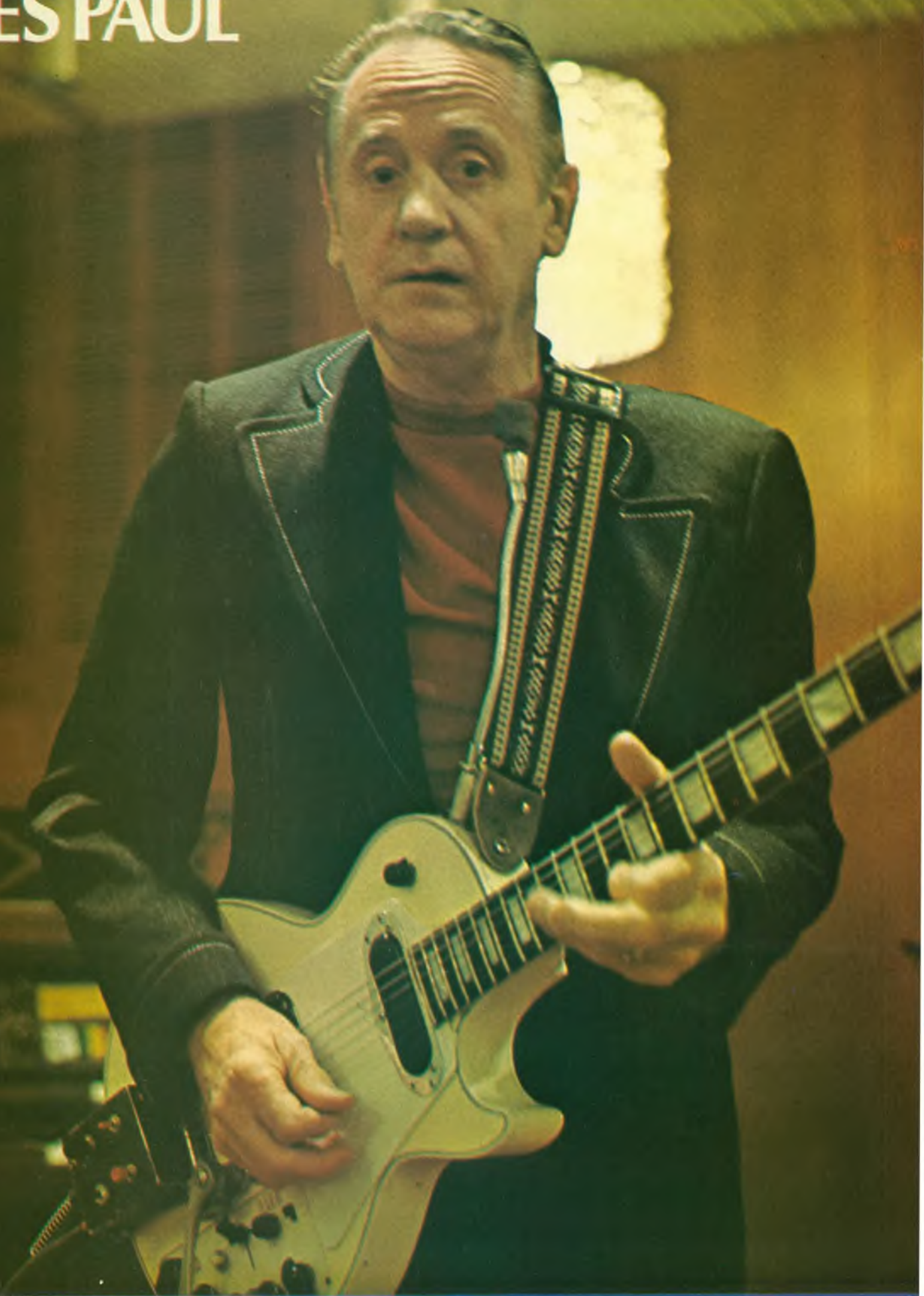
*So how does that affect your mixing?*

Well it's very easy, how much is above 13 kilohertz anyway? Two beers right now would destroy your hearing up there, so what?

You ask about my hearing, I'm going to make this short. I went to the Mayo Clinic about my ear. The doctor said he would like to make a very small incision in my right eardrum to find out if there was any fluid behind it. He went in there with a tiny little needle. "He said there's nothing there, how do you feel?" And I said "Well the rumbling has stopped and I'm down 40 dB at 125 cycles." So he says "What?" I repeated myself and he said "Nobody can make that statement. I know you're a musician, Mr. Berlin said this." He then called in another doctor. Finally there's about nine doctors there and they march down the hallway and they put me back in this booth to test my hearing. They take the card out they made before they punctured my eardrum and they did the tests all over again. When it came out, there it was 125 cycles, down 40 dB. Now he had made a bet with me with the nine other doctors and if I won the bet the clinic is free to me. I won the bet. I not only won that bet but I go up to the Mayo clinic now and if there's 40 people with their heads bandaged all I've got to do is say, Les Paul, and they say "Come on in". They said "can we use you in The Medical Journal" and I said "As long as I'm alive." They described it as phenomenal but the way I checked it is just by snapping my fingers quietly and listening. The ear healed up in a week but the rumbling is back.

*continued on page 14*

LES PAUL



# Les Paul

from page 12

The original question you asked about the mixing . . . . It's as good as the other guys.

*How much time in your private life do you spend in your studio?*

Just about all of it. Either there or in the laboratory.

*Tell me about your current equipment?*

Well the current equipment is three 16 track Ampex machines, the original eight track I made, which, incidentally, is still superior in signal to noise and distortion and it's a better machine than any on the market today. The cross talk is way down, about 16 db down.

*So why is it still better?*

It's the design of the head, number one. We are working at a very low impedance on one inch tape. The new machines like MCI, like 3M, like Ampex 1100 are basically using two heads, an erase head with identical record and playback heads so it's a compromise. The reason the record and replay heads are identical is that they'll have equal response in self-synch but they're cheating because they're taking a beating by using the playback head as a record head so I don't want that. So on my machine I have an erase head, a record head and a playback head and make the record head when you're in self-synch flat response so that you're monitoring to it and you can also group these up and put them on a single track if you wish and you've got linear or flat response, OK?

*What desk are you using now?*

At this moment I'm using my old original desk, an old tube job but by the time I

get home we should have our new re-mix board in, which is 24 track, but we'll be using it for 16. It's a cross between an MCI and Neve. Built in our home, the modules are to all intents and purposes Automated Process so it's a real hybrid. *As the inventor of multi-track you must have spent more time mixing than you ever have recording.*

No. This is the ironic thing. My son goes in to go rat-a-tat-tat on his drum and in ten minutes its done. I don't do what the kids do and take a month to mix it. I'm in and out of there so fast. I go down to Chet Atkins . . . . he says "Can you come down Wednesday?" . . . . I say "OK", I go there Wednesday. Check in a place, we record Thursday afternoon and Friday morning I'm going home. Chet says "The hurricane just left" and I'm all done.

*Is that just experience?*

That's right, I know just what I'm going to do and I lay it down and I don't expect someone to go in there with scissors and start operating and doing a hysterectomy on my chords. I got it all laid out. It can happen now. I pick up a guitar and start playing 'Caravan' and Chet says "Can I play it in D" and I say "Fine." Don't make no difference to me what key it's in. The difference between Chet and I is that Chet says "I'm going to do mine over again" and I say "Don't touch mine it's all done."

*I'm a "back to Mono" man . . .*

. . . I am too.

*. . . and one of the main problems, I believe, with the multi track system you're responsible for, is the things you lose through multi-track techniques. You get a vast technical facility but it seems that you can lose so much from the music — which is what recording's about, after all.* There you are . . . the feeling.

*How have you managed to fight the problem you've created . . . ?*

About a year ago my mother said to me "Lester, you wouldn't get mad at me if I showed you something would you? I said "Well I don't know until you show me." She said "You played better before you got all that equipment. She dug out the old "Whispering" I made and the new "Whispering" I made. Technically the new "Whispering" was better but the old "Whispering" has the best feeling. I believe that the feeling is much more important than any thing else.

I'm stacked up with 16 tracks and I walk in and I only use two or three tracks. The biggest secret of all is that machine . . . . I put it to someone the other day . . . . the secret is that man runs the machine, the machine does not run man. The kids today let the machine run them and



when the machine tells you what to do, you've got a problem. So when I make a recording and send it to Capitol records they say "Well the record's not done yet, you must have sent us the wrong tape." I say "No you've got the right tape." They say "But there's only one voice on there and one guitar". I say "What's wrong with that?"

This goes for equalisers, echo, everything. Guys in studios start grabbing knobs, patching. I come in and pull all the patch chords out, turn all the controls to flat and then start recording.

I'm the guy who started close-miking techniques. It started because I had such crummy equipment that if I pulled back that far I'd be getting so much noise it would kill everything. I was doing low level mixing with pots across the mike line. In my studio you're never going to see a drummer in a separate room and you're never going to see a bass player in a separate room. I guarantee you they've got studios where the classical guitar player is in another room and they're linked by cans. The guy doesn't know when he comes down to cut a record whether it's Mowtown, or Atlantic, or Columbia or what it is. The guy just plays and then "Next" and they're out. Then the next section comes in and you get records with 99 people on them and most of them have never met each other. You get recording dates where the guy starts in LA, he's in Denver mixing and he's in London cutting it. That's just for one song. We do it another way round. We just switch on and play it and in 15 minutes or half hour it's done.

I believe that the musician should know before he goes in there what the hell he's doing. He should know. I walk in. I say "What are you using for monitors, how've you got them placed, how much are you wiping off that top end, are you shelving it or are you drooping it, what size are your speaker cabinets, where's the resonance etc. etc."

I call them the great pretenders. You go into a recording studio and there's four or five great pretenders, right? You play out there and it sounds like something, you come in here and it sounds like something else. The kid's got 10,000 watts out there and he wants 10,000 watts when he comes into the control room. You can't give him that. Turning up ten speakers is lying to you. When it gets that loud it's a phenomenon of the human ear that it flattens out. So it starts to go flat on you. You ever hear a guy tune loud? He's flat. So he turns the volume down and he's tuned sharp. That's why I tune to one note and say to the other players "Don't do me any favours." My guitars going to

be different in intonation to anyone else's so I have to tune to myself.

*Do you get angry with your playing today?*

Sure.

*Does it bother you so much that you have to practise?*

No, I just wait until tomorrow. It's just like a guy who plays baseball and find he's in a slump. So this baseball player divorces his wife, leaves his kids, changes his stance and he becomes a mess. He's in a slump and he knows it will soon be over and things will be fine. I feel I never play bad but pretty often I can sure as hell play better.

*Do you surprise yourself as a player?*

You saw it, I look up and I say "Thank you God" and that's it. I surprise myself all the time. I made a run at Carnegie Hall I never thought I'd make in 25,000 years. It didn't come from my head, it came from my fingers, my brain was in my fingers. I just let go with a run and went up that goddam board and it was so clean that if I sat down and tried it again I'd never do it in a 1,000 years.

*What's the stimulus?*

It's the adrenalin that comes from up here because they're out there. You walk out with the attitude "I'm not going to make it tonight" and they ain't going to make it, you got to make it. They ain't going to react for you. For every action there's a re-action. They're a bit like judges, but they paid to get in. Judges don't pay to get in. Entertainment is what music is about, give them what they want. If I'm Miles Davis I'd want to kill them. I'm saying I constantly adjust to that audience and I can tell immediately if I've gone too far to the left or too far to the right. I want dead centre right down the line. So if it isn't happening I'm not going to play funky blues when these old ladies are there with cherries in their hats.

*What's the weakest part of your technique?*

Probably the weakest thing that I've got is that I get into that terrible trap of playing for a musician. If I start playing to impress the musician and lose my audience I'm very angry at myself because I'm playing for one guy and I can't do that. If Benny Goodman is in the audience and I think "I'm going to show him" I catch myself real fast and try to keep my feet on the ground.

*What's the best thing you do on guitar?*

I don't think I do anything any good.

*If we can allow you to be totally immodest . . .*

Listen you got the most un-modest man you could meet. If I played good I'd be the first one to tell you.

*continued on page 16*

# Les Paul

From page 15

*What gives you the most satisfaction in your playing then?*

I know what that is, that's heart. It sounds like I need money, like I'm broke. I play like a coloured man who's a slave, like he's really in trouble. He cries. In fact I've said many a time, I don't want to know how much money I've got and I don't want to know what the conditions are I just want to let it all hang out. I love the blues, but it's not easy to play. I almost have two types of show. One is a jazz show and one is a commercial show. Invariably they keep putting me in a jazz position and I never considered myself a jazz musician even though I was the first one to play jazz at the Philharmonic. I made Norman Granz a millionaire. I've been playing with Lester Young and Art Tatum and Oscar Peterson and you name it. But I never considered myself a jazz player. Personally I have no desire to have a plaque on the wall as a jazz guitarist.

*I think every guitar player I've spoken to finds himself subject to patterns that appear within a certain number. Do you find a group of patterns that jump up and want to be used? And how do you break down this barrier to play something new?*

Great question. I'll tell you what you do. You book Carnegie Hall and it's Thursday eight o'clock. I say, "We're going to meet on stage." He looks, he looks and everybody says, "You're kidding." George Benson's been practising for 50 days to do this thing and we don't meet until we're on stage. I walk out say hello to the audience and then I look over to Bucky and I say "Are you ready, Mary" The audience cracks up, we all start laughing and we're into it. I don't tell them what key it's in, I don't tell nothing. The whole show is strictly like he's on his toes, he doesn't know what's going

to happen next, I don't know what's going to happen next and you're flying strictly by ear. The show comes on great and any time you rehearse it's going to fall into a pattern when a guy says "Hey, play that again, remember what we played last night?" — the guy starts copying himself and the feeling has gone.

*By its very nature the guitar is a very limited instrument. How do you break those limits when you're arranging or composing?*

Yes it's a beast. In arranging I think of a piano because if I close my eyes and picture a guitar keyboard I'm going to go insane. I play piano and when I close my eyes I can see a chord on the keyboard and that's the way I arrange something. If I play and arrange something on guitar I not only know what part 2 will be like I know how parts 3 and 4 are going to sound. The first and second harmonies are OK, the third one's more difficult and part 4, that's all Arab music, you should send it to Egypt.

*When you get up in the morning and pick up a guitar for the first time is there always one particular lick you'll play?*

Yeah I loosen up. I have something that sorts me out. I relate to baseball again. You throw a pitch over and see if you can lay it in the strike zone. And you find if you lay four or five of those in a row and you've got him with your curved ball or whatever you say "Today is cool, it's OK." And there's another day you pick the thing up and it's like you've picked up the worst thing you could ever pick up in the world, nothing is right. 99 per cent of it has got more to do with your head than with your hands. I can go out on stage with my chops all off and if my head's together I can go out there and kill them.

I've got to play three or four runs to know that I'm pitching right over that plate. So I have what I call a junk box. I have my frozen licks and they'll tell me. Those frozen licks are things that will always get you out of trouble as well. You'll never need them if the show's cooking but if you get into trouble you can dive right back into them. They're simple and good and they're tried and tested and they can certainly get you out of trouble.

Incidentally one of the toughest things at Carnegie Hall is that there's no place for you to warm up. The instrument is out there and plugged in and you walk out there, put the thing over your neck and zonk! I can't go there and tune for five minutes, that's for amateur night. That's what gets so tough. In show business it's easy to get on and tough to get off and the first impact counts with the jury. □





# ALBUMS

## Argent: *Countprints*: RCA RS1020

The music in this album is frightening. In the last year or so, American albums have "out musiced" UK recordings, but the standard of this music is as high as any in the world. This band have got so, so good. Always a sideways step ahead of the rock *Milieu*, Argent have now matured into a considerable musical force, being, above all, a band, (rather than an individual's vehicle) producing here music so rich in texture and colouration that it gives this reviewer real hope for the future of contemporary music. They're not just tight (so tight), they're not just inventive and imaginative, they're (most important) highly creative and their music draws a deep and bold line between what is happening now and the stupid, idle preoccupation with rock's history that is currently fashionable. This music is better than that which went before and on this album there is music to entertain, as well as to marvel at. Despite Bob Henrit being ill for some of the recordings, the band have made their best album to date. This confirms that the band is among the best in the world.

*No recording information supplied.*  
Ray Hammond.

## Strawbs: *Nomadness*. (A & M AMLH 68331)

From being perhaps the most interesting band of the early seventies, Strawbs have plunged into an abyss and fallen onto a ledge that's offering them succour of a kind more nourishing than could be found from life growing on the edge. America has come to the Strawbs as Britain sighed and let them slip gently away into the darkness and the result is a band with English hearts and English voices who are making recordings of a most confused nature. The brilliance that lurked deep in Dave Cousins throughout the successive Strawbs emerges in a few tracks on this album, but the potentially explosive and highly exciting partnership between him and Dave Lambert has failed to materialise — at least for the detached listener to the album. Chas Cronk and Rod Coombs have proved themselves to be really able players but there is a pervasive lack of direction that spoils the overall delight that existed with some Strawbs albums. Touring regularly in the States may finally pull some album cohesion from the band if they've stomach to continue (literally!) and this is kind of a marking time album. For listeners prepared to give a little (time) to get a lot of joy in return, there are sufficient tracks on the album to remind one of the giant talent riding almost silently in and out of the songs. There are also some more everyday pleasures to be found. Listen to Dave Lambert's beautifully controlled electric guitar on "Absent Friend" on Side One (and his controlled guitar explosion on his own "Little Sleepy" on side two).

*Recorded at Sound Techniques, Chelsea. Engineered by Vic Gamm, Produced by Tom Allom.*  
Ray Hammond

## Sparks: *Indiscreet*. (Island ILPS 9345)

As education gives more people fluency with language and rock progression demands (for the first time) competency in musical composition and performance, so contenders spring up with these attributes. The difficulty is that this ability creates a smoke screen that makes it hard to distinguish whether or not any real talent exists. When rock was still about grunting into echo chambers it was easy to spot the real giant talents. Today Sparks exhibit all the articulation expected of real talent but at the end of this album I still felt there was a question mark over the band. Sparks have certainly managed to create a unique sound, but it's almost unbelievably contrived and seldom works with any real effect. The main composer is Ron Mael and he juggles rhythms tempos time signatures and words with the ease of the expert. But take away the expertise, the educated control, and is there anything of fundamental importance? The album is *carefully* recorded and tightly produced (Tony Visconti) and the selection of songs is varied. Each track has highlights of either musical athleticism of prose dalliance and despite running, bubbling imagery in Ron's lyrics which conjour scenes as quickly as one could shuffle a pack of holiday postcards, the final impression is similar to a chinese meal — interesting but unsatisfying.

*No recording information supplied.*  
Ray Hammond

## Climax Blues Band: *Stamp Album* BTM. 1004

Despite increasing popularity in the States, the Climax Blues Band haven't really achieved the kind of acclaim that their musicianship deserves. This is their seventh album, but their first with RCA, and hopefully "Stamp Album" will manage to reach a wider audience than the others did. It ought to, the music is tighter and smoother than it's ever been. The band has been together since 1969 and there's an accumulation of six years united playing on this. They're like everything The Average White Band should be, but more so. The range of instruments they play make them sound many more than five — a lovely mixing job has been done. All of the members sing and they don't hit a bum note between them. Very pleasant harmonising throughout, especially on "Mr. Good-time". Side one starts with a fast, down beat intro into "Using The Power", a speedy track with an uncredited lady singer or one of the band doing a soprano bit. Also on side one is "Running Out Of Time," a black Blues, definitely dancing knee-bend number. Side two has the most instrumentally interesting track. Its called "Rusty Nail/The Devil knows." A combination of weird pedal effects and brief fairly unintelligible vocals which still maintain some kind of basic blues rhythm.

An excellent album — enjoy it.  
*Produced by Climax Blues Band, engineered by Alan Vamer, Ron Saint Germain, Clearmountain, Godfrey Diamond and Geoff Emenits. Mixed by Clearmountain and Climax Blues Band. Elaine Cooper.*

## The Who: *The Who By Numbers* Polydor 2490 129

"The Greatest Rock And Roll Band In The World" proclaims Polydor's ads for this album, and how right they are! For over ten years, The Who have been responsible for some really magic moments in rock and, judging by this album, they will continue to do so for a long time. The album opens with "Slip Kid", a powerful number with a "Magic Bus" rhythm and Townshend playing octaves. The chorus has a particularly effective chord sequence, and the song fades out with a scorching guitar solo. Acoustic guitar and a tumbling bass and drum line introduces "However Much I Booze", the first of two songs featuring Townshend on lead vocals. There's a complicated guitar line running throughout the track as Townshend airs his frustration with lines like "however much I booze, there ain't no way out". "Squeeze Box" follows, a strange choice for The Who and not at all like the 'live' version with naughty words and a rip-roarin' banjo solo, it seems out of context with the rest of the album. "Dreaming From The Waist" is more aggressive, and the middle-eight demonstrates The Who's faultless harmonies. "Imagine A Man" is taken at a much slower pace, with little more than an acoustic guitar backing Daltrey's heartfelt vocals and, again, superb harmonies. Side Two opens with Entwistle's "Success Story". It's basically a brief biography of The Who, very cleverly done with snatches of the bass lines from "My Generation" and "Pictures Of Lily" hidden in the middle-eight. "They Are All In Love" is a good, old-fashioned waltz, with piano and acoustic guitar intro leading into a very melodic number. "Blue, Red And Grey" is my favourite track. Sung by Townshend and accompanied only by a ukulele, it's a gentle, wistful number with a beautiful melody and poignant chords. A brass band enters unobtrusively into the background, and whoever thought of that deserves a medal. It's totally unlike anything The Who have ever done before apart from, perhaps, the beautiful "Sunrise" on the "Quick One" album, but it must be one of Townshend's best moments. "How Many Friends" starts off fairly slowly and then builds up to the power and aggression normally associated with The Who. Daltrey sings of the age-old problem about not knowing who your real friends are, and the powerful backing perfectly complements the lyrics. The album ends with "In A Hand Or A Face" which has GOT to be played at maximum volume to be appreciated. Built around the chords from "Waspman", the B-side of "5.15", it features Moon going berserk on toms and cymbals, while the rest of The Who harmonise on the chorus. I imagine the reactions to this album will be mixed, as a lot of it is not what everyone has come to expect from the Who, but it's a GREAT album from a GREAT band.

*Produced by Glyn Johns, recorded at Rampart, Island Mobile and Eel Pie Studios.*

£amonn Percival.



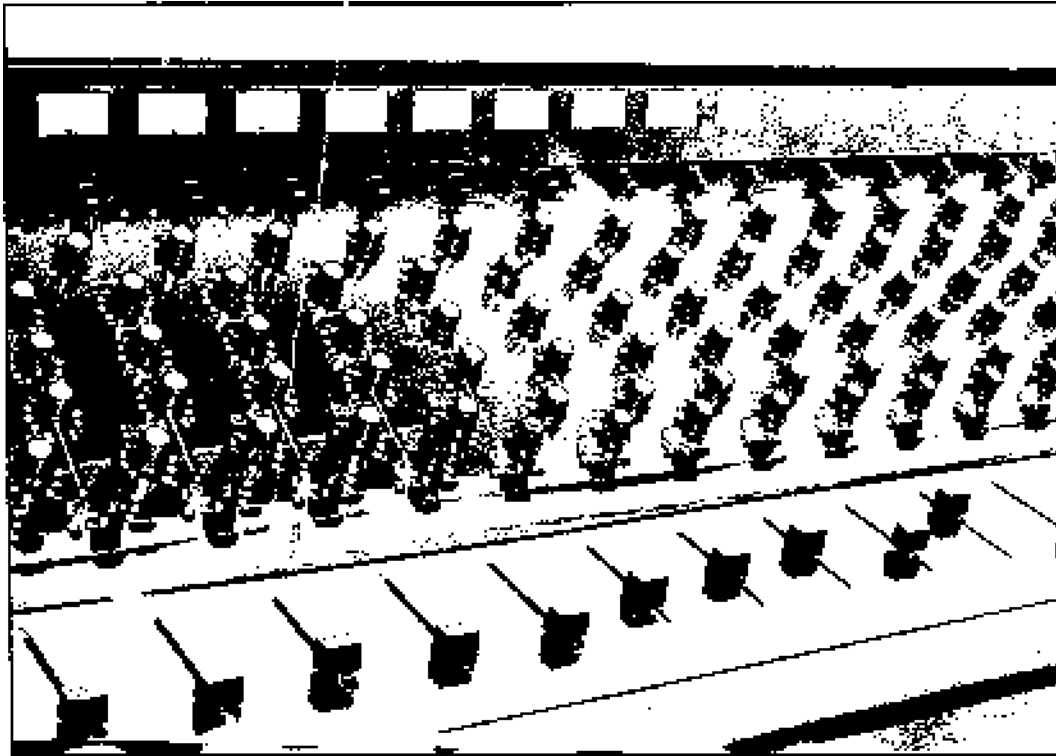
# SOUND CHECK

TEST ON: *Canary Stereo 18 Channel B Series Mixer*

DATE *October 1975*

PRICE *£857.15 Ex VAT*

TEST BY *Bruce Gibbs B.Sc.*



## INTRODUCTION

The increasing use being made by leading groups of large stage mixers for balancing the sound of their live music has led Canary to extend their 'B series' range of mixers. The 18 input, stereo output model, which is the subject of this test report, is a new big brother to the 12 and 15 channel units which have been available for some time. Its appearance is similar to the smaller models except the length has been increased to accommodate the extra input channels.

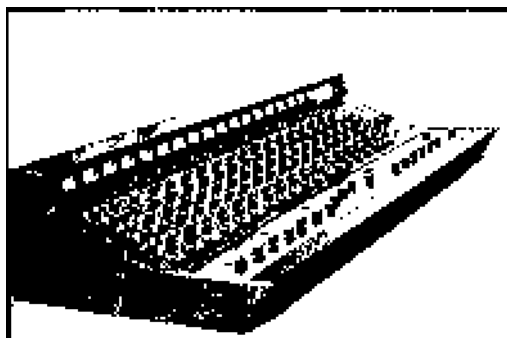
The facilities provided on each of the 18 identical input channels are: (i) 200 ohm balanced line inputs through both XLR connectors and 3 point jack sockets; (ii) input sensitivity control; (iii) Bass, middle and treble tone controls; (iv) Echo send level; (v) foldback level; (vi) main fader; (vii) pan control; (viii)

fade listen button; (ix) and a signal level meter.

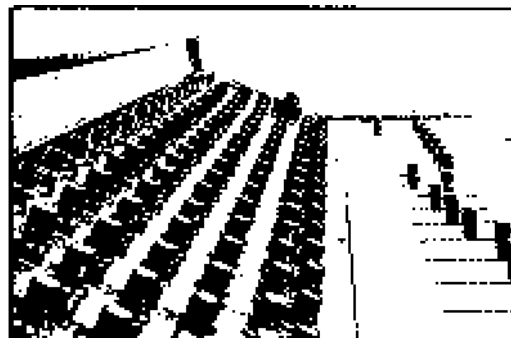
The two main output lines are controlled by a master fader and monitored by two very large and clear VU meters.

The foldback channel has a full set of tone controls as well as a master level control. The provision of these is unusual but obviously very desirable. There is also a talkback facility. A stereo headphone monitor channel, rated at 1.5W + 1.5W, can monitor the output lines, the foldback, or any one of the input channels. The selector switch for this also selects the source to be monitored by the two large VU meters.

All 18 input channel meters and the two output meters are illuminated and there is enough light scattered across the control panel from these to see the controls in a darkened auditorium.



The desk is built to rest on a flight case or table top



Control layout is fairly conventional

## CONSTRUCTION

The construction is designed to give the unit an appearance similar to a studio mixer. The controls are mounted on a triple sloped front panel. The front section carries all the faders, the center section carries all the tone controls etc. and the top section, the meters.

One very large glass fibre printed circuit board carries the majority of the electronics including all the rotary controls. This is held in place by all the dozens of control spindles and designed so that any pot can be changed without having to remove the whole P.C. board. Other printed circuit boards hold the headphone amplifiers and a few other small components.

Components are mounted on both sides of the main printed circuit board, which is not a normal practice; but in this case the advantages of doing so seem to outweigh the disadvantages.

The quality of components and of soldered joints are both good and the wiring is tidy.

Heavy components, such as the input transformers, are mounted directly to the case in order to make the equipment robust.

Two separate mains transformers were used in the unit we tested but in future production units a single transformer, with a smaller stray magnetic field, will be fitted. This will give the mixer a lower level of background hum.

The faders are of the long movement (60mm) type but short movement sliders are used for the pan controls.

The main cabinet construction is 1/2 inch plywood covered in soft black leathercloth with 3/4 inch thick, solid teak ends. This looks very attractive against the deep blue, stove-enameled front panel.

## PERFORMANCE

Parameter	RESULT	TEST CONDITION	COMMENTS
Maximum gain	57.3dB.	Gains @ max, tone control central and pan control.	ie. -57.3dB. input for 0dB. output.
Input Saturation level	-31dBm.	Input gain at max.	Higher inputs can be accommodated by turning the input gain down.
Noise referred to input	-101.3dBm.	Tone control central. Wide band measurement.	Fair. A better figure would have been obtained for a restricted band width.
Residual Noise	-53dBm.	Channel faders at zero masters at max.	Could be better.
Input tone control range	18.9dB. 16.8dB. 32dB.	Bass @ 30 Hz. Middle @ 500 Hz. Treble @ 10 KHz.	Good
Maximum output	+13dBm.	No load.	Good
Headphone output	2 watts + 2 watts	Into 8 ohm loads.	Loud!! ?
Distortion	0.4%	Total harmonic distortion through whole system at 1 KHz.	O.K.
Output Meters	OVU = 0dBm.		This is the British standard.
Input Meters	OVU = -33dBm.		This is 2dB. below saturation level with e.q. flat.
Headphone Amp short circuit protection	OK	2 min short circuit test.	

## CONCLUSION

This mixer is designed for a very specific market and offers a large number of input channels and very comprehensive facilities for a unit of moderate price. Electrical performance, though not outstanding, is adequate for the job and will not give cause for concern with a high level signal source such as a group. Background noise could however be obtrusive with a low level signal source such as a classical guitar or chamber orchestra.

The quality of construction is such that the unit can survive a life on the road without trouble. A transit case to protect the knobs and

meters is, however, essential. This will also protect the mixers 'beautiful looks'.

Discussion about the merits of trading electrical performance for extra facilities on a product of a given price has to be a matter of personal opinion. Particularly when the 'extra' facilities are as valuable as talk back, tone controls on the foldback (on stage monitor) and individual meters on each input channel. In the end the question must be asked; "does the equipment do the job"? In this case the answer is yes. And you get a lot of mixer for your money.

TEST ON: *WEM Dominator 50 Combo Amp*

DATE *October 1975*

PRICE *£148.15 ExVAT*

TEST BY *Bruce Gibbs B.Sc.*



## INTRODUCTION

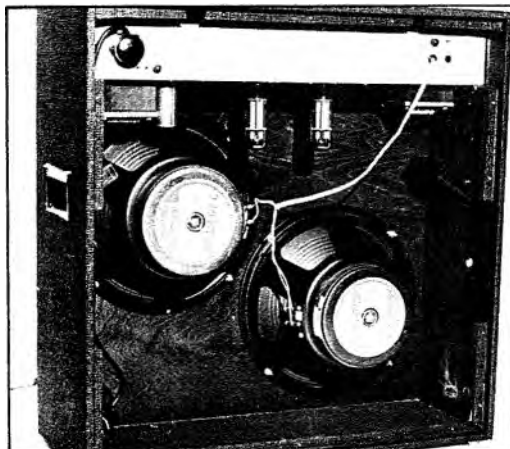
Over the years, Watkins Electronic Music have established a reputation for making functional equipment which, though never very exotic, could justly be claimed a worthy foundation for any band's equipment. The Dominator Fifty continues this tradition.

The Dominator is a combination amplifier of conventional layout built into a strongly constructed wooden case which is covered in hard vinyl. In the top part of the case is a 50 watt all valve amplifier with a clearly marked front panel. The lower part of the case is an open backed speaker enclosure housing two 12

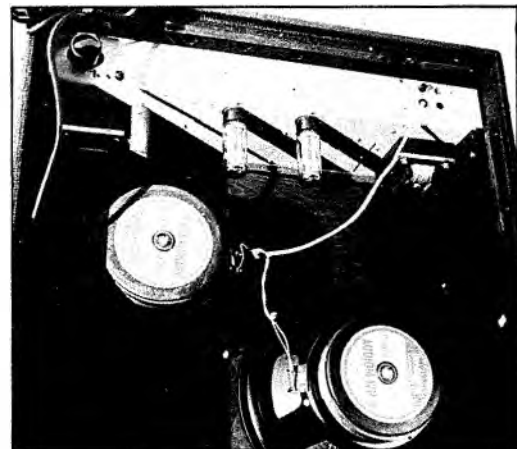
inch Goodman loudspeakers. These are rated at 60 watts each.

Two deeply inset carrying handles are fitted on the sides so that the case can be carried by one person or two. A thick waterproof cover is provided to keep out the weather (or beer).

The amplifier has two input channels. One is a bright channel which has treble boost built in and a "bright" switch which adds further treble boost. This channel also has volume, treble, middle and bass controls. The normal channel has volume, bass and treble control only.



Note tidy wiring and unfussy cabinet section



Only two valves and transformers appear on external chassis.

## CONSTRUCTION

The main case is built in 1/2 inch plywood and finished to a good standard. There are no mouldings to protect the corners but if a user had strong feelings about this, he could easily add them. The case is nicely proportioned and little finishing "things" like moulded plastic air vents all add to the attractive appearance.

The electronics are built on a very large four sided steel chassis which is mounted "up side down". This carries the transformers, electrolytics and output valves on its 'top' (bottom) surface and a glass fibre printed circuit board inside. The printed circuit board carries the remaining three valves and all the small components. The front edge of the chassis is also the control panel.

Once the chassis is removed, access to every component is very easy indeed. However, re-

moving the chassis was more difficult than it should have been because the carrying handles, which project inside the case, partly obstructed screwdriver access to the chassis fixing screws. Apart from this minor point the construction is well thought out and very neat. Components are all of good quality and well mounted. A special plastic chip had been used to mount one large electrolytic. Soldered joints are well made and the overall standard of workmanship is worthy of credit.

There is a danger that the air vents on the case top may be blocked if one is in the habit of putting music or other equipment on top of the amplifier. The consequences of blocking these could be serious so some self discipline over where one puts piles of music is essential for Dominator owners.

## PERFORMANCE

Parameter	RESULT	TEST CONDITION		REMARKS
Power Output	72.6W 66.2W	at 10% total harmonic distortion at onset of clipping		Better than 50W. spec.
Distortion (Total harmonic)	4.9% 0.34% 0.31%	at 50W at 5W at 0.5W	1 KHz. into 'normal' channel	Mainly cross-over distortion
Sensitivity	28.3 mV.  43 mV.	normal chan  bright chan	for 50 watts output with tone controls set for best flat response	
Tone Control Range	Normal ch. 23.4dB. -- 15.3dB	Bright ch. 37dB. 5.6dB. 34dB.	Bass @ 50 Hz. Middle @ 450 Hz. Treble @ 10 KHz.	The middle control gives 21dB. range at 6 KHz.
Noise referred to l.p.	-92dBm. -108.8dBm.	bright ch. normal ch.		Good
Signal to Noise ratio	66.8dB. 80dB.	bright ch. only normal ch. only		Good
Capacitive load test				Good

Short circuit and open circuit output test were not conducted because there are no external speaker sockets and therefore a user cannot open circuit or short circuit the output.

## CONCLUSION

This amplifier is a very practical piece of equipment which will satisfy a large number of users in both professional and semi-pro fields. The speaker handling capacity of 120 watts on an amplifier rated at only 50 watts gives a lot in hand and makes the unit suitable for bass guitar or organ as well as ordinary guitars.

The design is not of the type known to electronics engineers as having "negative feedback" and as a result, the sensitivity is very dependant on the condition of the valves. As the valves age the sensitivity will drop until there is insufficient gain. New valves will then have to be fitted.

There is a noticeable lack of 'extras' such as high and low sensitivity input sockets, slave output sockets etc. The absence of any 'effects' is probably an advantage because 'effects' bought separately are usually far better than those thrown in as 'extras' on an amplifier.

There is a mains voltage selector which cannot be seen without removing the back panel of the case. It would be a good idea to make this visible. Certainly, being able to select 110 volts for overseas gigs is a worthwhile asset.

The resulting sound combination of Dominator and guitar was good, and my overall impression is of a simple but workman-like piece of equipment which works very well. □



GUITARTECH

## Dynelectron 6-String

Retail Price £127.60

There are a few accepted rules for making Good Electric Guitars and many well established conventions. This guitar breaks some of the rules and most of the conventions, and works! However, don't expect it to work like anything else you have ever tried. There are no tone controls or switches, just two volume controls, one for each pick-up, (early samples had pull-switches fitted to the volume knobs to operate tone changes, but these have now been discontinued.)

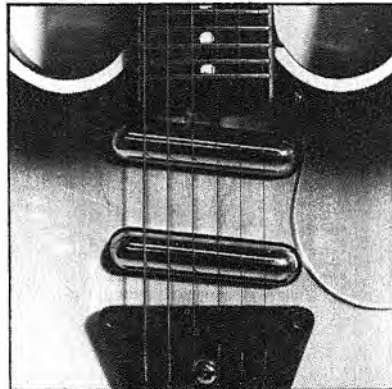
The pick-ups are closely related to the old Melody Maker pick-ups but each one is enclosed in what looks like a round-ended Pedal Guitar steel, and they are moved up and down by adjustment screws in the *back* of the guitar. Apart from a general tilting one way or another, no individual string adjustment is possible.



The bridge was rather unusual when it was first made, but you may have seen similar ones on some of the Perspex guitars and basses which were around in many shops last year. The tail-piece is a flat metal plate, supported by 3 screws, which has small slots in its back edge to retain the string ends. On this plate sits the bridge, a thin wedge-shaped slip of rosewood. The bridge is loosely secured by a screw through a slot in the metal tail-piece, and can be slid backwards and forwards to adjust the string octaves. Once again, except for the possibility of slanting the bridge, no

individual string adjustment is possible, (but of course this also applies to certain vintage Les Paul guitars). Many players find this sort of adjustment quite satisfactory; on the other hand, many players find it quite impossible.

Perhaps this guitar's most obvious identification is its shape. There are 31 frets on the neck and the body comes into the neck at the 29th fret. The cutaways are so deep and wide that only a narrow strip of the old body outline remains each side, forming two horns. (Without these horns, the guitar would be difficult and uncomfortable to hold.) This must surely be the longest fretted fingerboard available on a production guitar, and to its credit, this long neck does seem to remain tolerably straight with the recommended strings. (Roundwound light)



The scale length is shortish at 625mm., lowest action under standard conditions was 1.2mm. top string and 1.5mm. lowest string. String spacing is 51mm. at the bridge and 37mm. at the 42mm. wide nut.

The neck has more frets than usual and they are all accessible, the instrument is comfortable on a strap for long periods, and the overall sound is harsh and rather impressive. However the standards of finish and construction and the materials used, do not, in my opinion, justify its price. I was rather surprised to find that the back of a guitar appears to be made of Hardboard. Yes that's right — hardboard! Now it may be possible to persuade me that hardboard is the magic material for guitar backs which I have been searching for, guaranteed to produce a good sounding, strong, easily maintained guitar, but it is going to take a lot of persuading.

## Kimbara Stereo Bass

Retail Price £171.20

This Guitar Review is exceptional in that the instrument reviewed is a pre-production trade show sample, supplied at our request. I feel it would be most unfair to apply criticisms of this particular instrument to the final production model which will probably appear in late November. However, the original of this model and all accurate replicas of it, require careful design and assembly of the neck-to-body joint in the area around the fingerboard pick-up, and you may wish to check this, when selecting *any* instrument based on the same design.

This bass is obviously based very closely on the Rickenbacker Stereo. It is more like the new models than the old ones, and the pick-ups, while sounding very similar, are mechanically rather different.

The general standard of finish is perhaps a little better than American current production, with the exception of the frets and fingerboard, which are not as well finished.



by Stephen Delft

M.I.M.I.T.

This Bass is constructed from what appears to be Canadian Maple and the neck is continuous right through the body, which certainly gives it an edge on other similar copies with screw-on necks. It also means that the setting of the neck angle has to be right first time. On the review sample, the neck alignment WAS correct, but has subsequently shifted, owing to partial failure of the glue joint between neck and body. This is exactly the sort of fault which can occur when a sample instrument is rushed through to meet an exhibition date, strung up before the glue has had a chance to harden properly, and then subsequently dropped in transit.

Most examples of this fault, which is very common on certain 'vintage' American guitars, can be detected by a tell-tale cracking or whitening of the lacquer around the neck joint, and a high action on an apparently straight neck. The importers are aware of the fault on this sample and it is most unlikely that such an instrument would be allowed out for sale.

The neck has a centre lamination of American Black Walnut, which apart from Ebony or good Rosewood, is about the best material to put in the middle of a spliced Maple neck, as it has the property of absorbing some of the stresses involved in the gluing process. In spite of this, some of the glue lines in the head and neck are rather wide and it is difficult to say how much is glue and how much is lacquer

filling a crack. This is definitely a point to watch.

The fingerboard is thick, solid, well shaped and made of rosewood, (probably Indian or Asian.) Frets are smooth and level but a little rough at the ends. This is not very significant, as the fingerboard is carefully bound with white plastic, and the whole thing is lacquered over the top. This lacquer on the fingerboard cements the frets in place, fills in some of the roughness at the sides and ends of frets and gives a very smooth playing surface. It can also make re-fretting quite a headache, but if you like lacquered fingerboards, you will have the same problem with almost any make of instrument.

The bridge assembly copies the Rick design almost exactly, and has the same problem (—wobbly bridge insert bar and a tendency for the string-holding end to lift). Both these points are significant errors of design; neither seems to affect the sales or popularity of the American original, so presumably they are acceptable on a copy. I am pleased to see that the adjustable bridge inserts have smooth plastic slides underneath them. This stops them rattling, takes the strain off the octave adjustment screws and does not appear to harm the instrument's tone.

This brings me to the most successful aspect of the Kimbara Bass. It is difficult to pin down what is a definitive Rickenbacker tone, because it is such a versatile instrument, but this copy comes closer than any I have tried, to producing the same tone range, (from hard to fruity). Most better Japanese electrics all originate from one of two large manufacturers, whatever may be the name on the head, and this is reflected in a close similarity of pick-ups between different models of guitar and bass. I believe that the Kimbara bass is made by a smaller independent maker, and this may explain the slightly different sound. I agree that on close inspection, the pick-ups do not look at all right, but what matters is the resulting sound, and that is directly comparable with the original.

The electrical arrangements are perfectly conventional with two volumes, two tones and a 3-way selector switch. The output is fed to two jacks, labelled 'Standard' and 'Stereo sound'. I will say again that

this is not Stereo operation, but 'Two-channel'. (It is possible to make a Stereo bass pick-up, and with a two amp/two speaker set-up, the resulting sound would make your toes curl and your ears fall off! — but I will leave that idea for a future article).

There seems to be a small problem in the operation of the stereo socket but I am sure this will be corrected when the guitar goes into production and in any case it is very simple for you to check. Neither tone control does very much, probably because the source impedance of the pick-ups is lower than those on the Rickenbacker. (Japanese pick-ups often come with fewer turns of thicker wire and a more powerful magnet to approximately make up for the lower output). It appears that 100k or 200k pots and larger capacitors would give a wider range of tone control. Screening inside the body is just adequate because of the modified pick-ups, but on a top price Japanese guitar I want to see proper foil lining to the body cavity.

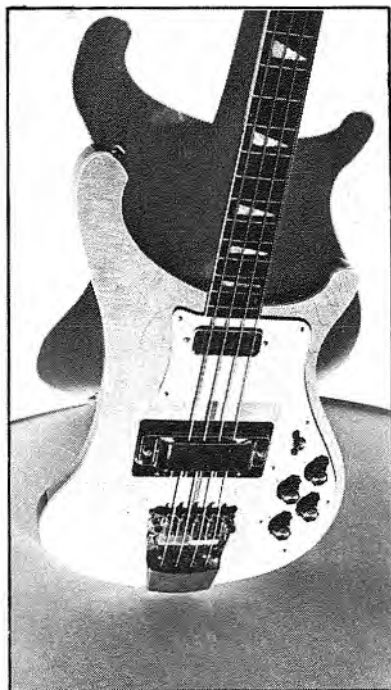
Machine heads and nut are well made and correctly adjusted, although the string spacing at the nut was well in from the edges and I would like to see it stretched a little wider.

## IN BRIEF

# Roland SH 2000 Synthesizer

Retail Price £432.01

Recently introduced to Britain through Brodr Jorgensen, the SH-2000 is a very versatile synthesizer, yet fairly simple in design. It has thirty presets under four sections. The Wind Instruments section includes Tuba, Trombone, French Horn, Trumpet, Saxophone, Bassoon, Oboe, Flute and Clarinet, while the String section incorporates voices for Cello, Violin, Bass Guitar, Hawaiian Guitar, Banjo, Fuzz Guitar 1 and Fuzz Guitar 2. There's a section for Percussion and Keyboards which includes Piano, Harpsichord, Accordion, Vibraphone and Xylophone voices. The last section features effects

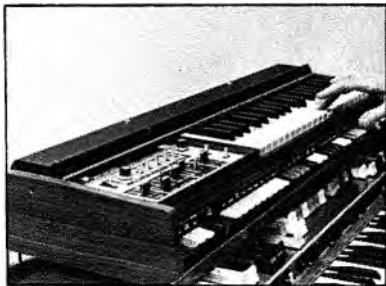


ALL PRICES EXCLUSIVE OF V.A.T. continued on page 24



like Singing Voices, Song Whistle, Popcorn, Space Reed, Planet, Frogman, Funny Cat, Growl Wow and Wind.

Apart from these presets, there are various controls set onto a panel at the left of the 37-note keyboard. The Touch Effect controls include volume, wow, growl, vibrato and pitch bend (up and down). There is also an overall sensitivity pot, for use in conjunction with the other touch effects.



Overall volume is controlled by a slider, as is the modulation rate, which also has a small, light-emitting diode flashing at whatever speed is selected. There are three filter control sliders — modulation, cut-off frequency and resonance which add extra dimensions to the presets.

Particularly effective is a control which selects notes at random. This can be activated either by pressing a key or by setting the switch to Auto. There is also a pitch control and a transpose switch, which raises or lowers the notes by an octave.

Most of the voices on the SH-2000 are very realistic — notably the fuzz guitars, bassoon, piano and bass guitar — and essentially, authentic reproduction of sounds is the prime factor with synthesizers. It is a little limited in comparison with the Moog or EMS synthesizers, but perhaps this is a good thing, in that it can be mastered in a short space of time. After about ten minutes with it, you become very familiar with the controls. **E.P.**

## Gibson Twin-neck

(c.1957) estimated value £800

It is believed that this instrument is one of only 38 ever made and was originally known as a Gibson Twin-neck guitar, "mandoline". Most of us have seen Twin-necks by now; some of us have even seen Guitar/Mandoline hybrids but this is the first time I have seen a stan-

dard guitar combined with a half-length Octave guitar.

There should be a photograph somewhere on this page and if you look on the cover you will find a colour shot of Steve playing it. Now it would be absurd to review this guitar as if it were for sale (—it isn't) or even as if I had given its workings my usual thorough inspection (—you can't just go into a man's house and start taking his guitars apart). Nor would I presume, in such company, to be able to stretch the instrument to its limits. What I can do is to look at it, play it, measure it, take note of how it is adjusted, and between the lines, tell you how I react to it. Building a twin-neck is not quite as simple as it might appear. It is relatively easy to arrive at a heavy, unplayable monster. This guitar manages to avoid the more obvious pitfalls, and is generally soundly made and very playable, but it does show some small faults which could almost be considered part of the Gibson tradition and time has exposed some design and assembly weaknesses.

The octave neck has a scale length of 353 mm, so any attempt at true octave-up tuning involves a higher string tension than usual, and the strings fitted were very light, (starting from 8 thou.) This is not a regular set, but was made up for Steve by Sam Li. It corresponds roughly to extra-light with a light bottom string (I think this may be a replacement) and a solid 3rd.

String spacing is 33.5 mm. on the 40 mm. wide nut and 46 mm. at the bridge. The top E string is unusually far in from the edge of the fingerboard, (3 mm.).

I suspect the frets are Mandolin wire; they are 1.2 mm. wide and finished to 0.5 to 0.6 mm high. Although well rounded, like most mandoline frets, they feel higher, and more square and lumpy than they really are. There are 19 frets to the body joint and 24 in all, but the highest frets are too close together for my fingers, and the intonation up there leaves something to be desired.

The ebony fingerboard is inlaid with diagonal pairs of "Mother-of-Celluloid" and there are the usual gaps and slightly irregular holes around some of the inlays. This may be due to shrinkage but it really need not happen at all. The smaller string spacing means that

standard bridge and tailpiece units are unsuitable; consequently, the tailpiece is a metal strip, screwed to the face of the guitar, with a hook-shaped projection running along its length, slotted to take the string ends and space the strings apart. This loses the small advantage of an adjustable height tailpiece, but in every other way seems strong and efficient. The bridge is less well thought out and is basically a piece of round bar bent to a curve with a hole through each end. It is supported by adjustable flat nuts on threaded pillars in a small rosewood base. (Why not Ebony like the fingerboards?)

The octave strings have one Humbucking pick-up near the fingerboard, (with a non-standard screw spacing of 46 mm), one tone, one volume and a switch to select octave neck, standard, or both. The present action is 1.4 mm under the top string and 1.1 mm under the lowest string. This is unusual, but presumably is set the way Steve likes it. Action measurements are confused by the somewhat erratic stage of the (Ivory?) nut, and if this were better adjusted, the top string action might well appear lower, the way I measure it.

The standard neck has a 625 mm scale, and string spacing is 37 mm on a 42 mm wide nut and 50 mm at the bridge. There are two (apparently) standard humbucking pick-ups fitted, both with a 1-6 screw spacing of 49½ mm. This means that the pole screws line up nicely with the strings on the bridge pick-up but are wrongly spaced for the narrower string spacing near the fingerboard. This is not really so important, but I *have* seen standard Les Paul models where the two pickups differed by about 1 mm to line up correctly with the strings. As the octave neck pickup has to be a special anyway, why not get the standard-neck pickups correct as well? I have the distinct impression that the designer did a good job. Then the production manager took one look at the delivery time on special pickups, and decided on standard issue.

The present action is 2.1 mm treble and 2.5 mm bass, and the nut is worn unevenly in the same way as the other one. This neck has a selector switch for pickups 1, 2 or both, and 1 tone and 1 volume on the output of the selector. While the mechanical operation of the controls is a bit rough and there are



plenty of scratches and crackles, this is perfectly reasonable on an old guitar. In between the crackles, volume and tone controls on both necks work smoothly and evenly, as one would expect from an elderly Gibson. This neck is fitted with an old type solid-guitar Bigsby. I suspect it may have been an after-thought or a later addition, because from the players position it completely obscures the volume control and one has to grope for it like coins in a coat lining. The bridge is the standard Tune-o-Matic type with metal 'saddles' (plated brass) and this appears to be original.

Inlays in the ebony fingerboard are the same as in the octave neck but larger in proportion, and just as badly fitted. The frets are 1.8 mm wide and between 0.7 and 0.9 mm high, and they are quite rounded except where worn. I think this is probably the same wire which is used on the 'Fretless Wonder' fingerboards, except that for these, it is filed away almost entirely and left with a smooth flat top.



It may not be obvious from the photographs, but the two neck joints are quite different, as if they came from different models of guitar. The heel of the octave neck joins straight on to the body so the two cutaways seem to meet the neck at the 16th fret, in fact a narrow stub of the body extends back to the joint at the 14th fret. The plastic binding on the body and cutaway edges also continues, inset into the neck, as far as the 14th fret. Including those on the body, there are 20 frets in all. Both necks have cracks in the lacquer around their joints to the body, but this seems to be due to shrinkage in the lacquer, not loose necks.

I find it interesting that while the standard neck is tilted back from the body axis by the usual angle of about 5 degrees, the octave neck leans back by about 20 degrees to give better visibility on the longer neck. This a clever idea which most of the copy twin-neck miss: although it could be difficult to apply to two *full-length* necks, even a slight change in angle would make the average twin-neck look less like a pickle fork. It is a nice subtlety that the head on the octave neck, while appearing the same shape, is actually longer than the other head. This makes the octave neck look less stubby and in better proportion to the rest of the instrument.

Incidentally, the strings Steve uses on the longer neck are Gibson No. 340L but with an Ernie Ball 0.17 thou. plain third string.

The body of this instrument is about 50 mm deep and a little shallower around the edge and both top and back seem to be machine-carved to shape. The back has just

a slight curve, while the front is carved in two levels like a plateau, flat in the centre and sloping down sharply to the edges. The inside of the guitar seems quite hollow and the front and back seem to be thick in the centre, but not supported anywhere except the edges. Steve thinks that this construction gives a slightly better middle quality to the sound, and a different sort of sustain, when compared with a similar solid bodied instrument. I suspect that it also makes the instrument more liable to feedback troubles at one or two particular notes, but so far, it has only been used in the studio. At the moment there are so many doubtful glue joints that it would not be safe to take it on tour. Thanks to a previous owner, the side around the jack socket is in shreds, and sooner or later the whole socket is going to pull loose; it really should be fixed while all the pieces are still there.

Thinking back to the body construction for a minute, I do remember that the body was microphonic to all the pickups, to about the same extent as the Microfrets guitars, and that notes played on the octave neck would often set off sympathetic vibrations in the standard strings at the first harmonic. (I could not persuade the standard strings to affect those on the octave neck.) This is one possible explanation for the claimed 'singing' quality of the shorter neck.

This guitar seems to have most of the good points and most of the bad points of Gibsons. In the right hands it sounds great, however not only are both necks warped, but each neck is warped differently on each edge. The 'plateau edge' of the top is blended into the neck fixing angles in the area around the neck joints and in neither case is the angled top level with the end of the neck joining it — hence the kinks in the fingerboard. This is obviously not a self-playing, super-fast, actionless guitar; what comes out of it depends on what you put in. It also demonstrates that, as I often claim, not all old American electrics were perfect exhibition pieces, however well they may perform.

In the limited time I had to play this guitar, I liked it. Perhaps if I could take it home, I might like it better still after a few days, or perhaps I might like it less. □

\* ALL PRICES EXCLUSIVE OF V.A.T. \*

# GIANT PA SYSTEM

CARLSBRO's Mini Bins have been fantastically received by professionals as the perfect answer to the power/weight problem. They're capable of handling 100 watts R.M.S. each and the bin operates across the full frequency range. The bin is of the folded horn design and the power is delivered via a rugged 15in Eminance loudspeaker plus two Celestion M1 100 H.F. horns.

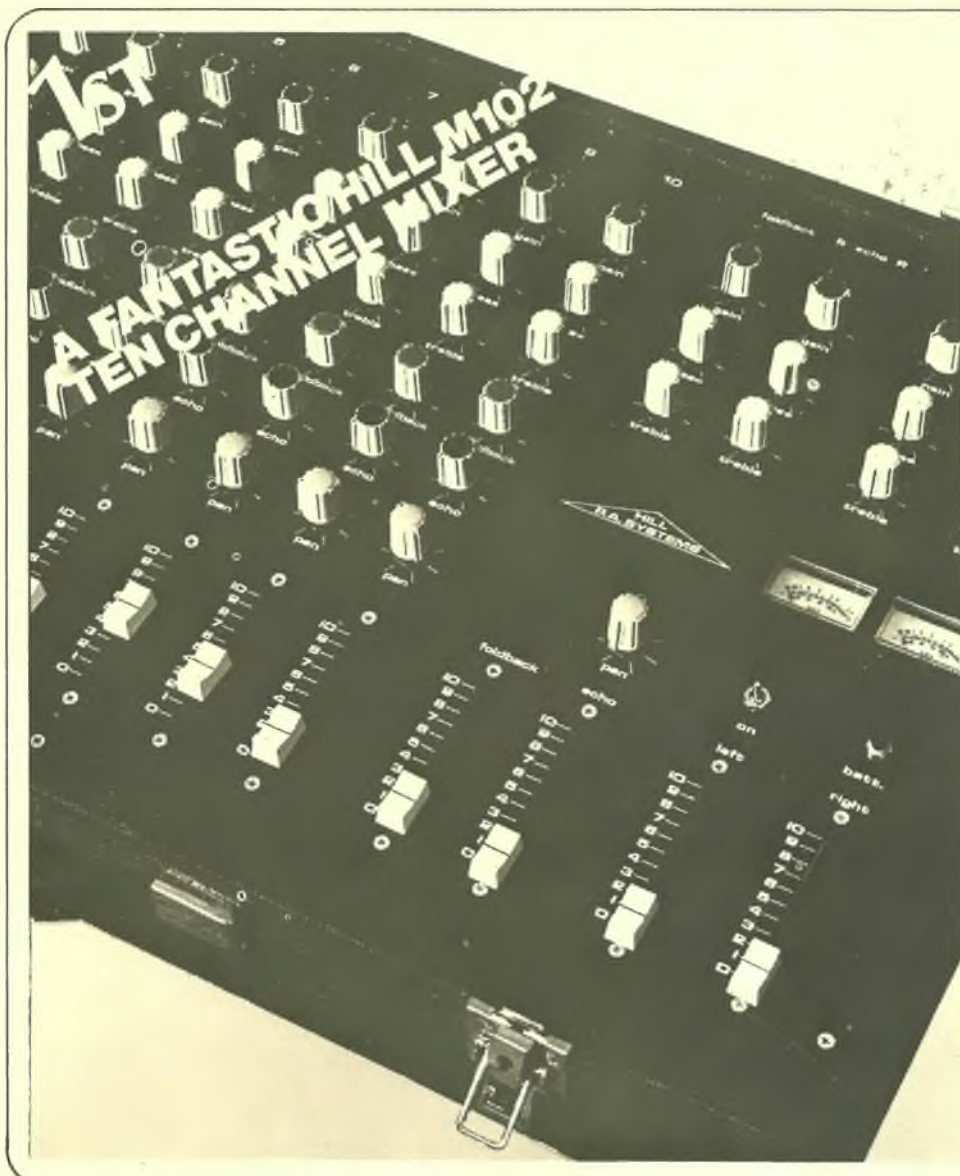
The bin measures 20 in. x 20in. x 35in.

The Hill M102 is a highly sophisticated ten channel stereo mixer. We at International Musician have a particularly high regard for the Hill mixing desks — as we have for all the items of equipment we've selected to give away in this competition. The M102 is described as a suitcase-size desk but one which has full foldback, echo and monitoring facilities. Each channel has gain (for the mike line), bass, treble, foldback, echo, pan control and balance fader.

Final master controls include left and right balance, rotary pan control and echo and foldback.

To power this entire system we've picked the reliable slaves produced by Carlsbro. These powerful amps are capable of producing around 130 watts R.M.S. each and are perfectly matched to power the Mini Bin enclosures.

The second prize to be awarded in this great competition will be the Custom CS 700B lead bass amp. This is a fabulous new amp that we had the privilege of testing in Soundcheck a couple of months ago. It's rated as giving 150 watts R.M.S. but we discovered it's capable of delivering far higher power outputs. The amp has two independent channels and each has Gain, Bass, treble, presence and sensitivity controls and an overall sustain control is also fitted. Outputs include tape, line and power amplifier. A studio switch for power muting is also fitted.

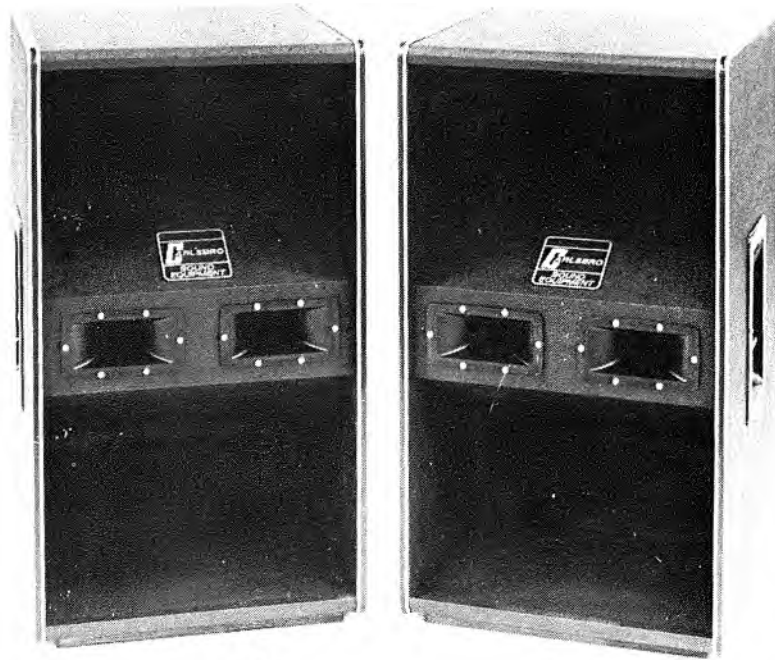


## 2ND

### CUSTOM 700B TWIN REVERB 150 WATT LEAD BASS AMP



# M MUST BE WON

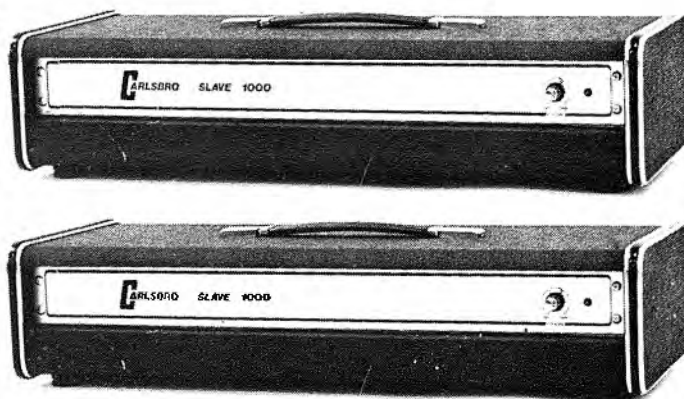


**2 FABULOUS  
CARLSBRO  
MINI-BINS!**

**1ST**

**2 CARLSBRO  
130 WATT  
SLAVES!**

**1ST**



For 25 runners up in this giant competition there are prizes of Charlie Daniels LP "Teach Yourself Rock Guitar" — the first album we've ever heard that actually gives sensible advice on playing. Included on the album are "play along" tracks which are recorded with the lead guitar missing.

Below we've set out ten design points that might be considered when building a PA system. All you have to do is to pick the five most important points, decide their order of importance and number them one to five in the order of your choice. Then tell us in not more than 25 words why you would like to win this PA system. We've printed the list of design points here but **THE ENTRY FORM IS ON PAGE 126** so fill in your answers there. You'll also find a list of advertisers from whom you might like to receive more information — catalogues, literature and so on — so please make use of this facility as well. Please make sure we have your entry before January 1st 1976. The Editors decision about the winner of this competition will be final and legally binding and no correspondence can be entered into. The result of the competition will be announced in the February issue of this magazine.

#### IMPORTANT POINTS IN PA SYSTEM DESIGN.

- a) The desk should have jack sockets
- b) The desk should have XLR sockets
- c) The speakers should be of the column type
- d) The speakers should be of the bin and horn type
- e) The desk inputs should be low impedance
- f) The slave amps should be of transistor design
- g) The desk inputs should be high impedance
- h) The desk should have headphone monitoring facilities
- i) The desk should be equipped with foldback facilities
- j) The speaker cabinets should be mounted on castors

**Runners  
Up**

**25 'TEACH YOURSELF  
ROCK GUITAR' LPs**



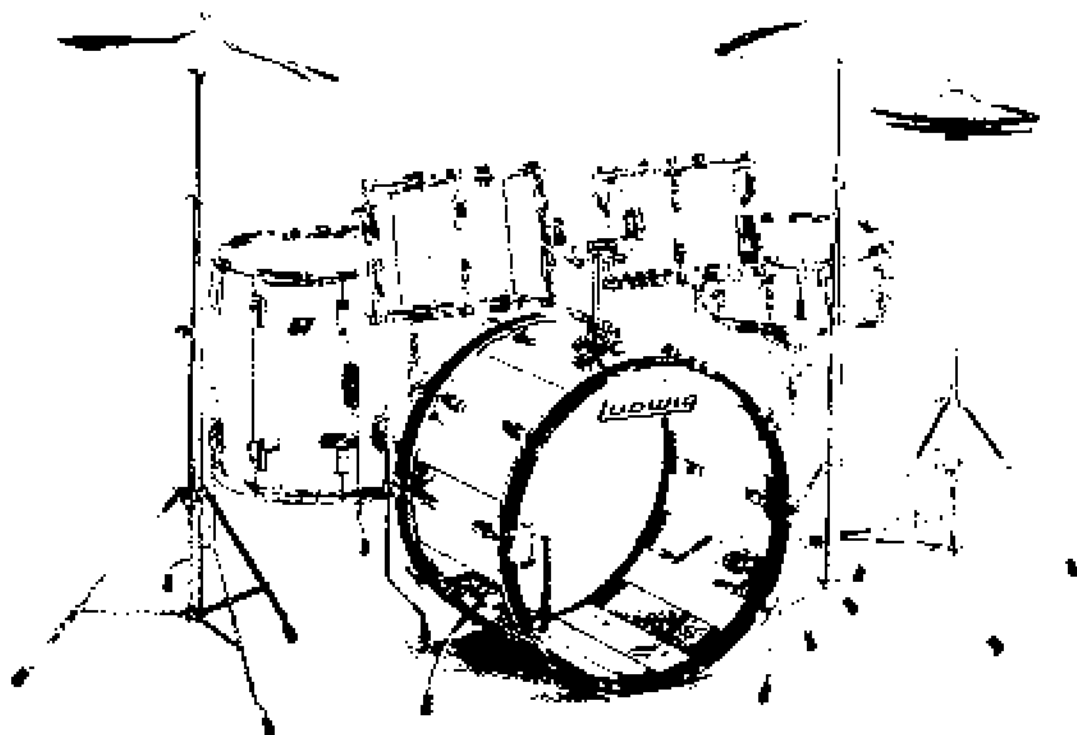
# DRUMCHECK

TEST ON: *Ludwig Rainbow Vistalite Big Beat Outfit*

DATE *October 1975*

PRICE *£525.23*

TEST BY *Bob Henrit*



## INTRODUCTION

Ludwig are arguably the most famous of all the American drum manufacturers, and as far as England is concerned were the first drums from the States to be brought legally into the country once the tariffs were lifted in the fifties. Up until then the only way to be the proud and unique owner of a Ludwig kit was via a friendly drummer who was fortunate enough to be working on one of the trans-atlantic boats. On arrival, this friend would buy the drums at Lew Adler's now defunct New York shop at 48th and Broadway. This method meant having a Ludwig set with Premier, Carlton or John Grey badges on it in an attempt to deceive H.M.'s Customs. At that time the drums weren't called Ludwig but instead by the founder's initials W.F.L.

The Company in darker days had been forced along with Leedy to sell their name to C.G. Conn the horn company from Elkhart, Indiana. Prior to this the company had been called "Ludwig and Ludwig" and owned by the late Bill Ludwig and his brother Theobald. The brothers started out making bass-drum foot pedals for drummers who until then had no need of them since they only played snare-drum, cymbal and assorted other traps. Our modern "Speed King" pedal originated in the thirties and, judging from the example in the Ludwig's Chicago museum, has changed very little since then.

I can still remember the thrill I got in the fifties when I saw my first Ludwig kit. Buddy Holly's drummer Gerry Allison had this magnificent white pearl super classic kit which, I am not ashamed to say, I coveted. Absolutely all of the American drummers with the fifties rockers like Fats Domino, Little Richard, Jerry Lee Lewis, Gene Vincent et al, were using Ludwig. So

the company have always had a reputation for turning out good quality drums even at the height of the sixties beat boom when Ringo was playing them and production increased from a hundred sets a week to a thousand. I have found Ludwig's recent pre-occupation with plastic shells vaguely off-putting since they seem to be concentrating far more on these than on their traditional wooden outfits. However, their new concessionaires, Rose-Morris, assure me that they are bringing in fifty per cent plastic and fifty per cent wood-shell drums. Rose-Morris also say they are importing absolutely everything that's in the Ludwig catalogue so at last we should be able to get all the extraneous bits and pieces which were unavailable before. The wholesalers are very conscious of the spare parts problem and promise to move Heaven and Earth to not only supply these important items but also to sell them at a realistic price.

I feel I should say right from the start that the new striped acrylic finishes are not my cup of tea. Although after looking at them and playing and examining them for quite some time I had a sneaking feeling that I was beginning to like them. However, my wife thought they were the most exiting new drum development ever. So who are you going to believe? Obviously these rainbow striped instruments were designed to look really breathtaking under stage lights but as yet I don't know anyone who has a kit and therefore can't really comment on their visual effectiveness. Anyway, the see-through drums can be supplied in any Ludwig size in six different pattern combinations and six different opaque colours plus solid black and solid white. The set I examined was a red and clear spiral mixture.

## CONSTRUCTION

**Bass Drum** 22" x 14" with wooden counterhoops inlaid with plastic. It's curved retracting spurs are reasonably new and the same idea as Camco's originals with a square section and a fixed circumference. This bass drum had a big solid sound with little need for dampening except for the one strip supplied for the batter head. Twenty classic nut boxes and 'T' shaped tuning handles with claws complete the hardware on the bass drum. N.B.: Ludwig say - If you want to have the single headed drum sound you must cut a large diameter hole in the front head instead of removing it completely. Evidently you could have shell strength problems if you don't follow their advice.

**Tom-Toms** The big beat outfit has 12 in. x 8 in, 13 in x 9 in and 16 in. x 16 in. tom-toms which are small by today's standards but I understand the larger more modern sizes are available in other sets. The tom-toms were all beautifully finished and equiped with opaque medium strength general purpose heads and a strong sensible damper acting on their batter sides. The holder and leg mountings on these drums are surely well known by now; cast blocks with a threaded eyering inside to ensure non-slip control. The tone was very good from these drums but to my mind it's a somewhat plastic sound. Still, if see-through plexiglass is good enough for Billy Cobham . . . . what I am trying to say is it's a question of personal taste and these plexiglass drums are definitely ideal for most sorts of modern music.

**Snare Drum** The set comes with either a vialite or a 5/8 in. metal shell four hundred. My test model was the 400 which was very good indeed. Apart from the new stronger snare mechanism and see-through heads the drum doesn't seem to have changed since I bought my first one fifteen years ago. The 400 was introduced in the sixties and so was the super sensitive but, believe it or don't, Ludwig have been making a tenlug metal shell snare drum since 1911. Everything is very purposeful and functional on this well accepted drum with, to my mind, the definitive rock and roll sound. One criticism, there used to be lots of holes on the cast snare strainer to thread the snare string through but nowadays there are only two which makes it much more difficult to replace the snares especially in an emergency.

**Accessories** Ludwig's bass drum mounted double tom-tom holder has been around for years now and must have been tried and tested by thousands of drummers around the world. In common with most other manufacturers holders unless moved and mounted nearer to the front of the bass drum, it doesn't allow the drums to be very close together unless they are too near to the player. This can be uncomfortable and restricting. I haven't ever heard of any weakness in the design and my only criticism would be that the holder can be fiddly to adjust especially the first time when it arrives direct from the factory. However, once the angles have been set there should be no need to touch it.

The Atlas snare-drum stand has also been with us for a long time and my own example seems to have lasted for several years without any problems except for some wear in the rivets which now need tightening. It's a Buck Rogers tripod type basket stand with a new refinement - the angle adjustment now has two sensible locking screws for extra strength, and a very heavy duty height adjustment wing bolt and clip for extra security.

The Speed King foot pedal has been fashionable for almost as long as I can remember and it doesn't appear to have changed at all. For those of you who don't know this pedal it's an adjustable twin-compression spring model with a reversible one or two piece foot plate and a beautiful feel. Eventually the pedal begins to squeak at its foot plate hinge and causes real problems for recording engineers. The foot plate is prone to cracking at its thinnest point, the saddle too cracks where the beater rod enters it and the foot where the unit meets the bass drum hoop often breaks off. Oh, and if you're really clever you can bend the beater rod. Over the past ten years I calculate I have cheerfully bought and happily used thirty five or so of these pedals. Despite its imperfections, I personally would use no other.

The hi-hat pedal supplied with the kit is a centre-pull adjustable spring Atlas model. It really looked strange to me because it just doesn't look as substantial as its competitors, although for many years we have all managed perfectly well with this particular model. Bill Ludwig Junior assured me at the trade show that they were working on a much more substantial, larger tubed model which should be released in the very near future. I have had very little trouble with Ludwig's hi-hats over the years and, now that they make the strap between the foot plate and centre rod of nylon, there shouldn't be any trouble. However, I did once manage to make the whole centre-pull mechanism fall out of its tube when I got carried away in my solo: but then my drums are sometimes sorely used. But that's my problem!

Two cymbal stands come with the Big Beat kit with very substantial wide spread legs and a larger diameter top section than before. The new style cymbal tilter seems reasonably fool-proof and the height adjustment is well taken care of with very large and heavy wing bolts and clips. Ludwig also do a boom stand but so far it isn't on the market in this country. I saw one at the trade fair and it looks pretty good. Unlike the other stands, it's made completely from tubular steel and, very soon, all of Ludwig's stands will be available in this much stronger material. It's the end of an era because instead of rubber feet all the new stands will be fitted with something called a self-levelling floor glide. Ludwig claim to be the inventors, in the late fifties, of the plastic drum head. The discovery came about because of the success of plastic, waterproof saxophone and clarinet pads. Bill Ludwig Senior put a lot of research and development into plastic heads and, nowadays, they can supply us with six different grades of Thermolene heads. These range from .003 mil to .014 mil, as well as their centre dot varieties. All Ludwig sets still come with a drum key, a box spanner, a pair of wire brushes and a pair of unfamiliar looking Joe Morello Ila Hickory Sticks.

Here is a drum set which is very well made and has an awful lot of development behind it. It's too soon to say whether the joins on the shells where the stripes meet will stand up to general wear and tear. However, the Ludwig people claim that all of the strength and resilience problems have been sorted out. It's the first outfit that Ludwig have made specifically for rock and roll music and, as such, it has a really good modern sound.

In short, if you want a different looking, see-through, acrylic kit, with a unique inherent sound, with sixty years experience behind its manufacture and can afford the price of £550 plus, you have no alternative but to choose Ludwig.

## Conclusion

# ELKA-ORLA

19, Bluebridge Industrial Estate, Halstead, Essex. Tel: Halstead 5325/6

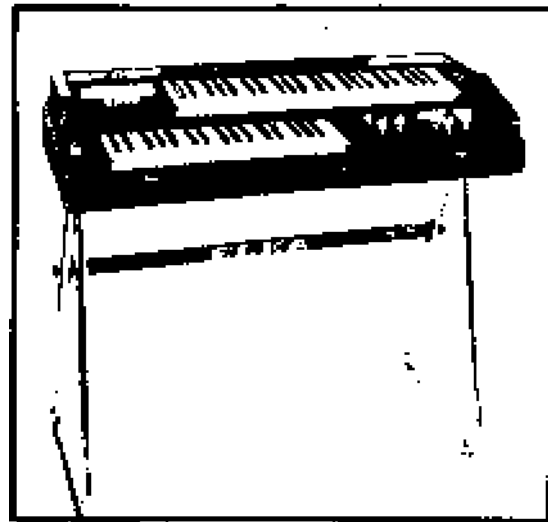


## RHAPSODY 610

### MAIN FEATURES

- 61 note keyboard from FA 43.6 Hz to FA 2793 Hz which may be divided into two: 25 keys for the accompaniment and 36 for the melody.
- The following draw-bar registers, giving way to an unlimited combination of sounds, are available for each of the two Sections: Violincello, Strings, Piano and Clavichord.
- Decay: Allows sustain control on the four voices.
- Each of the four push-buttons marked "Cancels" offers the choice of the desired effect.

# X55



**CHARACTERISTICS:**  
 Dimensions: cm 103 x 38 x 18  
 Weight: kg 26  
 Colour: Green.

### SPECIFICATION

**Upper Keyboard:** 49 keys from C to C. 9 Draw-bar voice registers: Flute 16' - 5 1/3' - 8' - 4' - 2 2/3' - 1 1/3' - 1 3/5' - 1' - 2'  
 5 Percussions: 8' - 5 1/3' - 4' - 2 2/3' - 2'  
 Presets: Clarinet, Trumpet, Full Organ, Theatre and Draw bars.

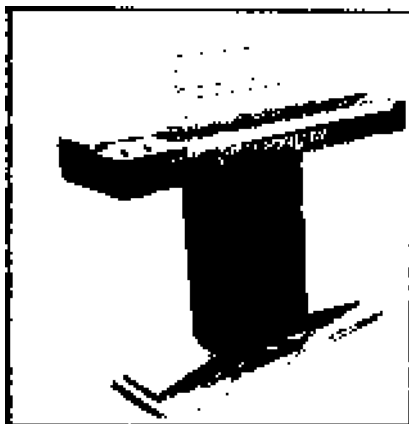
**Lower Keyboard:** 37 keys from C to C. 5 Draw-bar voice registers: Flute 8' - 4' - 2 2/3' - 1' - 2'

**Effects:**  
 Vibrato: Slow/Fast  
 Sustain on the upper and lower keyboards  
 Brilliance  
 Noise Attack

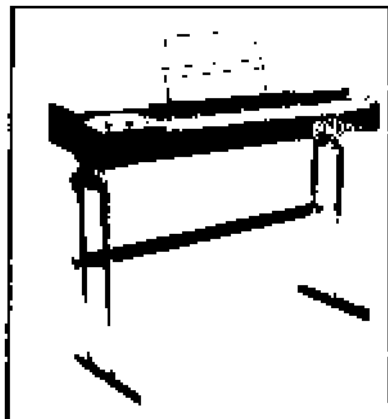
N.B. Upon request, the instrument may be supplied complete with pedalboard.

**ADDITIONAL CHARACTERISTICS** This portable organ is extremely compact for easy transportation having lockable carrying lid and carrying case for legs and pedalboard.

# NEWMAN ORGAN STUDIOS



WERSI 'E' PIANO

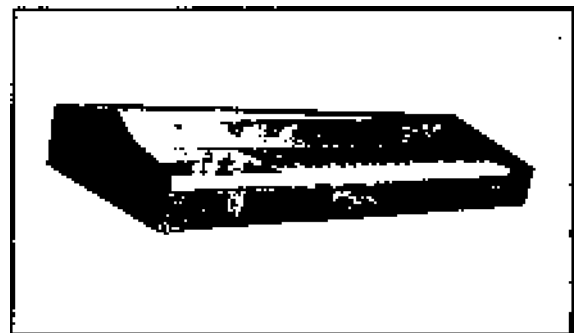


WERSI PORTABLE PIANO

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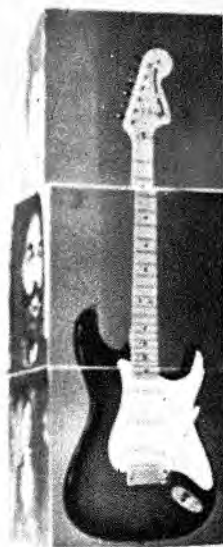
WERSI STRING ORCHESTRA

NEWMAN ORGAN STUDIOS LTD., 15, Monks Road, Lincoln LN2 5HL. Tel: Lincoln 28704

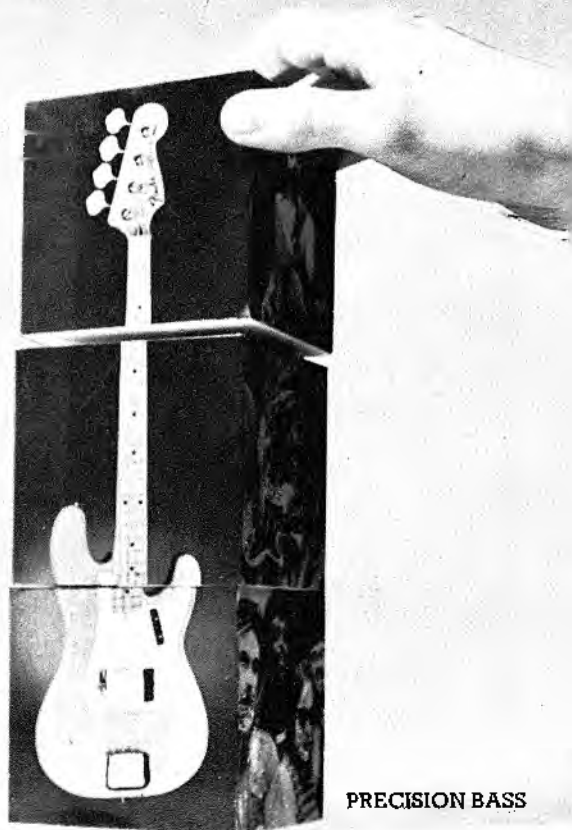
# The foundations of rock were laid by *Fender*



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Since the earliest days of rock & roll Fender guitars have lead the way. The Telecaster — the world's first solid body electric guitar, was made by Fender back in the early fifties — and to this day it is the most widely used electric guitar in the world. A fine tribute to its quality, design, concept and workmanship. Today the Telecaster is complemented by a wide range of guitars from the Fender family like the Stratocaster with its unique waisted body recognised the world over as the Fender Shape —

the 3 special Fender pickups giving the famous Stratocaster "Sound with a Bite" — the Precision Bass — strong on performance, strong on looks. In this day and age of overnight superstars experience and craftsmanship may seem unnecessary. Fender cherish it.

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TEST ON: *Haven 61 Portable Organ*

DATE *October 1975*

PRICE *£1,106.49 Ex VAT*

TEST BY *George Gibbs*

*HAVEN'S 61 organ is the most useful and versatile portable organ I have ever played.*

*Designed (musically) by Alan Haven and engineered by Crumar of Italy, it has all the facilities that a professional organist needs and a nice 'feel' to the keyboards and pedalboard.*

**UPPER  
MANUAL  
Voices**

*FIVE OCTAVES (61 notes) overhanging keys. Flute drawbars pitched at 16ft., 5-1/3ft., 8ft., 4ft., 2-2/3ft., 2ft., 1-3/5ft., 1ft.*

**Percussions** *4ft., 2-2/3ft., 2ft., 1-3/5ft. and PIK (Key-click sound) controlled by an illuminated switch for each percussion voice. A 'decay-time' drawbar and a 'percussion volume' drawbar control these voices.*

**Preset Voices**

- 1. Drawbars*
- 2. Diapason*
- 3. Treble 'n Bass (16ft. x 1ft.)*
- 4. Trumpets*

*The 'Presets' can be used in any combination or singly and all can be used with the percussions.*

**Pianos** *The piano effects can be selected to play on either or both manuals and a switch controlling the upper manual flute voices is located next to the 'piano' switches, making it easy to cancel the organ sound on the upper manual, leaving just the piano voices.*

**Piano Voices**

- 1) Mellow*
- 2) Bright*
- 3) Honky-Tonk*
- 4) Harpsichord*

*These four voices can be used in any combination or singly.*

**LOWER  
MANUAL**

*Four octave (49 note) manual keyboard.*

**Voices** *Flute drawbars pitched at 8ft., 4ft., 2-2/3ft., 2ft., 1-1/3ft., and 1ft.*

**Preset Voices**

- 1) Drawbars*
- 2) Diapason*
- 3) Flute Chorus*
- 4) Trumpets*

*Can be selected in any combination or singly.*

**Pianos** *As previously described.*

**PEDAL  
BOARD  
UNIT**

*18 notes (C1 to F2). A short 'spinnet' pedalboard unit which also houses the organ swell pedal and a sustain pedal for the 'pianos'. It is connected to the main organ console by a single multicore cable and a 20 contact non-reversible (self-cleaning contours) plug.*

**Voices** *Flute drawbars voiced at 16ft., 8ft. and 5-1/3ft.*

**Pedal  
Facilities**

*Sustain is available with short and long decay times.*

**Vibrato**

*A very effective vibrato, which varies both the pitch and volume, is available at two different speeds on all the 'flute' drawbar voices.*

**Pitch Adjustment**

*A potentiometer at the back of the organ gives a remarkable wide range of adjustment. On the particular organ we tested, it enabled us to tune over an interval of an eleventh (18 semi-tones)*

*No tests were carried out to check the pitch stability of the instrument but we observed no hint of 'drift' during our tests.*





**NERVE CENTRE** This device can best be divided into three separate facilities.

**Electronic Rhythm Unit**  
a) Waltz, jazz, tango, march.  
b) Slow rock, fox-trot, swing, rhythm 'n blues, shake.  
c) Afro, rhumba, bequine, cha-cha, samba, bossa-nova.

The rhythms in each section can be combined but mixtures of rhythms in different sections cannot be selected. Separate tempo & volume controls are incorporated.

**Automatic Accompaniment**  
a) Next to each rhythm button is another which selects whether or not an automated rhythm section 'plays along'

This works by combining the notes of the chords and bass with the rhythm information emanating from the autodrummer and a pre-set memory of what accompaniment belongs to each rhythm.

The resulting 'backing' must make the less advanced organist sound very advanced indeed, having the effect of several 'sidemen' 'sitting-in' with the organist.

**AUTO-PIANOS** Entirely separate from the built in "piano" voices previously mentioned, the auto-pianos have their own voice selectors.

**Voices**  
1) Mellow  
2) Bright  
3) Honky-Tonk  
4) Harpischord

A 'decay' timer is incorporated which enables one to go from a very short (rhythm-guitar) sound to a softly sustained piano playing in time with the electronic drummer unit, in a similar way to the automatic accompaniment.

The entire nerve centre can be started by switching on the green off/on button or by the key-start method. (Selected by means of a pair of switches labelled continuous/key-start).

In addition, the following operational modes are available.

1) Pianos (off/on)  
2) Bass (off/on)  
3) Chords (off/on)  
4) Add rhythm (off/on)

**OTHER FACILITIES**  
**Power Supply**

230 volt A.C. (50 or 60 Herz) mains supply via a correctly colour loaded mains lead which comes with a non-reversible euro-plug moulded onto it.

**Fuse Off/On Switch** A 500 M.amp fuse is fitted. A switch with built in indicator light is located at the rear of the instrument.

**Output Sockets (Organ)** An organ output jack socket for the drawbar voices and percussions is fitted at the rear of the organ.

**(Bass)** Two sockets are provided, one taking the bass pedals out before it passes through the swell pedal and giving a predetermined volume of bass regardless of where the swell pedal is positioned.

The other socket takes the bass pedals out after the swell pedal, the bass being controlled by the 'swell'

**(Pianos)** Two 'pianos' output sockets are also provided, one being a 'constant level' socket and the other controlled by the swell pedal.

The output sockets all gave out enough signal to fully drive a slave amp.

One of the good things about this organ is that it feels very much 'under control' all the time.

This is achieved partly by having all the separate sections of the organ pretty well balanced volume wise and partly by giving each section its own volume drawbar. (Two in the case of the lower manual drawbars).

1) "Lower Manual" drawbar  
1a) " " " master drawbar  
2) "Pianos" volume drawbar.  
3) "Auto-Pianos" volume drawbar.  
4) "Pedals" master volume drawbar.  
5) Master volume drawbar for the entire organ.

In audible (at full volume-setting).  
Inperceptible.

Slight susceptibility to mainsborne 'spikes' but not offensively so.

Inaudible.

\* Tested in conjunction with a Fender 100w Bassman amplifier and loudspeaker and a Leslie Pro 900 sound cabinet.

Built in strong vinyl covered plywood, this instrument is very sturdy indeed. It is mounted on two tubular steel 'kite' shaped end units and the top console can be tilted to anyone of four different angles and fixed tightly by two man-sized bolts.

The end leg-units are kept in place by a strong black metal spacer assembly and a lid is supplied with the organ to protect the keyboards and controls when travelling.

Two plastic handles are fitted to the front edge and it has three lockable catches to keep the lid in place.

Because this organ is of the 'Sine-wave Harmonic Synthesizer' type, no comparison of voices (except the 'pianos' which are superb) is relevant other than to say that all the pop, jazz, theatre organ and church organ sounds you could ever want are available.

The percussion voices are very powerful, so, to get a genuine Jimmy-Smith sound, one must use a modicum of discretion when setting-up the perc. volume drawbar.

Best points on the Haven 61 are:-

a) It is very easy to control and manage.  
b) The clean-cut separation of the 'bass' and 'pianos' gets rid of the muddled sound so often heard on large organs.  
c) The extended pedalboard means that one can follow through a bass-line or riff and allows for much more imaginative bass parts to be played by the more advanced musician.  
d) The five octave upper manual gives one the scope to play concert and liturgical music authentically.  
e) The nice clean lower end of the piano voices enables one to play a boogie left hand or stride piano if desired.  
This can be equally useful for Jerry Lee Lewis type rock 'n' roll or backs three part inventions.

f) The 5-1/3ft. drawbar on the pedalboard enables one to duplicate the slightly overemphasised 3rd harmonic which helps give the most popular bass guitars (Gibson Ebo & Fender Jazz) their characteristic sound.

The best portable organ I've ever played and, because of the constant level bass and piano outputs, it is likely to become a highly desirable professional portable within the next two years.

My only minor criticisms are that it has no bass-guitar sound (with a bit of plectrum noise) and that no built-in reverberation is included, but these facilities could easily be added in the MK II Haven 61 if the public demand is there. I also think that it should have a 110 volt mains transformer tapping. All in all, a beautiful beast.

**VOLUME CONTROLS**

**PERFORMANCE**  
**Hum and Noise**  
**Distortion**  
**Switch — Noises**

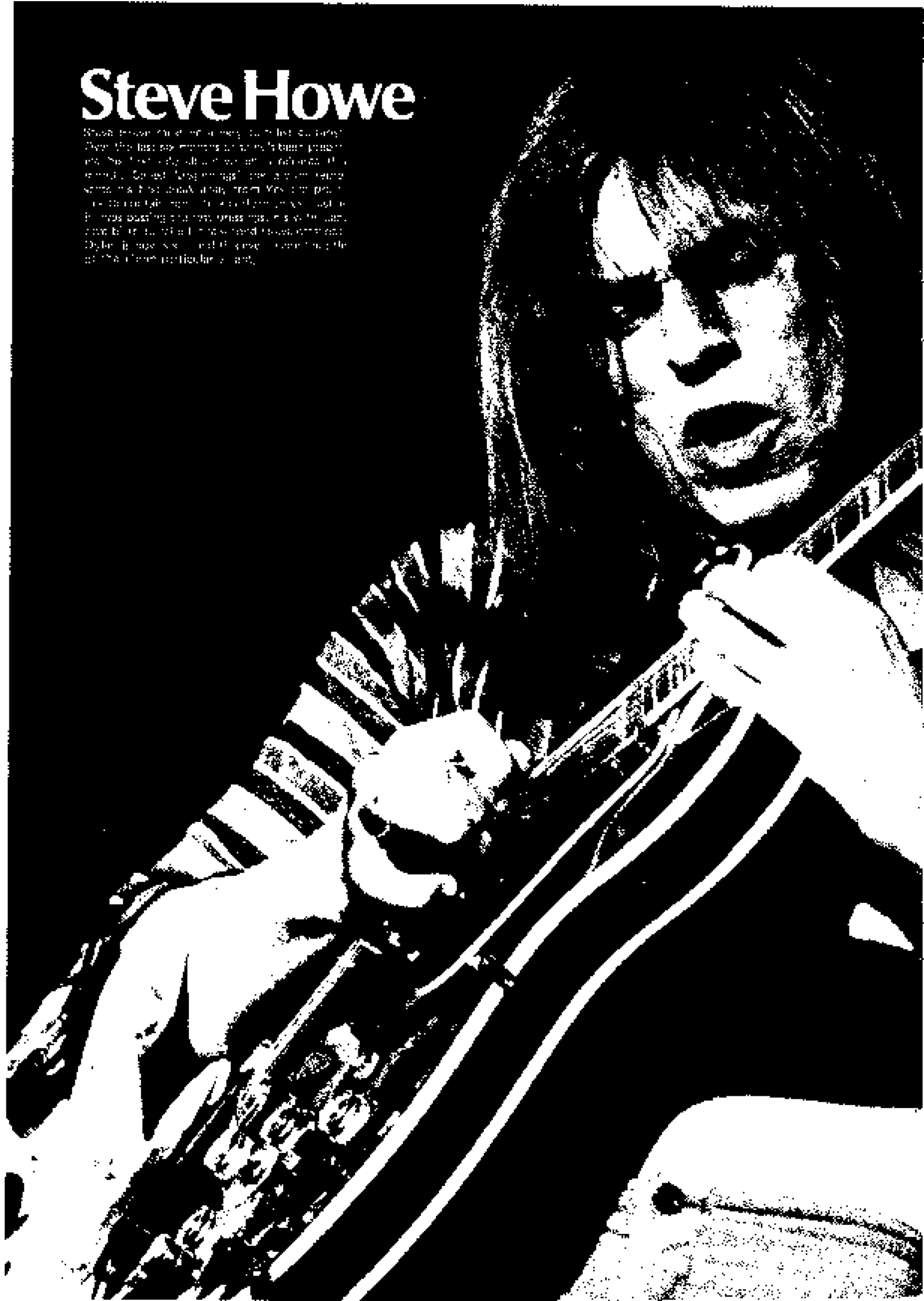
**Contact, Key and Organ Switch**  
**Noises**

**MECHANICAL CONSTRUCTION**

**CONCLUSIONS**

# Steve Howe

Shouldn't you be at an open house? "I just do that!" Dyer. She just says nothing to us as if being ignored. She looks a little bit like an old friend. It's weird. "Do you know anything?" she asks, being serious. "I've heard a lot from Yes, but probably not that much." "You're a fan?" "Yes, but I'm not. I was playing the very same music as you for years, and I've had to tell a lot of people that about me and Dyer. It was six years ago, and I've never seen her since. It's a little bit particular, isn't it?"



*Tell me about the album?*

It's called 'Beginnings' and the title track is, in fact, the album. It all started this year when I finally found I had the time. I had the arrangements coming along and several songs were getting ready to do, so I started getting really psyched up because I realised I had just three months to get into it.

*You've been planning this album for quite some time though?*

Yes, it's been a long talked about thing. I've gradually built up a fantastic catalogue of demos. Yes have occasionally done something from this collection, but most of the songs have been laying there and when the time came I realised it was almost ready to do. Initially I decided that I was going to try and play as much of it as I could myself. I realised that I hadn't experimented as much as I might in the field of totally colouring my songs with guitar and I set about doing very basic tracks to get the skeletons of the numbers.

The first thing I did was to invite three of Gryphon along and we rehearsed for two or three days. That was the basis of the first session I did at Morgan. This was the start of many guitar sessions, usually two guitars, bass and drums. That particular track is called "Nature of The Sea" and that's the third track on the album. I remember talking to you once before about the strange adventurous guitar numbers that I was writing and this is one of them. The number goes through a variety of situations relating to the sea.

We went on and did it track by track. Alan (White) and I came in and we did "Doors Of Sleep" which is the first track. The way we worked it was that Alan was introduced to these numbers really strongly on the end of the American tour last year and then I said "Well let's get in and do these." When it came down to the sessions it was very much like attempting to get a really good rhythm guitar going in a back-up guitar sense — usually acoustic. My idea was that the drums are such a foundation of a record, (you know, they're always there) I tried to convey as much as I could to Alan about the building, about the holding back and the pushing and it really turned into a drum session. I was acting out the arranger part of me telling Alan where I wanted drum fills and so on. It was terrific fun. I did four tracks on that system, totally without anybody else. Then I did two tracks like that with Bill Bruford, which were equally fine.

*How was it working with him again?*

It was great, he's such a character. We can agree about certain things. He didn't know what the tracks were going to sound like. He came along very open-minded and he said "Where's the group, where is everyone?" I said "It's just you and me."

*Do you lay the bass down with the drums?*

We rehearsed quite a lot with the bass and then he said he thought he could get off a lot more if he had guitar, because he could hear the changes better; We were doing a number called "Back Away From It All" and I was using a Fender Telecaster — the old Scotty More type model — and he plugged it in and it really started to rock. It took a whole day to do.

*How difficult working with such a bare*

dimension really was that the bass and drummer didn't have to sit down beside where the beats were — the drummer had the most freedom. We'd talk about the bass drum and all the drums and we'd say that if the bass drum was going in a certain place, I'd work my bass line around that. That's really what I did and I gave the drummer priority and a lot of freedom. He had to listen and listen with a certain amount of attention, but he also had to be excited and play his kit on its own.

*It must have been a different technique with each drummer?*

I think Bill and I had to establish ground which I didn't have to with Alan. That's a pretty hard thing to define, but it was getting up to date with each other. I knew Bill had progressed and I wasn't presenting him with an intricate number so far as the figures that needed playing. It was more of a continuous music idea, so it was the subtleties I was looking for — the feeling of release when we could hit verse two and realise here comes the guitar solo and we're well into it. Bill likes to work within the limits of his own kit, he doesn't want three tom-toms or anything like that and he wanted to do the second number we did together differently. This was a number called "Pleasure Stole The Night" and we tried out different things until finally we tried out a percussion and drums thing. He was just playing bass drum occasionally and doing rim shots on the snare like a bossanova and playing the maraccas at the same time. The track ended up with a real nice flavour, we added string bass later.

*Did you play string bass yourself?*

No I didn't, I used Chris Lawrence. I come un-stuck on anything fretless — I'm hoping to get better.

*Apart from playing all the guitars on the album, what else did you do?*

I did all the arrangements except "Beginnings," which is the only orchestral piece on the album. Patrick (Moraz) worked on that with me. He did all the orchestrations, based on tapes that I made and discussions that I had with him. I did odd things like playing organ on a track called "Lost Symphony". I had the old Leslie going and I just loved playing it. I fiddle a bit on keyboards and I also did a bit of Harpsichord on "Nature of the Sea."

If I'm playing an instrument I'm not competent on, I only do very simple things. I couldn't play every major chord on the piano, I'd have to stop and think before I could play F sharp which makes me quite poor. I did three pieces of Moog work on the album. They weren't Moog solos and I feel I have a way of doing it how I want it. Patrick played Moog on "Beginnings" which needed a virtuoso player.

*You've always recorded as a member of a band. Was it easy to resist the temptation to put everything on when you were recording solo?*

I think I managed to resist the temptation, greatly because I'm very self critical. I was working on a number which is called "Willow The Wisp", which is the longest number on the album. It has lots of instrumental passages and I'd done some guitar solos. I listened to the whole thing from the beginning and all of a sudden in came this ridiculous guitar and I thought, "Oh no! that's got to go." I took the first step occasionally but I realised that although the ideas might have been good I was overdoing things. I really wanted to reach some degree of subtlety on the album, to make it gentle. It wasn't until the thing was two thirds of the way through I was even allowed to let loose. There were a lot of little steel parts to do, things like that, just to add colour, and after all the various parts were laid down, I went out and laid down the overdubs. That was probably the longest section of recording because I worked through all the tracks at once.

*How hard was the album to record — how difficult are you to satisfy in recording?*

Jeremy, one of the engineers I worked with, said to me yesterday that I was very different in the studio. It wasn't like I walked in and just said "get on with it", I had to get to know the people I was working with because I need to rely on them. For that reason I don't find any difficulty in recording, I find it very satisfying, even if I'm putting on something very small.

# Steve Howe

I surprise myself occasionally by doing something I didn't think I would be able to do. Like I played washboard on one track and it was really great. I'm percussively minded and I did do a bit of percussion on the album. When I knew I was in the studio and I had something important to do, that's when I rested most on my experience.

There was a certain amount of risk in much of the album but when I came in to do the guitar it was the biggest test. After everything else I'd done had gone reasonably well I had to pull something special out on guitar. I needed the spark to be able to improve things which is possibly my strongest drive. It's usually not something I can do 24 hours a day, because you have to organise something and then play it. I wondered whether I was going to have that drive and I was very pleased to find I did. I would have worked constantly on the album if other people had been able to do the same. Tours and things like that interrupted the recording. I was just starting to do the guitars and we had the American tour to do, then the English tour. The interesting thing there was that I was forced to look at the recording from a distance. I couldn't work on the album for five weeks and at first I was disappointed but then I had time to consider it. I did some more work and then I had to leave it again. This really had its benefits. I pushed the deadline completely out of the window and decided that it was finished when it was finished.

**Did you come back and change everything?**

I improved on things, yes. There came a time when we were prepared for mixing that we had to decide whether we were going to throw something out. I wiped out certain guitar tracks and put in different things.

**How long is the album?**

It's roughly 20 minutes a side. Side two is 22 minutes.

**For that reason did you have to leave a lot of material off the album?**

I see this record as just the first of a series really. It has only used a very marginal amount of material. I only recorded one track that isn't on the album.

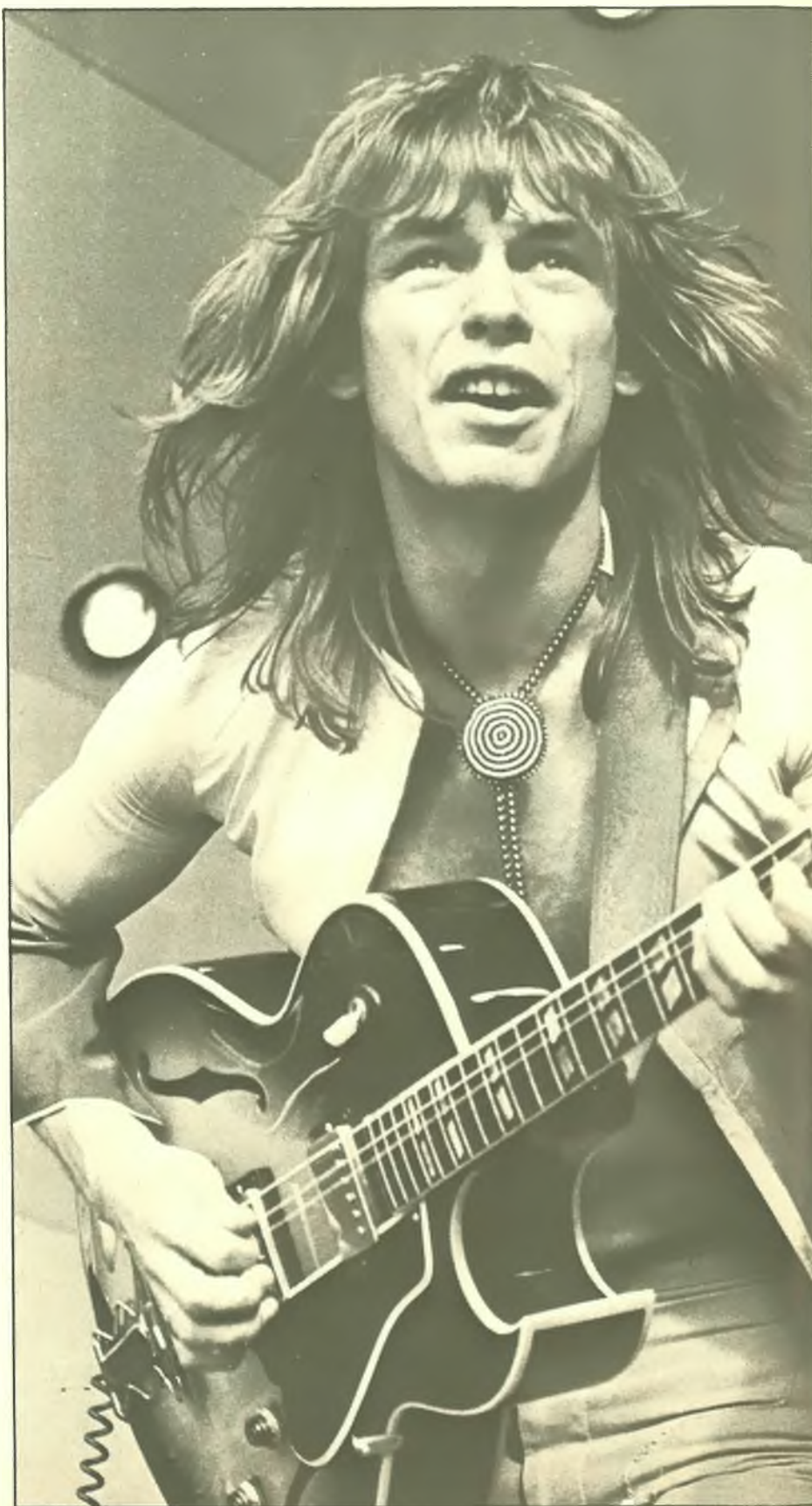
**Because you did so much on the album yourself by overdubbing, did it turn out to be a very expensive album to produce?**

Yes, quite expensive. I haven't got the final figure yet but it will be about £30,000. It doesn't bother me that it cost a lot. I tend to think of the studio like running a car. You need a car, you need to go there and you have to pay what it costs. There's the other alternative you can take which is to never go into a studio but to buy your own. But I value people more than machinery.

**Are you intending to do any playing to promote the album?**

I'll be more than happy to get back on stage. We go through a great rigmarole to get our shows up to a high standard and, without using tapes which isn't my idea of a live show, it would be very difficult.

My ambition is to do two albums so that I really have something to play to people and then do some shows. I've found myself playing songs from the album thinking; well I might do this or I might do that; but I wouldn't want





to do anything that would risk my reputation. I'd rather get on stage and play some good old numbers.

*Do you miss the casual gigs when you could turn up at the pub and plug in?*

I haven't done them for a year or so, but I do enjoy it when I play for somebody or something like that. I sometimes wonder what it was like and I feel like nipping down to pubs I used to play at to see what it's like. I suppose I think far more about the advancements that can be achieved with other musicians, I don't think it's the place — it could be a community centre, — it's more an attitude of mind. Then I ask myself "Do these places still exist as they did?" and I don't think they do. Certainly the pub market has changed a lot. It's got more pressured, it used to be very casual. When you think about work in pubs, it's been advertised a lot recently and it's become almost part of the music business.

I jam a lot at home with Dylan (his elder son). We go through all the hits. He plays drums, he's only six but he's quite good. I plug in and we're off and we play some rhythms. Dylan particularly likes Elvis Presley and occasionally we do something a bit wild.

I really love the old numbers, the old rock hits. I think they mature with age. One can play these numbers in a new context, especially a three piece group context. I'm following up a few angles at home — Moog guitar offers a lot — and I've been reviving some old songs just because I've been hearing them again.

If you listen to 'C'Mon Everybody' it's a very good record. You've got to re-interpret these numbers. My family used to say to me "Oh you'll hate Cliff Richard in 20 years time". Well, I'm not so keen on Cliff Richard, but a lot of people of that time I really still dig. I'd like to give some old songs new arrangements. At that time the ideas about guitar breaks and general arrangements were so rudimental that there's now room for lots of different things



in the songs.

*To talk about you as a guitar player for a moment, how long is it since you sat down and deliberately tried to play an exercise?*

Quite a while I suppose. My mind occasionally flashes on scales I used to do, but they don't interest me that much any more. That's because I started going in a direction away from scales.

Just the other day Ivor Mariants sent me a song book to show me the chords to a number I didn't know and embarrassingly I couldn't play with Les Paul, so I enjoyed looking at the stuff. The song that really got me going was one called "I Can't Get Started". It's a fantastic song, harmony, style, riffs, it's great and it started off a whole remembering thing. My whole association with learning is the chord symbols because I don't think about chord symbols at all. So to have a mass of chord symbols in front of me was almost like going back five years. It jogged me to recall a time where you think about possibilities.

As one becomes more busy things slip away. There's a lot one can learn from one's past. I have times when I concentrate on different aspects of my life. Looking at the book I realised I'd forgotten what a G7th flattened 5th looked like in the first shape. Then again on the album I used B flat with a flattened fifth and I knew, so the thing I always come against in the learning attitude is that I only learn what I use. The main thing it does is to allow a guitarist to express his work in chord shapes. *Do you like old fashioned chord solos?*

Yes, very much. I wish Barney Kessel still played them, he does in one way but not like he did originally. Joe Pass kind of carries on like that. But on the guitar drive — having discovered a couple more Tal Farlowe records — I can lean off in all these different directions. I've got the Duane Eddy special double album which I think is great.

To move around the chords is definitely the most interesting part of the guitar. I don't think I've stopped trying to learn about trying to get from one chord to another but sometimes the chords get changed. Just working with other people can be stimulating because you're forced to use their chords. I suppose the jazz direction is the one I'm going in at the moment. The problem is that word, it's got two z's that word. I'd like to do the same thing in jazz as I have done in rock, not play anything too conventional.

I really rate Tal Farlowe very highly. The way he plays right across the melody is just incredible — he's so fluid. He plays right off the top of his head and I think some of the runs are just licks to him. I was going to do this Tal Farlowe-type thing on 'Topographic Oceans' but Yes said, "Do something more crazy, or wild" but I really liked the guitar piece. I got so much out of learning that riff of his. It was in "Chuckles" in the days when Tal Farlowe was just playing with bass and drums.

Possibly the most confusing thing about my kind of musical education is that I've grown to like all kinds of music. I particularly like Stravinsky — he wrote an incredible amount for small groups and this is really where my musical interests lies. □

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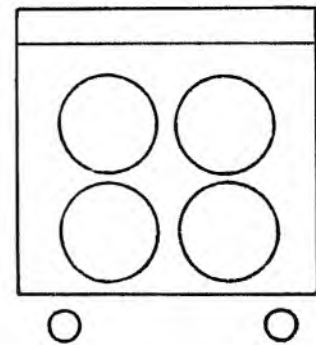


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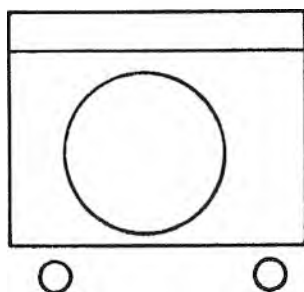
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# LONDON PUBS

An IM investigation into the London pub circuit by EAMONN PERCIVAL

Over the years, with the demise of the club scene, it has become increasingly difficult for relatively unknown bands to gain exposure by doing live gigs. The fact is, there just aren't as many gigs to be had as there were a few years ago. One of the main contributing factors must be the recent emergence of resident and mobile DJ's. If a promoter or manager has the choice of booking a group for £30 or a disco for £15, he will probably book the disco. He will then have the advantage of keeping the audience happy, while keeping his cash outlay to a minimum. Consequently, audiences have become used to discos and dancing to records they're familiar with and, in some cases, a live group in a discotheque is looked upon as a bit of a nuisance. However, in the last couple of years, many pubs have gone over to using groups for entertainment, and this has become an important exposure media for new bands. Ducks Deluxe, Brinsley Schwartz and Dr. Feelgood are among many bands whose success is due to their initial pub gigs. With this in mind, International Musician has taken a close look at the pub scene in London and, in particular, at those pubs who regularly book rock bands.



Before they split up to go their separate ways last month, Ducks Deluxe spent most of their existence gigging around the pub circuit. They also did gigs in Europe and topped the bill at the Marquee among other places, but the majority of work came from the pubs. Bassist Mick Groome explained "I enjoyed playing in pubs mainly because there was usually a good atmosphere in them. It's like the club scene years ago, where you can really get across to the crowd, and feel that much closer to them. We did most of the pubs around London and built up a good following. I used to like playing the Hope and Anchor. It was a bit small, but there was usually a good crowd there to make up for it. The people who run it are really nice and helpful as well so that helps a lot. The Greyhound in Croydon is a nice place to play. There's a good crowd, good sound and great acoustics there. I mustn't forget the Newlands Tavern. It's one pub where they have got a decent sized stage. There's also a good audience and the place is usually packed. Out of London, there are a few good pubs to play. The Black Swan in Sheffield for instance. I think bands will be playing the pubs for a long time to come. It's great to do a big concert or festival, but there's a lot to be said for the pubs."

<b>NAME OF PUB</b>	Brecknock	Hope & Anchor	Newlands Tavern
<b>ADDRESS</b>	227, Camden Rd, NW1	207 Upper St., Islington N1	Stuart Rd, SE15
<b>TEL.NO:</b>	01 485 3073	01 359 4510	01 639 0563
<b>BOOKINGS VIA</b>	James Wood & Associates, 31 Bruton Place, Tel.01 493 9723	Landlord	Landlord
<b>BEST TIME TO RING</b>	After 10 am.	Between 7 & 9pm.	Opening hours.
<b>GIGS PER WEEK</b>	7	6	7
<b>NIGHTS OF GIGS</b>	Every night	Every night except Sundays	Every night
<b>RATES OF PAY</b>	From £22	Usually 75% of the door	From £25
<b>LENGTH OF SET REQUIRED</b>	Two 45 minute sets	Left to the discretion of the bands	Two 45 minutes sets
<b>CAPACITY</b>	Legal capacity 200	Legal capacity 100	Approx. 275
<b>STAGE SIZE</b>	L-shaped: 14' x 10' x 7'	Approx. 16' x 10'	Approx. 20' x 10'
<b>EQUIPMENT PROVIDED</b>	None	None	None
<b>BEER</b>	Truemans. Average prices	Watneys Average prices	Trumans Slightly above average prices
<b>MUSICIANS PERKS.</b>	None	Occasional free drink	Occasional free drink
<b>OTHER FACILITIES</b>	Jukebox. Snacks up to 9 pm.	One of the best jukeboxes in London.	None
<b>ENTRY CHARGE</b>	Free	Usually 50p	Tuesdays 50p: Fridays 30p: Rest of the week: free.
<b>ACOUSTICS</b>	Good	Excellent	Good
<b>REGULAR BANDS</b>	Scarecrow	Many up and coming bands. In the past have featured Ducks Deluxe, Dr. Feelgood, Kokomo, Clancy.	Salt, No Man's Band, Bandana.





Lord Palmerston	Golden Lion	White Hart	Greyhound	Windsor Castle
648 Kings Rd., SW6	490 Fulham Rd., SW6	Church Rd., Willesden NW10	175 Fulham Palace Rd., W6	309 Harrow Rd., W9
01 736 4501	01 385 3942	01 459 7328	01 385 0526	01 286 8403
Landlord	Landlord	Hunsul Entertainments Ltd., 13 Great Western Rd., W9 Tel:01 286 0184	Landlord	Landlord
Midday	Opening hours	10 am to 6 pm	Between 11 am and 1 pm	11 am.
7	7	5	7	7
Every night	Every night	Thursdays, Fridays, Saturdays, Sundays,	Every night	Every night
From £20	From £20	From £20	From £20	From £20
Two 45 minute sets.	Two 45 minute sets	Two 45 minute sets	Average of 1½ hours	Two 45 minute sets
150 – 200	Approx. 350	Approx. 250	Approx. 1,000	Approx. 400
Approx. 15' x 9'	Approx 20' x 16'	Approx 14' x 6'	15' x 10'	12' x 12'
Spare mikes and amplifier	Spare PA system, piano and mikes	None	None	Spare PA system
Charringtons Average prices.	Watneys. Average prices	Watneys. Average prices	Watneys. Slightly above average prices.	Watneys. Average prices
Free drink after the set usually	Occasional free drink	None	None	Occasional free drink
Wide selection of piped music	Jukebox	None	Jukebox, snacks at the bar.	Jukebox, snacks at the bar.
Free	Sun, Mon. and Thurs. 50p. Tuesday, Wednesday, Friday and Saturday free.	Free	Free	Free
Good	Very good	Good	Good	Good
Scarecrow, The Dogs.	Gonzalez, Clancy, Whistle.	Max Merritt	Scarecrow, Jailbait, Sam Apple Pie.	Agnus Strange, Fog.



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# CHRIS ECCLESHALL

by Eamonn Percival

Over the past couple of years, the name Chris Eccleshall has become synonymous with fine, hand-built guitars, mandolins, dulcimers and virtually anything that could be termed "a fretted instrument". Chris operates from a small workshop in Ealing, the decor suitably provided by an assortment of guitars, moulds, and patterns hanging from the walls. The furniture consists of workbenches, power tools and boxes of spare parts. His reputation has come about almost completely by word of mouth and now numbered among his customers are Eric Clapton, Pete Townshend, The Sweet and Rory Gallagher.

After leaving school, Chris started an apprenticeship as a metalworker but soon decided it wasn't for him, and consequently left to "hitchhike around for a while". His travels took him to Hastings, where he became assistant to John Howard-Lucy, a well-respected violin maker. John was quick to recognise Chris's talent and later placed him at Hills of Bond Street, virtually the academy of violin manufacturers.

He stayed with Hills for two years, where he found himself working on violins worth as much as £15,000. His next move was to Ealing Strings, mainly to work on violins, although any guitar brought in for repair would inevitably be passed to Chris, who by this time was developing a keen interest in that instrument. So much so, in fact, that he spent most evenings making guitars in the shop's upstairs workshop. He eventually decided it was time for him to branch out on his own and so acquired two garages further down the road, which he converted into workshops.

It was a labour of love for Chris. He started off with a handful of tools and his final week's wages from Ealing Strings. "It was terrible for the first six months," Chris recalled. "I was living on egg and chips for months, and I had hardly any money. But word gets around and I started getting work."

"Rory Gallagher was the first main customer. He phoned me up at home one day and said he had a lot of stuff that needed sorting out, so that was about two month's work in itself. The word gets around because you'd get a couple of roadies coming round with repairs, and they'd meet other roadies at gigs and tell them, and so it would go on. Since then, of course, it's snow-balled and I can pick and choose now."

I wondered if Chris had any particular technique for building guitars? "Well, originally, it was very much trial and error for me, because I had no form of reference. As I've gone on, I've noticed that the methods I use are very similar to the methods used by everybody else. There are only certain approaches you can take for making a guitar."

"On an acoustic guitar for instance, you bend the ribs on a hot iron to a rough shape and then they're put inside the mould, and held with cross-clamps. The top and bottom blocks are glued in, and the linings are glued to the ribs. The back is made separately jointed and then thickened, and the cross-struts are then glued onto that, so the back's a complete unit. Then the back is glued onto the ribs while they're in the mould to hold the shape, and trimmed round flush. The front is made as a separate part, jointed, thickened, the soundhole inlay put in, the soundhole cut out and the struts glued in."

"On 90% of the acoustic guitars I make, I use the standard Martin strutting system because it tends to give the general sound that people expect to hear from a flat top jumbo guitar."

At first, Chris only built acoustic guitars but after many requests from his regular customers, he began to make electric guitars and he now does quite a range of electrics.

*continued on page 45*

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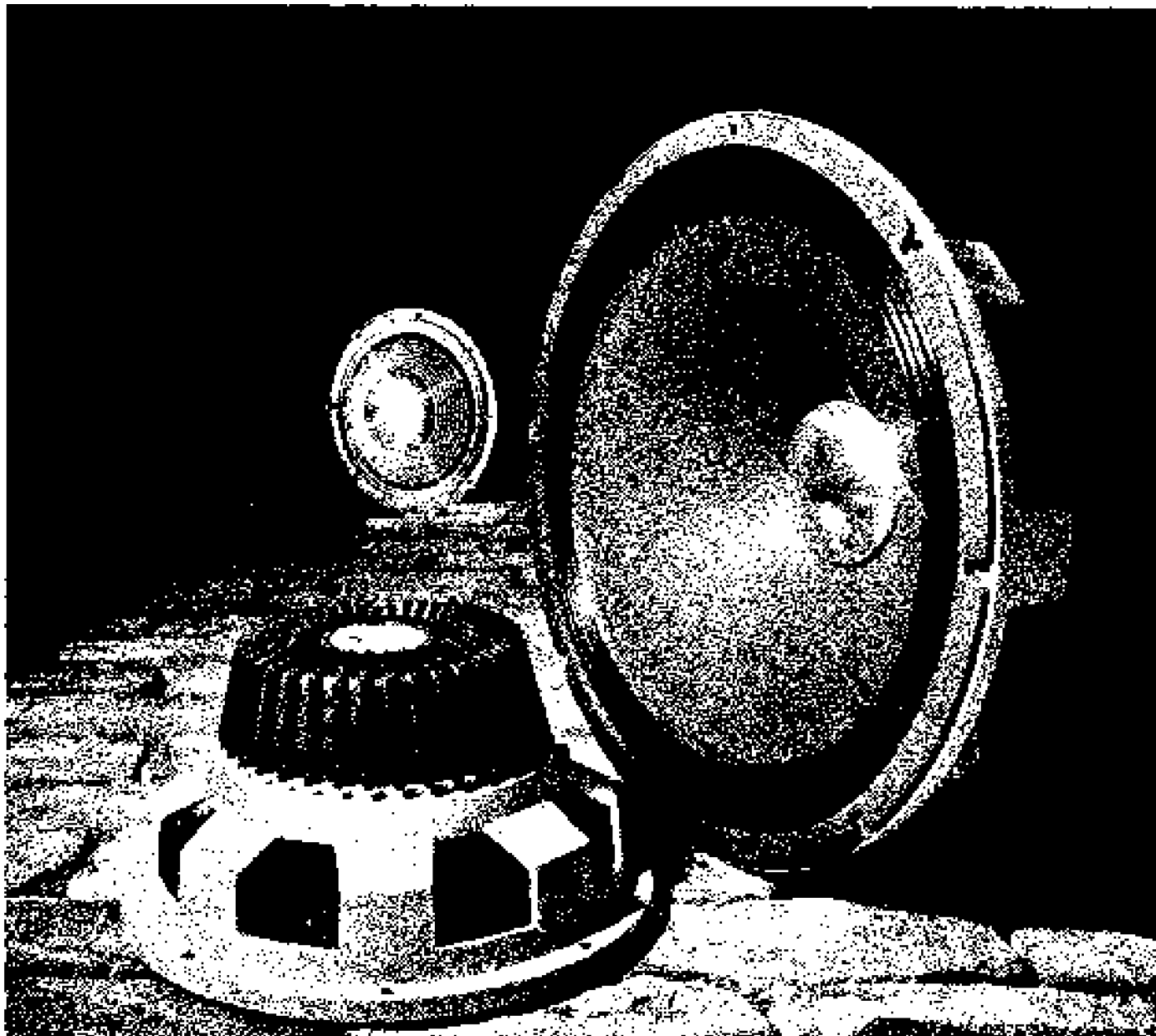
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Chris prefers to make acoustic guitars, although he feels electric guitars are very valid instruments. "Making acoustics is individually more rewarding for me because there's so much more to it. In an electric guitar, the neck is so important. I tend to spend a lot of time on the neck and fingerboard. The bodies tend to be pretty straightforward once you're used to making them. I tend to do mostly standard shapes because whatever you try to do with a shape in this day and age, someone has probably already done it, and a lot of the guitar designs are so good anyway. For instance, a Les Paul Junior is the perfect design anyway, so why try to change it? I do my own designs as well, but mostly I'm asked for standard shapes. It always amazes me — people can go into a shop and just take a Gibson or Fender down off the wall, pay for it and walk out with it — yet they come to me instead and are prepared to wait up to three months for one."

I wondered what Chris thought of mass-produced guitars, bearing in mind the fact that certain people *do* plump for his guitars, rather than the better known American makes. "They vary a lot. It's very easy to put a blanket thing on particular makes. I personally like factory made guitars but it's a different world to that which I work in."

Chris spends about 90% of his time building guitars, and the other 10% on repairs. He only does repairs now for existing customers, as it can be very time-consuming. He pointed to a pile of broken necks and smashed bodies. "That's something I find hard to take," he said. "I made a few guitars for The Sweet and one literally only lasted a week. It came back in about seven pieces. I do some repairwork for Pete Townshend, but no way will I build a guitar for him. I know how it will end up."

"On the subject of smashing up guitars he made a interesting observation, he told me he had a couple of SG's and always used to polish them and generally look after them until he visited the Gibson factory in the States. He saw rows and rows of identical guitars, all lined up on a conveyer belt. One person would be putting a control knob on, and the next person would be tightening it up and he thought to himself "Why bother?" Now, smashing guitars doesn't bother him."

Chris has come a long way in a relatively short time, but still manages to keep his prices down. "When I started, most of my time was spent doing repairs but I've managed to get more into the building side and get through the barrier of not just being Chris down the road who knocks up guitars now and then, but to be accepted as a professional guitar maker who knows what he's talking about and who gives value for money."

"The techniques of construction for solid electrics are obviously very different. I start off with the basic block of wood, which is first cut to outline and then the pick-up holes are routed

out. When I first started, it was literally all done by hand. The outline was cut with a bow-saw, and then finished with a file for shape, and the recess pockets were done with a drill and chisel. It used to take hours and hours, but now it's a lot quicker with the router, which is a very high speed motor into which you can fit various cutting tools. It's basically for shaping up the bodies, but it can be brought in to shape the necks, cut the profile of the neck, cut the grooves to take the binding — in fact, it can do a million and one jobs.

"I tend to do most of the roughing jobs by machine, like cutting out the blocks of wood on a bandsaw, using the router for the fitting work like cutting out the recesses and inlay work, sanding machines for finishing sanding the wood because there's no way you can finish-sand a piece of wood by hand and then lacquer it over the top and get a good finish. All the rest is done by hand."

Which woods does Chris use?

"The woods tend to be pretty standardised for any guitars. On an acoustic guitar, I use either mahogany, maple or rosewood for the back and sides, mahogany or maple for the neck, ebony or rosewood for the fingerboard, and spruce or cedar for the front of the guitar. The different woods give you different tonal qualities. Rosewood is a very hard wood. When it's sanded smooth, it's a very reflective wood and gives you a very sharp, trebly sound; mahogany is a more absorbant wood giving you a nicer middle tone. My personal preference is for a mahogany guitar because it gives a nice, warm sound. To me, rosewood guitars are a bit too clean and harsh. For classical guitars, it's probably best to use rosewood to get that clarity. For an all-round guitar, if you want to play flat-picking or finger-style, I think mahogany will give a better sound. It's a matter of splitting the difference."

I was amazed to find that it only takes three days for Chris to build a standard solid guitar from start to finish. "It can take longer," he explained "if the finish is tricky. I can spend three days on the woodwork and three weeks on the finish; building up the lacquer, colour staining and polishing it. It's probably the trickiest part of the whole operation, because it's got to be so good."

"The easy way out is the method whereby you bang on a layer of lacquer, sand the surface flat and then buff it up. That's all very well if you want a nice shiny guitar to hang on a shop wall and look pretty, but when you realise you're putting about a 1/6th of an inch of plastic on top of the wood, it defeats the object of spending time, trouble and care in shaping the wood up properly." □

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# CARLSBRO SOUND CENTRE



Malcolm Jennings, Keith Woodcock.

"Most of the bands up here have got two acts, these days. It's the only way they can play their own music and still survive." — Keith Woodcock, the man behind the Carlsbro Sound Centres.

Mansfield has been kind to its bands. Keith's been dealing with them for ten years or so through Carlsbro equipment shops in Mansfield and he's better qualified than anyone in this part of the country to talk about the Midland group scene.

"At one time there were six or seven fully pro bands in Mansfield, now I don't think there's one. The funny thing is that we're doing more business than ever before. I don't know whether we've got a better share of the market than we had before, or whether people are travelling further to get to us."

Perhaps another reason that the Carlsbro Sound Centre in Mansfield is doing great business is their vast new premises in Chesterfield Road North, which are just outside the town centre and only a couple of miles from the Chesterfield exit of the M1.

The shop moved to the new premises just about a year ago and today it's bulging with stock — the exotic beside the prosaic — that's turning over as fast as Keith and Manager Malcolm McDowell can order it.

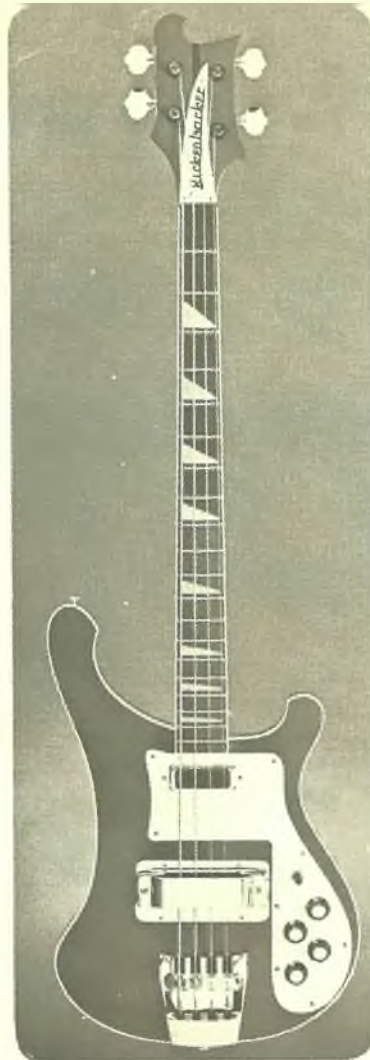
"Most of the work round here is club-cabaret kind of stuff and the bands work up a good cabaret act. If they have that they can work all the time. But the gigs they really like doing are the dance gigs and they're few and far between. At those gigs they can play the music they write and play the sort of music they want to play. So the bands who survive usually have the two acts: the music they want to play, and the music they have to play."



# DEALER OF THE MONTH

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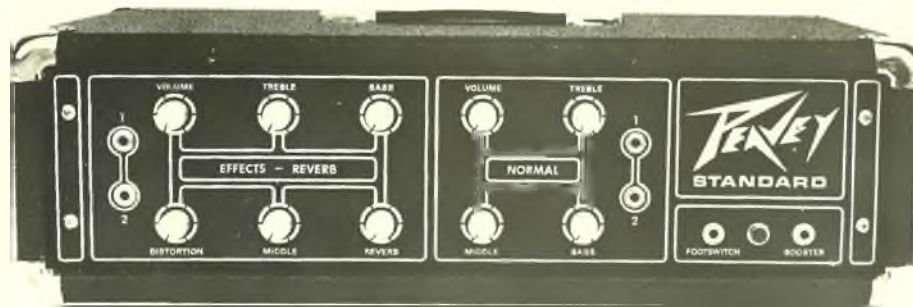


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# CARLSBRO SOUND CENTRE

from page 47

The mixture of instruments and amps in the Sound Centre is as varied as can be imagined. New Gibsons and Fenders adorn one wall, old acoustics and electrics another. There's a willing and helpful attitude to part exchange deals at the shop and for this reason it's an exceptionally good place to find good secondhand instruments and amps.

The basement of the shop is currently being turned into a disco centre and there's also a lighting section, a large service centre and, most important, room to PARK.

"Getting the parking space was one of the main reasons we bought this building," says Keith. "Most of our customers are going to drive to see us - you can't really take an amp home on the bus - and it's important that they're able to park."

The Carlsbro retail operation started humbly as a small shop in Station Street, Mansfield, primarily set up to sell Carlsbro sound

equipment. Stuart Mercer - Carlsbro boss - naturally chose his home of Mansfield as starting point and in partnership with Keith established a shop that fulfilled the dual role of promoting the sound equipment and serving the "equipment starved" musicians of the area.

Success often follows success and the Carlsbro Sound Centre flourished as the fortunes of the "big brother" manufacturing company grew apace. The Station Street shop is still part of the Carlsbro empire, but today it's a more general music store selling instruments like trumpets, saxophones and recorders as well as group gear.

"I think that's been the biggest change of all really - the specialisation in the trade. Today bands want to go to a shop that specialises in their type of equipment. The pattern of trading has changed and the accent is very much on servicing today.

"We've got a large electronic



continued on page 50

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# CARLSBRO SOUND CENTRE from page 49

service department that can handle almost anything a customer brings in — usually very rapidly indeed — and we also have a guitar specialist who undertakes the delicate repairs that are sometimes called for. Over the years we've developed a relationship with finance houses that allows us to arrange credit for customers with very little trouble."

The design system that has been used in the new centre is based upon the scaffolding system pioneered by the ill-fated Fender Soundhouse in Tottenham Court Road, London. This system effectively gives the shop two floors in one and the double tier system allows the most enormous amount of gear to be stocked.

"Having a large stock is really important these days. Sometimes people want the most ridiculous orders off the shelf. At our shop in Sheffield last Monday the Fantastics walked in for a complete new set of equipment; PA, amps the lot. Their gear had been stolen over the weekend and they were out buying a new van and a complete set of gear. You have to be able to reach up and take the stuff off the shelf to get that sort of sale."



Not unnaturally the biggest selling amp line in the shop is Carlsbro. But there's a tremendous variety of amps on show including Peavey, Gibson, Laney, Ampeg, Marshall, Wem, Fender, SAI, Hawk, Selmer, Elgen, Traynor, Yamaha etc. Guitar lines include almost everything you can think of and — in the second hand section — many you couldn't think of.

Part of the ground floor showroom is given over to electronic keyboards. These are strictly limited to the portable variety and the usual Farfisas, Korgs, Moogs and Gems are on show.



The drummer isn't neglected in this particular shop. There's a staggering selection of used kits and new kits available including Premier and Pearl.

"People are as anxious as ever they were to make music. Bands are constantly forming and if they're any good at all there's plenty of work for them — providing they can do the cabaret stuff. The area's very good for musicians, consequently it's good for us, but I wonder if we'll ever see the days again when bands like Ten Years After, Black Sabbath and Deep Purple call in during a tour and pick up some gear. I'd like to see more work of the type that allows the bands a chance to play what they'd like to play."

In the meantime Keith, Malcolm and the boys at Mansfield's Carlsbro Sound Centre are concentrating on making the supply end of the musician's routine as professional and trouble free as possible. All the indications are that they are succeeding. □

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# STEVE HILLAGE

*Steve Hillage is currently making his mark as one of Britain's top guitar players, with several years tenure in Gong and a few stints with other major British musicians. Here he talked with us about Gong, his solo LP Fish Rising, and his musical influences.*

*The group does a lot of work in France, doesn't it?*

Yes. In fact, we just started a new tour there at the Olympia in Paris.

*Does anybody in the group still live in Paris?*

We've moved to England. We used to have a house in the country, in the middle of a forest, in France. Originally, the group started in Paris in 1968 after Daevid Allen left the Soft Machine. The ideas involved with planning Gong began to take shape in Paris, and then the band moved out into the mountains. In the end, the house was sold by its owner and we moved to England. At the moment we're living in a house in Oxford.

*Is it true that for awhile you didn't go to England because Daevid Allen couldn't get a visa?*

That happened back in '67, just after he left the Soft Machine. He went to the customs at Dover and they wouldn't let him through. The group couldn't tour there until finally they bribed the customs official with whisky. That was when they played at the Glastonbury Festival. When I heard the record they made there, I decided I wanted to join the group.

*You've been doing a lot of work with, for instance, Kevin Ayers and a group called Khan; is your stay with Gong the longest you've ever been with one unit?*

To start from the beginning, I went to school in London, and there were several other musicians there, including Dave Stewart of Hatfield And The North. I formed a band with him there, but then left to attend the University of Canterbury, not realising that a musical fraternity had developed there which included bands like the Soft Machine and Caravan. Then after a bit at the University, I changed my mind, and decided I wanted to make music. When I

left the University, all the people I knew had already established themselves in groups, so I tried forming a group from scratch — that was called Khan.

I made one record with Khan, which was sort of a "first-step" record. I reformed the group after making the record and, in fact, did quite a bit of work with Dave Stewart before he joined Hatfield And The North. It was then that I wrote most of the material on the *Fish* album. But at the same time that I was writing that music, I got very interested in Gong. Also, living was getting very difficult with Khan on a purely economic basis. After Khan broke up, I played about forty dates as a member of Kevin Ayers' band. In the course of that tour, I met Gong.

Since then, it's been good because in Gong I'd been able to develop a lot of my ideas. Gong is a symbolic unit, really. Also, on my record the fish is an archetypal symbol . . . even as a young lad I was quite interested in ichthyological life. I put all my humorous ideas and my serious ideas together into a big cauldron, and out came *Fish Rising*.

*Now that Daevid Allen has left Gong, is it true that you've become more or less the leader of the band?*

I suppose because I'm the guitarist and lead singer I've sort of succeeded, as it were, into that place in the group, although I wouldn't really say I've taken the reins. We're very much into a communal expression. If one person's getting off but the others aren't, then what you're doing is not a success. The whole Gong thing is about everyone getting off together, including the audience. We mean to link things together in a higher aspect. That may be a very high-falutin idea, but if I really think about why I'm doing what I'm doing, in fact, that is what I'm trying to do. And that's what we're trying to do as a group. *It seems that your album is much more commercially accessible than the latest Gong album, which has less mass appeal. Do you think this is so?*

Well, I really haven't had any evidence of

that yet. The record *You* sold a good number. I was working on my record and *You* at the same time, so in some respects they have a lot of similarities. Obviously, mine has a few more guitar solos.

Gong's got its own style, in a way. On my record, I was trying to synthesize many different musical strains into a whole. The danger in this, though, is in not pleasing anyone.

*How stable is the personnel of Gong at this point? I heard Dave Stewart is playing with you a bit.*

Yeah, that's something he's going to be doing for a couple of gigs that are coming up.

*Do you think he'll be touring with the band?*

I can't really say about that. As of now, I think that Hatfield And The North are sort of grinding to a halt. I don't think that's generally known. He'll probably want to take a rest before deciding what he wants to do. It's certainly very enjoyable to play with him — we all cook.

*How's Brian Davison working out as your drummer?*

It's very good. Brian's got just the spirit we're looking for in a drummer. Brian plays straight from the heart. It's very easy to play from your mind, but playing from the heart is something one aspires to.

*Which guitarists do you listen to most often?*

I am a very great fan of Hendrix. I have great respect for John McLaughlin, not just for his soloing ability, but also for his compositions and the way he uses the guitar as a group instrument. I like Jeff Beck, Peter Green, B.B. King, and Oly Halsall.

*What kind of guitar are you playing nowadays?*

I have a Fender Stratocaster, a Les Paul Custom and an SG Junior. Between the three of them, I can get all sorts of different sounds.

*Which one did you primarily use on your album?*

The one I used most was the Fender. □



**ABBEY ROAD STUDIOS** . . . Saffron had been laying her albums with producer Bob Barratt and engineer John Kurlander . . . Cliff Richard was producing vocal over dubs and a single for Debbie Byrne with engineer John Kurlander . . . The Hollies were continuing their album with co-producer and engineer Peter Bown . . . Rostal And Schasser were recording with producer Norman Newell and engineer Peter Bown . . . The Joe Loss Orchestra were working on a new album with producer Peter Vince . . . Wally Ridley and engineer Peter Vince . . . Cliff Richard was recording an album with Bruce Welch producing and Tony Clarke engineering . . . Project were in with engineer Alan Parsons . . . Greg Lake was over dubbing a 100 piece orchestra and choir in studio 1 for a solo album, with engineers John Kurlander and Peter Sinfield . . . James Griffin (ex Bread) and Terry Sylvester (The Hollies) were recording . . .

**CBS STUDIOS** . . . Kokomo were in for CBS with engineer Bernie O'Gorman . . . The Rubettes were in for State Records . . . Dana was recording for GTO with engineer Doug Bogie and producer Jeff Stephens . . . Tammy Jones was in for CBS with producer Robin Blanchflower . . . and engineer Dick Palmer . . . A Band Called O were recording with producer Micky Graham and engineer Simon Humphrey . . . Stuart Gillies was in for EMI with producer Mike Smith and engineer Steve Taylor . . . Heart And Soul were recording for KPM with producer Keith Mansfield and engineer Mike Ross . . . Jonathan King was working for UK Records with Dick Palmer engineering . . . CBS' Vince Hill was overdubbing with engineer Mike Ross . . . Keith Potger was producing Mark Winter and Clare Torry for GTO with engineer Doug Bogie . . . Back Door were recording . . .



George Harrison at Master Room

**LANSDOWNE STUDIOS** . . . Gonzalez were in to finish an album for EMI with Mike Finesilver engineering and producing . . . The Rubettes were working on an album and single with Wayne Bickerton producing and John Mackswith engineering . . . Roger Whittaker was working on two albums, one for the UK and one for France with John Mackswith engineering and producer Dennis Preston . . . Claude Francois was in, engineer John Mackswith . . . David Lewis was laying some tracks for Polydor with producers Andrew Miller and Mike Smith and engineer John Mackswith . . . Neil Lancaster was working on an album for Man Records with engineer Robert Butterworth . . . John Christie was working on an album and single with producer Dave Clark and engineer John Mackswith . . .

**THE MANOR** . . . Boxer were in with Richard Digby-Smith producing and engineering . . . City Boys were recording for Phonogram with producer Mutt Langer and engineer Mick Glossop . . . Anthony Moore was working on a single with producer Peter Jenner and engineer John Leckie . . . Alan White of Yes has been recording a solo album with producer Bob Potter . . . Gravy Train were in with engineer and producer Steve Cox . . . Mattaya Clifford was mixing a single with engineer Steve Cox . . . The Manor Mobiles . . . have been in Glasgow recording Tubular Bells and Hergest Ridge . . . have been doing bits and pieces for the album which Boxer are working on and for Robert Wyatt . . . recorded Gong live at the Marquee . . . were working on a Barry James album with engineer Alan Perkins . . .

**MARQUEE STUDIOS** . . . Lynsey de Paul and Barry Blue have been producing Too Gether for GTO Records with engineer John Eden . . . Quentin Jones . . . was recording a single with producer Barry Leng and engineers John Eden and Steve Holroyd . . . Kind Hearts And English were recording a single for DJM with producer Phil Samson and engineer John Eden . . . No Dice were in with producer Phil Samson and engineer John Eden . . . Joe Brown was recording a single for Ammo with producers Arnold, Martin and Morrow and engineer John Eden . . . Guys and Dolls were working on a single for Ammo with producers Arnold, Martin and Morrow . . . Dirty Tricks were in for Polydor with Steve Holroyd engineering and Tony Atkins producing . . . Flakey Pastry were recording a single for Chris Barber with producer Tony Atkins . . .

**THE MASTER ROOM** . . . A Pretty Things album was cut . . . George Harrison has been cutting an album . . . Andy Fraser's album and single were cut . . . A Doctor Feelgood album was cut . . . Greg Lake has been doing some cutting . . . The Heavy Metal Kids single was cut . . .

**THE MUSIC CENTRE** . . . Showaddywaddy were recording with producer Mike Hurst and engineer Dave Hunt . . . Pickwick Records were recording a Top Of The Pops album with producer Bruce Baxter . . . Barry Blue was in with engineer Dave Hunt . . . Fast Buck were working with engineer Richard Goldblatt . . . Emerson, Lake and Palmer have been recording with engineer John Richards . . . Salina Jones was in with engineer Dick Lewzey . . . Labi Siffre was recording with Dick Plant engineering . . . Gilly Mason has been in, Mike Hurst producing and Dave Hunt engineering . . . Widowmaker were recording with engineer Dick Plant . . . Stacy came in, producer Mike Hurst and engineer Dave Hunt . . .

**PHONOGRAM STUDIOS** . . . David Fanshawe was recording an album with engineer Peter Olliff . . . The Johnny Gregory Orchestra were in . . . Simon May has been laying some tracks for a single with producer John Franz and engineer Steve Brown . . . Pat Travers was recording . . . Mike D'Abow was working with engineer Steve Lilywhite . . .

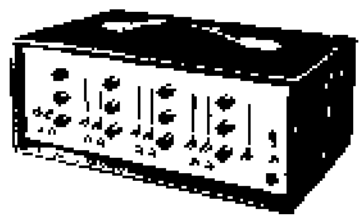
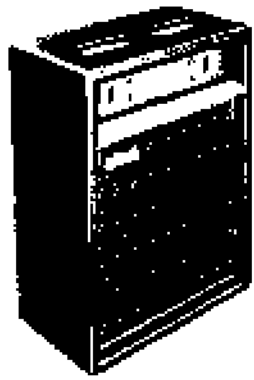
**ORANGE STUDIOS** . . . have been incredibly busy with backing tracks for the Supersonic shows which appear on London Weekend Television . . . Their engineers Keith Allan, Steve Churchyard and Chris Spedding have been working with David Essex, Guys And Dolls, The Supremes, Leo Sayer, Showaddywaddy, Chris Farlowe, Albert Hammond, Cliff Richard, Paul Curtis, Johnny Nash, John Miles, Hello, Sparks and Smokey . . .

**R.E.L.** . . . have recently converted to 16 track . . . Gordon Haskell was laying some tracks with engineer Neil Ross . . . Cafe-Jaques were recording with producer Bruce Findlay and engineer Neil Ross . . . Bob Leslie was recording some demos with engineer Neil Ross . . . John Miller was recording with Neil Ross engineering . . .

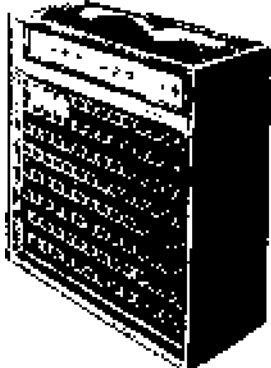
**STRAWBERRY STUDIOS** . . . have converted to 24 track . . . 10cc have been recording a new album . . . Oscar were working on an album with producer Geoff Gill and engineer Pete Tattersall . . .

**TRIDENT STUDIOS** . . . Elton John was mixing an album with producer Gus Dudgeon and engineers Phil Dunne and Nick Bradford . . . Mahavishnu Orchestra have been recording with John McLaughlin producing and Dennis Mackay engineering . . . Marc Bolan was producing T. Rex with engineer Peter Kelfey . . . Richard John Smith has been recording with producer John Lang and engineer Peter Kelfey . . . A rock version of Peter And The Wolf has just been completed with producers Jack Lancaster and Robert Lumley and engineer Dennis Mackay . . . Brand X have been recording with producer Robert Lumley and engineer Dennis Mackay . . .

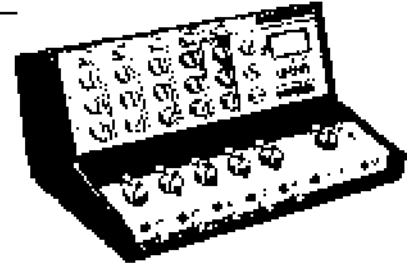
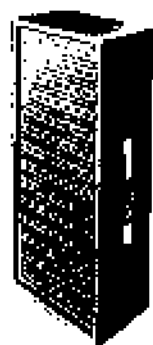
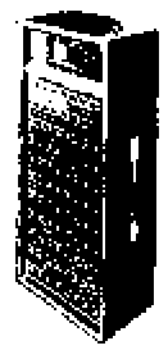
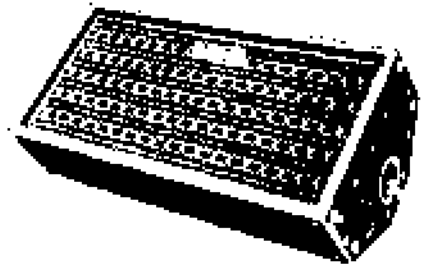
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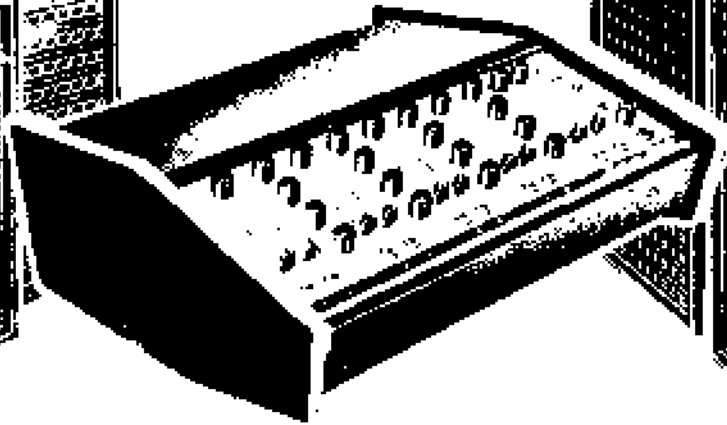
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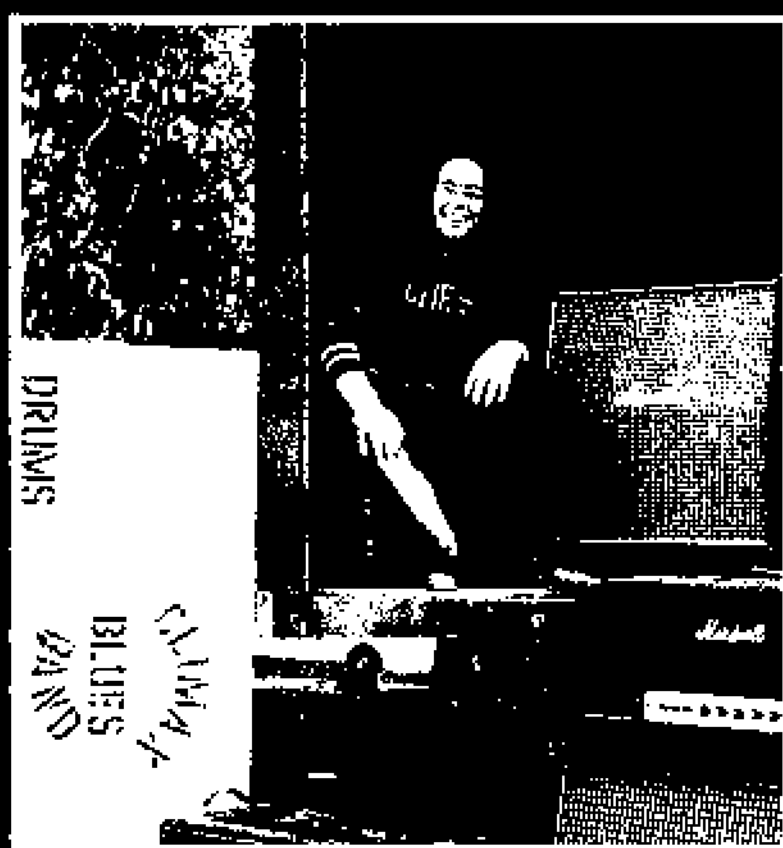
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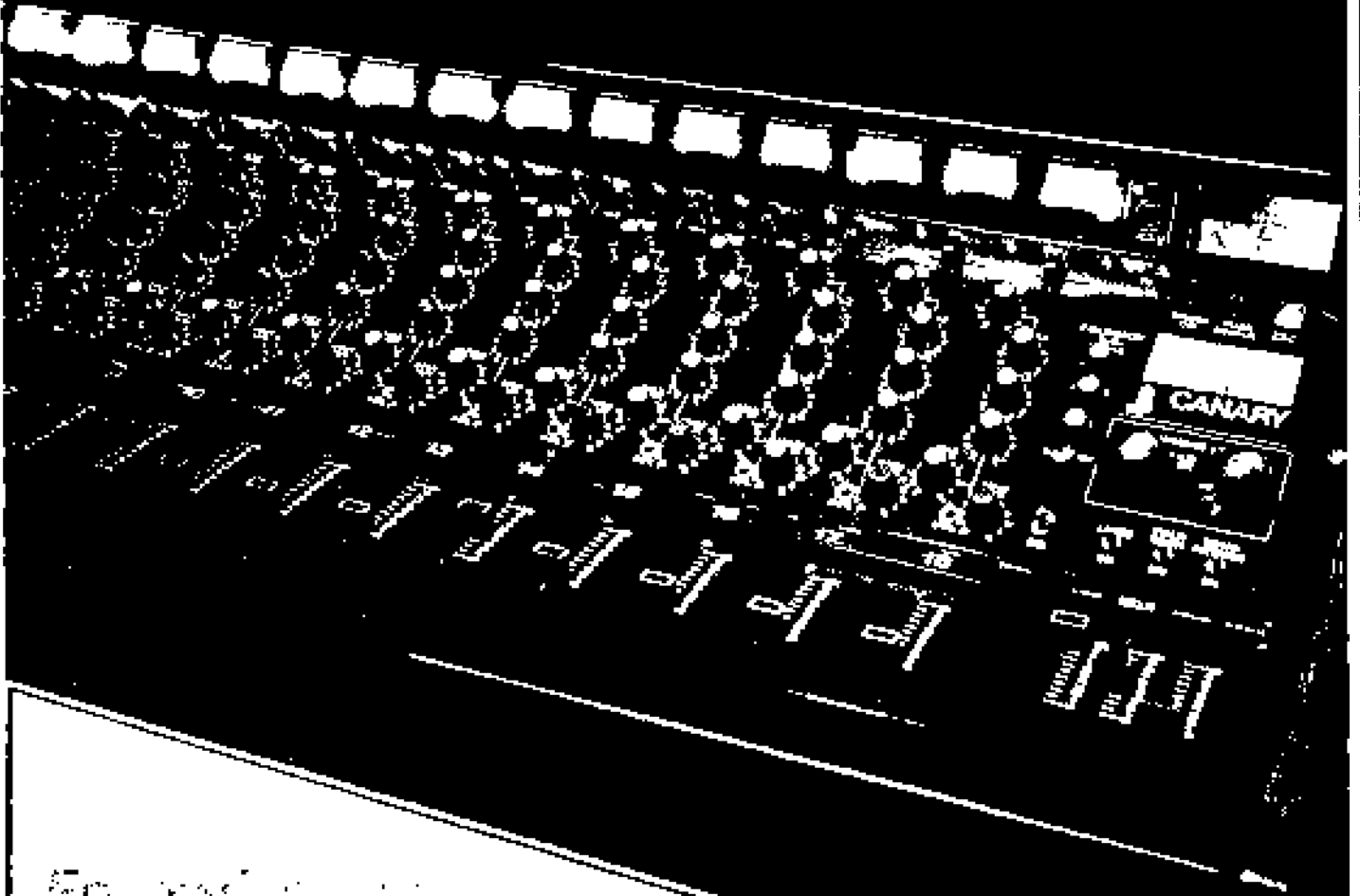
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# PA SYSTEMS

BY KEN DIBBLE

*Looking back at band gear over the last ten or fifteen years, it is difficult to ignore the feverish activity that went into the early development of instrument amplification as compared to the very slow rate of progress in band PA's. By the time a four channel 100 watt amp and a pair of the proverbial 4 x 12 columns was the standard issue in PA's, the instrument amp had all but reached its current state-of-the-art. That was back in the early sixties!*

*As well as taking its name from conventional Public Address trade, it took the basic form of equipment that was in use by the trade and covered it in black leathercloth. The poor old 4 x 8 and 4 x 10 column never knew what hit it, as it distorted and groaned and blew out cone after cone! On almost every concert hall platform were rows of immaculate, black Vox AC30's, proudly sporting their brown, diamond-tracked, grill cloth, or the distinctive Selmer Thunderbird 50's clad in crocodile skin with their green eyes winking mysteriously in the dark. The sounds they produced were as impressive as their appearance. But, alas, the two PA columns, hardly noticeable at the sides of the stage, and the poor little 50 watt amp driving them, were almost driven to destruction and the sound was atrocious.*

*Did no one understand PA in those days, or was it quite simply that Public Address equipment already existed for other purposes? It was so much more simple to apply existing design practice than to start afresh.*

*It is amusing to record that the first steps in the development of improved PA loudspeakers were prompted by the unlikely office of Her Majesty's Customs and Excise. In their great wisdom, they declared that any loudspeaker system that employed units of under 12in. diameter would be liable to purchase tax, but if units of 12in. or over were used, no purchase tax need be paid. For obvious reasons manufacturers hastily re-designed their products and the 4 x 12 PA column had arrived. Almost without exception, those early 4 x 12's used the tried and proven Rola G12 unit, similar to the standard speaker fitted to the Vox AC30 Combo. Judging from the vast numbers of PA and instrument cabs that still use a version of the G12, it must be the best selling loudspeaker unit of all time!*

*There can be little doubt that the use of the 12in. loudspeaker was a vast improvement on both the quality and power handling capability of PA columns. For many years after, the 4 x 12 column was the PA cabinet. If more power was wan-*

*ted, all that was necessary was to add more 4 x 12 columns and amps to drive them. The absurd stage was reached where it was not unusual to find bands carrying up to fifty 4 x 12 columns into a gig!*

*At this point, with WEM as the big name in a booming market, bands began to discover that there were many new problems associated with a multi-speaker, multi-amp rig and began to wonder if this really was the answer to the PA problem. It seemed that no matter how many slaves or columns might be added, the sound that came out was always harsh and distorted when the gain was turned up. It seemed impossible to achieve that really full-bodied, clean power that slapped you in the face whenever the guy in the mix-down studio replayed your tape through his monitors. That was the sound that was wanted, but the PA just could not be coaxed into giving it. A few horns began to appear perched on the top of a band of columns. This certainly improved the crispness at the treble end, but it did not solve the main problems. What then was the answer?*

*The answer was found by reverting back to the type of loudspeaker systems and equipment configuration that was used in cinemas back in the 1930's. A glance behind the screen of almost any cinema will reveal an array of bass bins and horns that very closely resemble those in use as band PA's today.*

*There were many, very good reasons why the multiple 4 x 12 column and stack of 100 watt slaves did not give the power or quality that was expected. Understanding these reasons will form the main part of this series of articles over the next few months.*

*The workings of low impedance, balanced line mics. and condenser mics. will be covered; the problems associated with the distribution of loudspeaker feeds; the effects of stacking multiple speaker units together; the mysteries of crossovers — passive and electronic — leading into bi-amplification and the advantages to be gained from this approach; the workings of mixing desks, horn loaded bass bins and treble horns; the use of graphic equalisers; the intelligent use of foldback; understanding in real terms the meaning of amplifier power output figures, will be among the PA topics discussed. At least one article will be devoted entirely to the understanding of room acoustics. The aim of the series is to give a basic working knowledge of modern PA's and, hopefully, to dispel some existing mis-conceptions that seem to surround this subject.*

In the introduction, the development of PA's up to the advent of the multiple 4 x 12 column rig was very briefly and sometimes, nostalgically discussed. It was realised that this approach was not likely to provide either the quality of power that bands were seeking in a PA system. The probable answer was to be found behind cinema screens, in the form of horn loaded bass "bins", as they are termed today, and arrays of treble horns. As the series progresses, the shortcomings of the old approaches will be identified and solutions described until the basic system evolves into a modern PA rig.

One of the earliest problems that confronted bands as power levels began to increase, was the need to control the PA from a vantage point out in the auditorium, so that the guy at the controls could hear what the audience was hearing. In the first instance, the old PA amp was moved out front in its entirety, and the microphone and loudspeaker leads lengthened to reach.

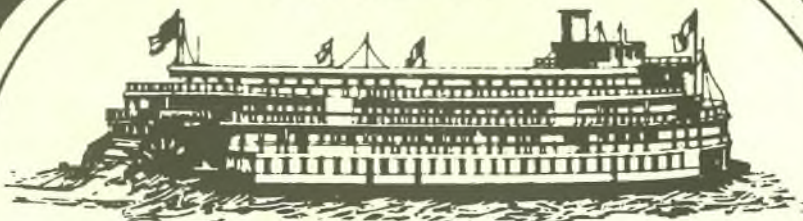
Whilst this arrangement certainly served its purpose in getting the control point out front, it suffered many more serious disadvantages. The sound quality became muddy and generally lost its clarity. This was due to the fact that almost all straight PA amps have high impedance inputs, and the maximum length of lead that should be used with a high impedance mic. is about 5 meters (approx. 20 feet). As this length is exceeded, the treble response of the microphone is progressively reduced due to the effects of the capacitance of the cable itself. The example given of 5 meters is for a good cable, and will be considerably less for an inferior cable.

An additional problem was the increased tendency of the PA to pick up radio transmissions from passing police cars or taxis. The long capacitive leads made excellent aeriels and turned some of the less elaborate amplifier input stages into simple radio receivers.

The solution to this was to change over to low impedance microphones, preferably of the balanced line type that had been in use by the general PA trade for many years. The amazing thing here is that a high impedance microphone consists of a low impedance diaphragm assembly, connected to a transformer in the microphone case, to convert it to high impedance! All that should be necessary is to move the transformer from the microphone case and wire it into the amplifier input jacks instead to produce a low impedance system. In practice it is not that simple due to the rather complex mechanical construction of most microphones.

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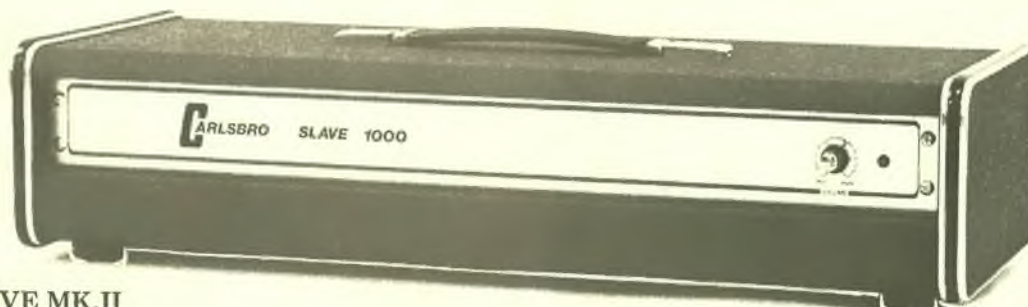
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A versatile portable P.A. amplifier with switchable reverb on all four input channels. Two high impedance inputs per channel. Volume, treble and bass on each channel. Reverb and effects send push button on each channel. Master volume, presence, and reverb tone controls. Hammond reverb unit. Overriding footswitch for reverb on/off. Send and return sockets for other effects like echo (can be selected for any channel). Full power capability up to 130 watts R.M.S. at less than 0.05% total harmonic distortion. Can be linked up to Carlsbro slave to obtain increased power. Can be linked up to produce eight channel mixing (16 inputs). Full integrated circuit front end (Pre-amp., mixer and reverb). 100 volt line output transformer available as extra for installation use. Supplied complete with:— Two speaker leads 7.3 and 12.8 metres. Mains connection lead. Operating instructions. Footswitch. Heavy duty cover. Owner's guarantee card.

### Specification

Input sensitivity	33 mv — virtual earth mixing
Input impedance	60K ohms
Maximum input voltage	600 mv
Treble	+12db -16db @ 10KHz
Bass	+10db -12db @ 100Hz
Presence	+10db @ 8KHz
Auxiliary input sensitivity	36 mv — virtual earth mixing
Auxiliary input impedance	6K 8 ohms
Auxiliary output	115 mv
Auxiliary output impedance	100 ohms
Pre-amplifier output	500 mv
Pre-amplifier output impedance	1K ohms
Height 146 mm (5¾"), Width 673 mm (26½"), Depth 266 mm (10½"), Weight 13 kilos (29 lbs.)	



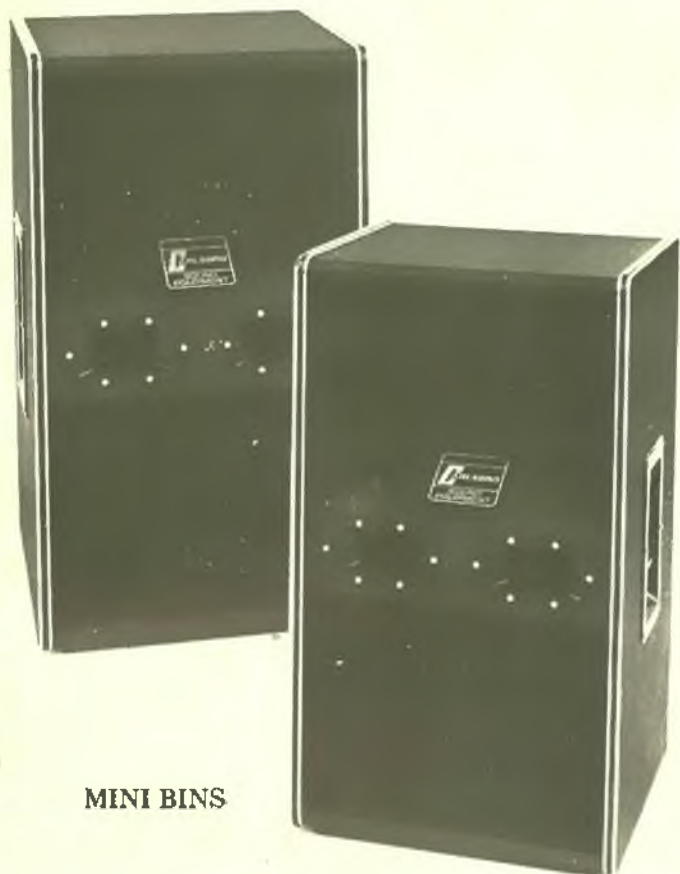
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P.A. Systems giving up to 10,000 watts output can be built up using Carlsbro Slave Amplifiers. Volume control gives balancing and monitoring facility. 130 watts R.M.S. output into 4 ohms. Low distortion typically 0.05% at 100 watts. Slave output/input sockets situated on power module. L.E.D. power on indicator on front panel.

Input sensitivity 500 mv.  
Supplied complete with:— One speaker lead two metres long. Mains connecting lead. Operating instructions. Heavy duty cover. Owner's guarantee card.  
Height 146 mm (5¾"), Width 673 mm (26½"), Depth 266 mm (10½"), Weight 11 kilos (26 lbs.)



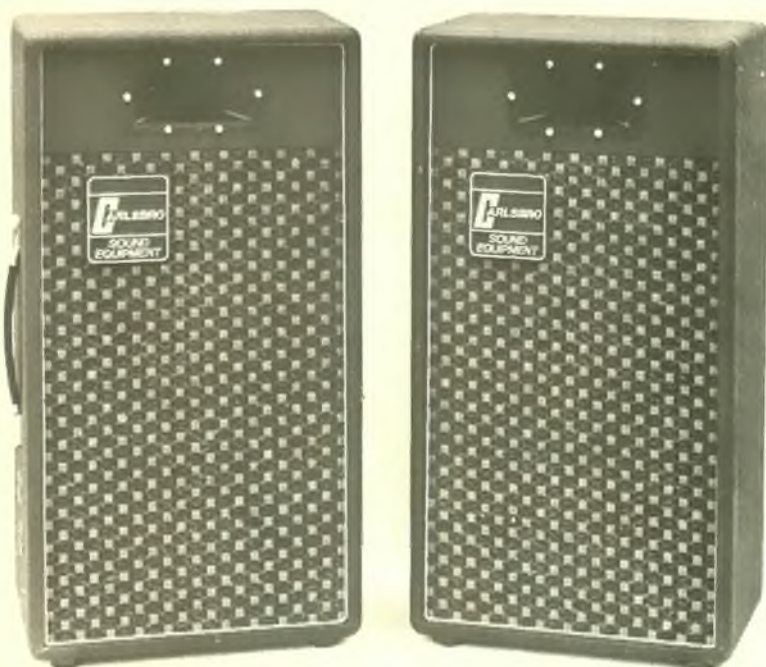
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Weight	98 lbs. (44 kilos)



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Dimensions: As 2 x 12" P.A. above

Weight	80 watts	47 lbs (21.4 kilos)
	120 watts	57 lbs (26,2 kilos)

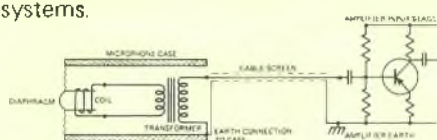
All speaker cabinets have a sloping front for better sound distribution, standard jack input and are finished in tough black leathercloth. Soeaker leads and heavy duty covers are supplied free of charge.

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It will generally be necessary to purchase a suitable transformer for wiring into the amplifier, and to use the low impedance connections provided on most good quality high impedance microphones, as an alternative. Fig. 1 shows some typical wiring arrangements for microphone circuits. 1(a) shows the normal circuit for a high impedance mic. connected directly to the input stage of an amplifier. This arrangement will be typical of most straight PA amps. The fact that a valve may be used instead of the transistor shown will only effect the ratio of the transformer needed to obtain a good 'match' between the mic. and the amplifier. 1(b) shows the situation described earlier, with the transformer moved to the amplifier input, so that the signal can travel to the amplifier at low impedance. Circuit (c) shows a low impedance balanced line system as used on the more sophisticated PA mixers and in studio systems.



A) High impedance microphone

The correct matching between microphones and the input stage of the amplifier or mixer is a matter often overlooked by entertainers, and one which can make a significant difference in system performance. Most microphones like to 'see' an amplifier input impedance higher than the impedance of the microphone itself and will usually perform better under these conditions. For example, the actual impedance of most high impedance dynamic mics lies around the 20K ohm to 40K ohm mark, while the input impedance of most straight PA amps is about 50K ohm to 100K ohm. There are several impedances in common use under the low impedance banner, ranging from 25 ohms up to 600 ohms. Any of these will work into an input designed for any of the others, but there will be a marked improvement when a microphone is fed into a properly matching input stage. The impedances in general use seem to be 50 ohms, and these are best fed into an input with an actual impedance of between 300 and 500 ohms. Particular makes and models of mics. behave differently under varying loads, so the information given here should be taken as a general guide only.

It will be seen from Fig. 1(a) & 1(b) that the only difference between a high impedance and low impedance un-balanced system lies in the impedance that is presented to the screened cable. It can be shown by formulae and such, that the

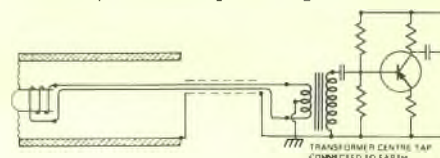
rate of attenuation (or reduction) of treble frequencies due to the effects of capacitance referred to earlier, will be much on a high impedance circuit than on a low impedance circuit. So one advantage of using low impedance is that the quality of the microphone response is preserved when fed down long mic. lines.

A study of 1(a) will show that with the high impedance system, the screened cable is in effect carrying the input circuit of the amplifier right up to the microphone as well as performing the more obvious task of carrying the microphone signal to the amplifier. Therefore, any electrical characteristics of the cable, such as capacitance and inductance are added to the input circuit and can easily modify the amplifiers performance. In extreme cases of very long lengths of poor quality cable, the amplifier will become unstable and oscillate of its own accord or become tuned and pick up radio signals. The inclusion of a transformer in the input stage as shown in 1(b) has the effect of isolating the amplifier input and therefore reducing the modifying influence of external circuitry on the amplifier. The balanced line circuit shown in fig. 1(c) has several further advantages over the un-balanced line, the main ones being improved amplifier stability and a cancelling out of extraneous clicks and other noises that are often picked up by the cable itself. With a low impedance balanced line system, there should be virtually no limit to the cable lengths that can be used on microphone circuits, provided that the amplifier or mixer has been properly designed for balanced line working.

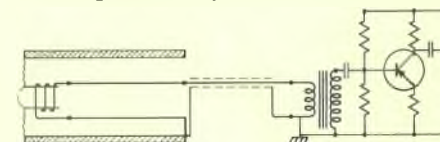
Another problem that became apparent as the PA amp. was moved out front, was a noticeable drop in power output, and this was especially so with the new solid-state amplifiers. The problem here was again cables, but this time it was due to a general overlooking of the fact that loudspeaker cables have their own impedance. This is small enough to be ignored when cable lengths are short, say up to about 10 meters, but it can have a considerable effect on output power when long cables are used.

Consider as an example a 100 watt amplifier connected to two 4 x 12 8 ohm cabinets by a 50 meter lead. It would not be unusual for such a lead to have a self-impedance of 4 ohms. It can immediately be seen that we have a situation where a speaker load of 4 ohms is connected to an amplifier by a lead of a further 4 ohms, so that only half of the amplifier power ever reaches the cabinet, the rest being

dissipated as heat in the lead. Now if the amplifier happened to be of the solid state type whose output power decreases in direct proportion to the increase in load impedance, the situation is worsened still further. If we suppose that our solid-state amp. was designed to give 100 watts



B) Low impedance un-balanced microphone showing transformer moved to amplifier input. into a 4 ohm load, then it follows that with a load of cabinets and cable totalling 8 ohms connected to it, it will at best only give 50 watts into the total load, and as half of that will be lost in the 50 meter lead, we will have only 25 watts actually reaching the two cabinets! An absurd situation you may think, but one that is encountered only too often in practice. There are two answers here, and either will provide a sensible solution. The more obvious is to use a thicker speaker lead so that the impedance of the cable represents a smaller proportion of the load impedance that is presented to the amplifier. It must be realised that some loss will be inevitable, and if this can be reduced to below 20%, a sensible compromise will have been reached. A better solution is to reduce the length of the speaker leads until they are so short that the cable impedance is negligible anyway, and this means lead lengths of only 1 or 2 meters.



C) Low impedance balanced microphone using two conductor screened cable.

This, however, is completely at variance with our purposes as such short leads will not enable the amp to be located out front. We arrive at the point when it is necessary to split the amplifier into two parts. The input stages are separated into a separate mixer that can remain out front connected to the stage by low impedance, balanced line inputs and outputs, and the output stages separated into a series of slave amps that can now be placed right behind the speaker cabs and connected directly to them with very short leads.

By considering a few of the problems and discussing some solutions, we have now evolved the basic system into its current form employing mixers and slave amps to provide the flexibility required for proper control of the PA. Next month's article will deal similarly with the development of loudspeakers systems. □

# British String Makers

Buy a Les Paul, buy a Fender Telecaster; or a Guild, or an Arbiter, or a Ned Callan, or a Rickenbacker or any guitar you like — the sound you get is first made by the strings on the guitar. Idiots will spend £300 on a guitar and keep a rubbish set of strings on it for a year. Even without adopting such an extreme example, it's possible to visualise many instances where two identical guitars bear no relation to each other either in sound or in "playability" because one is well strung and the other is not.

Players have strong string loyalties. From discovering a string which suits their first guitar, many remain with the brand through successive instruments regardless of its suitability to the changing demands.

Buying British is a little unfashionable today — a situation probably produced by some sort of national cussedness because we are continually being urged to buy British. But one important area where British is most certainly best is in string manufacture. British music strings are renowned the world over and the companies manufacturing in the UK are presented with an export market of incredible potential.

There are four companies in Britain who take raw steel (and bronze, brass etc.) and make finished strings — three established companies and one terribly keen newcomer. It's hard to say which company is the biggest, or the best; there are many hidden factors to cloud the issue. The three successful and established companies are, Cardiff Music Strings of Caerphilly near Cardiff, General Music Strings, of Treforest Estate, near Cardiff and James How Industries of Bexleyheath in Kent. The newcomer is another Welsh contestant called Nashville Music Strings who are currently in production in Pentre, Glamorgan.

String making is a unique business. It's so highly specialised that other types of manufacturers don't even attempt to tack string-making facilities onto their operation.

All of the makers share some common methods. All have their own printing facilities — because string packets are difficult and fiddly to print — and most have their own engineering facilities to build the complex string-making machines.

The number of strings produced annually by the British manufacturers is absolutely phenomenal — perhaps in excess of 50 million — and they are constantly seeking to increase their already dramatic share of the overseas market — the home market has long been theirs.

General Music Strings was the first to be established in the UK. A Viennese citizen called Michael Stein fled from Germany in 1938

with his wife and son Alfred. The family managed to get onto the last refugee boat to leave Hamburg and six hours after sailing, the Nazis were storming the house that had been the Stein family home in Vienna.

With the help of some friends, the Stein family managed to bring with them six music-string making machines and the equivalent of £100. The Steins belonged to the European group of families that controlled the music instrument industry since the middle 19th century and the name Stein had become synonymous with music strings.

When the family arrived in Britain they were offered a factory building on the Treforest Estate just outside Cardiff. At the time it was a depressed area with an unemployment problem and, with a little assistance from the authorities, Michael Stein was soon producing strings again.

At that time the output of the factory was almost solely strings for bowed instruments although items like Ukele and guitar strings were also available. Materials at the time were exclusively steel and gut and it's an interesting point to note that British guts are universally considered the best for string manufacture.

Unlike most industries, string-making flourished during the war years. From the beginning of the Treforest operation, a Welshman, Trevor Meridith joined the Steins and today he runs the production of General Music Strings as Works Director.

"Business was very, very good for all sorts of strings during the war," he recalls, "Entertainment boomed during the period and the company was able to consolidate and expand.

After the war business naturally slowed for a while and while the country was gradually re-equipping and trying to recover from the blow of a global war, GMS marked time, still producing strings for the finest orchestras and popular musicians of the day.

Like every company involved in the music industry the 1956-1966 boom re-paid all investment and diligence. Trevor Meridith:

"When the skiffle boom started we had been producing guitar strings for many years so we were able to respond quickly to the demand. The guitar craze got so big, however, that the years at the end of the fifties saw the most production doubled or trebled each successive year during the period."

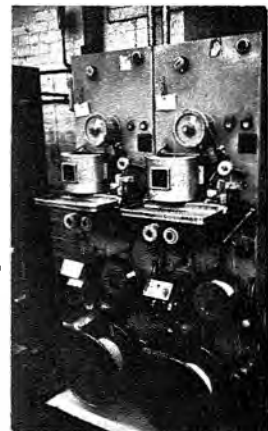
By this time Alfred Stein was in charge of the company and in the family tradition was an engineer as well as being a master string-maker. With Trevor Meridith he designed and produced string-making machines that vastly increased the output facility.

"I think one of the things that I'm most proud of is the way we managed to increase the efficiency of the machines," says Trevor. "50 years ago a man and a machine could produce about 1½ to 2 gross a day. We then managed to get the same machines up eight gross a day. With the new automatic machines we have we can now produce 50 gross a day. The automatics produce many different strings but they can't yet produce bass strings and some bowed strings."

With the vast increase in business GMS was able to expand in many directions. The company had always preferred to print to meet their own requirements for string packets, advertising literature and so, but expansion allowed them to change from small hand-operated machines to large sophisticated colour presses that are able to produce high quality print work — much of it for outside clients. The printing division has now branched off entirely and is called Estate Printers and only a few years ago a new engineering company called Peter and Nicholas was founded to manufacture hardware for the music industry — microphone stands, disco stands and so on. The company is named after Peter and Nicholas Stein — Alfred's sons. The other member of the third Stein generation is Connie who is currently studying at college and working her way around the factory floor learning about the various aspects of string manufacture.

Peter made his first string when he was eight. He's all set to continue the family tradition of string making and is also at college while studying the company operation. Nicholas has already entered the business.

GMS automatic winder



continued on page 67



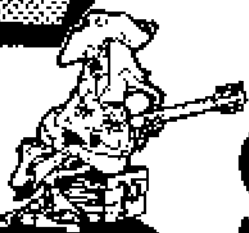
L-R Trevor Meredith, Dave Martin, Alfred Stein, Connie Stein, Peter Stein





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strings sound perfect



*we say*

**piccato**  
strings sound perfect



*you say*

**piccato**  
everytime you buy strings

GENERAL MUSIC STRINGS Treforest Glam. Great Britain



# British String Makers

from page 67

The GMS operation is spread over three main buildings centred around the main factory. Huge stocks of raw material — British and Swedish steel etc. — are carried and the company is proud of making exotic strings as well as the more usual types. Balataika strings are available in three gauges for example.

Guitarists will know GMS through their brand names. These include the famous Monopole, Picato, Ambassador and Red Dragon names and the GMS catalogue includes almost every conceivable type of music string.

James How Industries make Rotosound strings — amongst others. The string has found great popularity among the superstars and is now a great favourite with American players as well as their European counterparts.

James How arrived in the string business in a rather peculiar way. He'd always been musical — as a violinist he'd studied under many well-known masters — and in the early fifties he was captivated by the zither "boom".

Entering the industry by way of the zither "boom" is rather like saying Eric Clapton became a guitarist because of the trad boom. There wasn't any real boom in zither music, as such, but the Third Man film sparked off a whole series of zither bands and zither numbers and James How got caught up in the enthusiasm.

"When I managed to get hold of a zither I found I couldn't get any strings for it so I had to find another zither to get enough strings for the first one. Eventually I wound up with a house full of zithers just to get enough strings."

Despite being an accomplished musician, James was a tool-maker by trade, and it was because of his training that the idea of making his own strings occurred to him. Soon — working almost totally by hand — he had restrung all his zithers and was able to supply friends.

Selling the zithers he no longer needed, helped Jimmy to build a string-making machine to his own

design and the whole thing snowballed from there. He had designed all his own string-making machines — it took a couple of years to finally evolve an efficient and reliable one — so when the great boom in guitars came along he was able to pitch in and produce strings in reasonable quantities.

His engineering ability enabled him to produce a machine he claims was the first semi-automatic string-winding machine to be used in this country. Soon he was producing strings for Vox, Burns, Hagstrom, Hoyer, EKO, Guild, Goya and Watkins instruments. An early order around this time was for 80,000 sets of strings from Milan — a consignment which weighed half a ton.

At this time James How and Co. — the Co. includes his brother Ron and (today) son Martin — were working from three converted garages in Bexleyheath. They were all working flat-out not only to keep production going, but to build new machines to produce strings.

If this all sounds like a fairy story rise to fame — there's also the classic heart-stopping scene as well. Just when things were going really well the company premises were destroyed by fire — twice! On top of that floods hit the factory four years ago.

Only with the greatest difficulties were these obstacles overcome and by purchasing stock from other sources the company was able to continue selling until production could be resumed.

Today the main offices and factory of James How Industries are situated in a new office block in Uplands Road, Bexleyheath. The company employs about 80 people — both in Bexleyheath and at the company's other factory in Kent — and a very large part of the string production fulfils export orders.

Rotosound strings achieved a big break-through in America when Meisel Corporation took on US distribution of the strings. America is a huge market for the company and has done a lot to place Rotosound in the position

it is today.

As an offshoot to the musical string-making operation, a healthy medical section has developed within the company.

"A surgeon from Harley Street came to see me and asked me if I could make a certain fine tube for him," recalls James How, "I looked at the details of what he wanted and I told him that, not only could I make the tube he wanted, but I could make some considerably better."

The medical section now specialises in producing tubes and wires for medical use and these highly flexible and controllable wires are coated with teflon to be almost friction-less.

Rotosound has been particularly successful because of the endorsement of many top stars who have used — and liked — the strings. Perhaps John Entwistle is the best known Rotosound endorser — he's long advocated Rotosound bass strings — and only last month Greg Lake

Winding a Rotosound bass string



continued on page 77



James Howe at his zither

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# British String Makers

from page 69

decided that he would like to have acoustic and electric sets of Rotosound in addition to his bass strings and next year the company is hoping to launch their new range of Greg Lake Rotosound strings.

The company produces many strings that are not intended for guitars. Instruments often strung by Rotosound include, double basses, violin, viola, cello, mandolin, banjo, ukelele autoharp, harp, harpischord and clavichord.

Perhaps the most exciting recent string to come out of the James How company is the Super Bass — a string that uses the piano idea of tapering off before it passes over the bridge to allow the string greater freedom to vibrate.

Cardiff Music Strings came into being about eight years ago. It's the brain child of George Ostreicher, a young man who has spent much of his life around Cardiff.

George is very much a marketing man and he's rapidly built up string brand names for strings in different price categories. Well-known strings produced by the company include Londoner and Western Gold and an exciting new range just launched by the company is Sound City.

"We have no competitors, only followers" is a typical state-

ment from Alan Marcuson — Sales Manager of the CMS organisation. He likes to be known as "Mr. String" and he has as much right to the title as almost anybody as he's spent many years in the string industry pioneering new and improved marketing methods.

CMS is an associate company of WMI — the organisation that distributes Kay products in the UK. It's a very useful link because one product obviously pioneers trading areas for another product and with a range of musical instruments and strings the CMS-WMI organisation offers a very full catalogue.

George Ostreicher went into partnership with two others in 1967 intent on producing music strings. Like any other business it's not easy to succeed and his partners fell by the wayside during the first couple of years. Guts and determination saw George through and only by repeated efforts to sell overseas did he manage to get sufficient orders to keep the small company going.

Eventually he landed the company's first sizeable order — for Kay guitars in the States and that was the beginning of a link that was to grow.

Since the beginning the company's been centred in Caerphilly — about eight miles outside

Cardiff — and the birth of the M4 and M5 has made the area really excellent as a distribution centre. Today the CMS factory is the largest of all the British string makers. That's not to say that the operation is the biggest, but CMS has more space under one roof than the others. The factory is light and airy and obviously a pleasure to work in. String-winding is by the usual assortment of hand and automatic winding machines and the company concentrates on high volume production runs.

The Sound City name for the new range of strings from CMS only hints at the degree to which CMS has become established. As all musicians will know, Sound City has been a name familiar to

CMS shop floor



continued on page 72



L-R Alan Marcuson, a CMS girl, Mike Blunstone

*Billy Preston is only one of many Artistes playing*

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# British String Makers

from page 71

amp users for quite a few years and it was when the Dallas Musical empire collapsed in March this year that a company called British Music and Tennis Strings became available for purchase. This company was the oldest established British string maker of all and it is unfortunate that the collapse of its parent company, Dallas, forced it to go up for sale. The company has been completely taken over by CMS and all its machines, other equipment and stock have been moved to Caerphilly. Through this acquisition the name Sound City became available and George and his production manager Mike Blunstone started working to produce a

string worthy of such an established name. Readers will notice that an introductory offer on these strings is being made to IM readers this month.

As the CMS operation has expanded so has the market place for the strings produced. The range now includes Cathedral, St. David, Londoner and Summitt and many countries around the world are purchasing these strings in large quantities. Guitar manufacturers buy the strings in bulk for fitting to their instruments "ex works" and George Ostreicher spends much of his time in Europe, America and the Far East attending to overseas business.

In the UK, Alan Marcuson pursues his highly individual marketing campaign. Dealer incentives are the order of the day and seeking new and better methods of display and promotion are all part of his lot.

Hohner are now carrying out the main distribution of CMS strings in the UK and some indication about price and variety in the London range is as follows: London Slimmy Rock 'n' Roll strings sell for around 65p with gauges of .009, .011, .015, .023, .031 and .041 inches. The super light version of the Slimmys are on average three hundredths of an inch thinner on each string and sell for around 80p. As may be imagined the usual folk and country and western sets are also available in different gauges.

Like other string makers CMS undertake all their own printing and engineering. The highly specialised work of the string maker demands in-house printing facilities and CMS have an entirely separate print plant situated in a building adjacent to the main factory. Here letterpress machines undertake work for outside clients as well as in-house material and an envelope folder produces the millions of tiny string packets needed. The engin-

earing shop for the organisation is in yet another separate building next to the main factory and here the string-making machines are turned out and serviced.

A few miles away on another trading estate is a giant warehouse filled with the most enormous stock of guitars, microphones and general accessories. This is the WMI/Kay part of the operation and from this centre massive shipments of all kinds of musical instruments are made.

CMS is the cornerstone of this particular empire and Londoner and Cathedral the material from which the bricks are built. New Sound City strings seem set to become a major force in the string world and improve the fortunes of CMS still further.

Nashville is a name which conjures up images of recording studios, Chet Atkins, Grand Old Opry, country rock and a whole host of musical pastimes. It's a name that has become synonymous with music, especially guitar music, and it was obviously for this reason that a new string-making company decided to adopt the name.

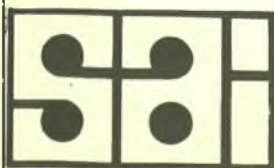
To call Nashville new is an understatement in these days when new is usually meant to mean "better", or "improved" or some other virtuous term. With



continued on page 75

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# British String Makers

from page 72

Nashville it means new — like a few weeks old.

Jeff Jeffries is a well-known figure in the world of strings. He's worked over ten years in marketing strings for another string maker and Nashville is partly his attempt to put his own ideas into practice. It's also a similar attempt by production men Davy Jones and Douglas Yeo who have also spent many years manufacturing strings and were anxious "to do it their way."

Nashville isn't in Tennessee of course. It's in a tiny mining village half way up the Rhonda Valley in Wales. Here the company have taken over a grey stone-built house that has been derelict for three years in the High Street of Pentre (said Pentra). The house has five floors and because it's perched on the side of the mountain enjoys the privilege of having two ground floors — One entered at street level from Ystrad Road and one entered via the back door two floors below.

Whilst Jeff Jeffries is travelling the world attempting to get sales moving for the new company, Davy and Doug are seeing little else but the inside of 213 Ystrad Road as they make a round the clock, "weekends included," effort to re-write the map so that Nashville appears close to Tom Jones' birthplace.

When the company started they had nothing except determination and sufficient finance to give them a sporting chance. Personal visits to the suppliers of raw materials helped to get fast deliveries and personal physical endeavour managed to get the necessary lathes and machinery on which to start building those specialised string machines.

At the same time the house needed "slight renovation." An estate agent might have described it in that way, but the reality of the situation is that walls had to disappear from one place to reappear in another and floors and ceilings had to be replaced. So with one hand the staff — around 20 — were making strings and, with the other, they were holding a nail for someone else to hammer home.

But the company insists that their aim to make "better strings" has been helped rather than hindered by having to start the whole thing from scratch. That way, they believe, they get everything exactly how they want it.

String production is already slightly ahead of target and the first batches of Nashville strings were dispatched some weeks ago. In string-making it is the skilled maker who brings the necessary experience to make good strings. String-makers are hard to find, of

course, so Nashville have the job of training their own makers to make strings firstly and then to make strings the Nashville way.

Shelving and office fittings have still to arrive on the premises so stock control and dispatch is still quite basic with neat piles of strings on the floor.

As may be imagined, the range of Nashville strings is still quite limited in comparison to the varieties of instruments using strings. The current catalogue lists electrolytic wire wound strings in medium gauges, rock'n'roll, light gauge and super fines, brass-wound strings in extra light, light, medium and heavy, silver-plated wound strings in light and medium, nylon classic strings in brass and silver plated, nylon flat silver-plated 12 string guitar sets in brass and silver wound and madolin, banjo, tenor banjo and ukelele.

Nashville strings for dispatch



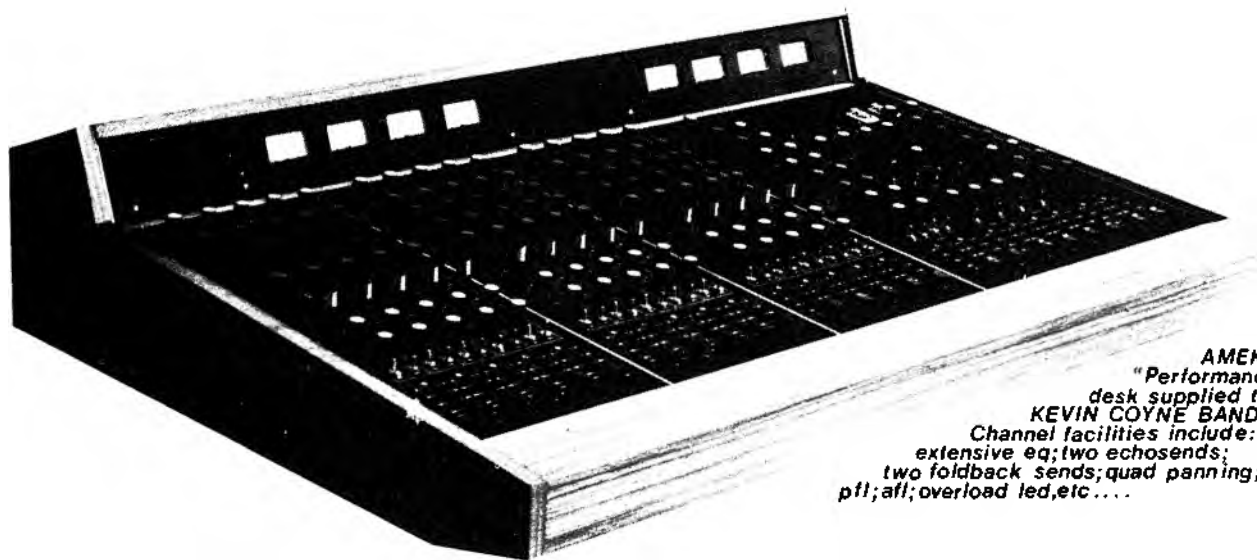
Davy Jones, Douglas Yeo



String making at Nashville

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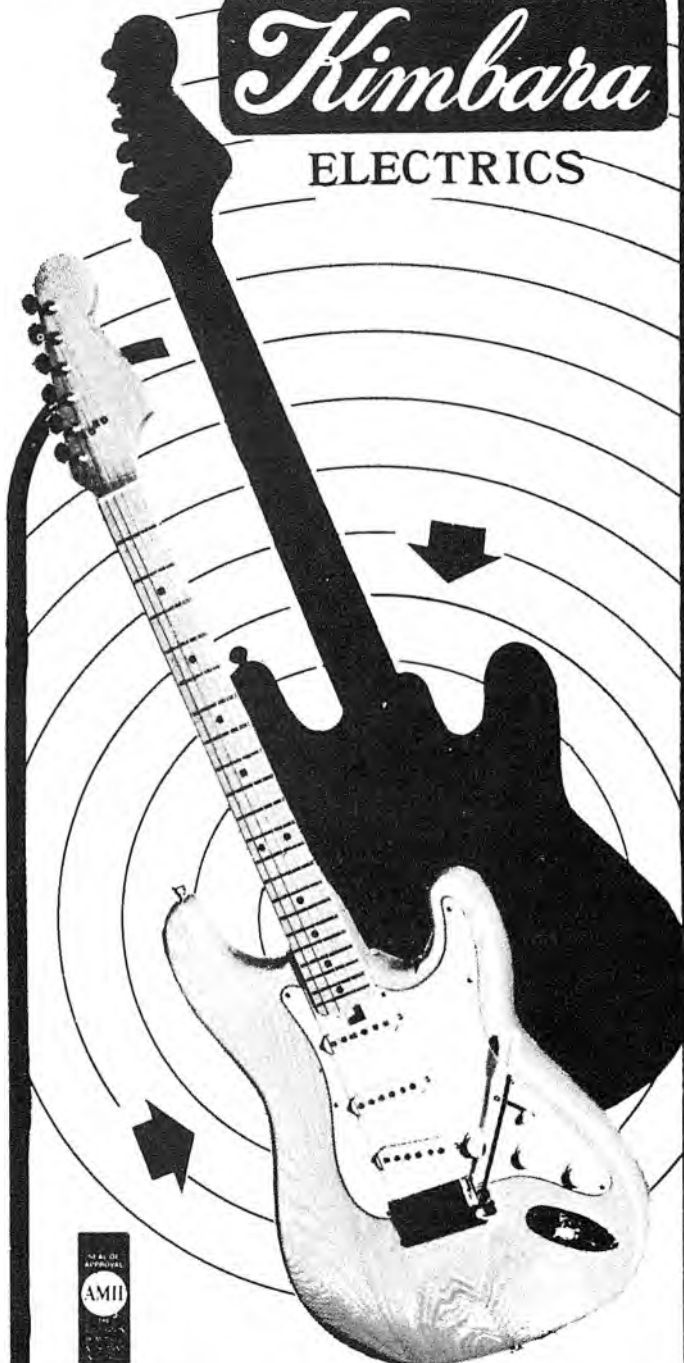
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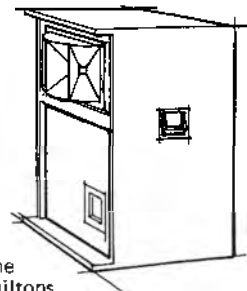
For the ambitious player the Kimbara range offers a wide choice of models which have merited rave notices in the professional press. "Firmly established on the British market" (*Beat Instrumental*): "the action was incredible... one of the lowest I've ever experienced" (*Sounds* newspaper). In electric solid six-strings you have a choice of eight models... all with luxury specifications yet prices are modest, ranging from around £90 to £130. For the all-round session man there's a further wide range of Kimbara acoustic guitars with fan-barred classical models built to concert standards, pin bridge folk models, big toned jumbos, a heavy duty twelve string, and ornate country western instruments.

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### Cabinet Corners

- \* 111 small metal 3 legged for small radius -20p
- \* 112. As above but cut away section -20p
- \* 020. Small metal for square corners -10p
- \* 021 medium as above -12p
- \* 022 large metal legged cut away med. radius -24p
- \* 023 large metal plain with cut away small radius -24p
- \* 024 as above with cut away section -24p
- \* 025 black plastic for rounded corners -14p
- \* 026 as above but smaller -12p

### Edging Materials

- \* 030 plastic piping black -7p per yd.
- \* 031 as above but white -7p per yd.
- \* 032 as above but transparent with silver braid core -15p per yd.
- \* 033 as above but with gold braid core -15p per yd.

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- \* 035 black strap handle chromed end plates 9 1/2" -80p
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- \* 038 recess handle, metal, black with chrome bar -£2.75
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- \* 047 flight case flip handle zinc plated steel - £1.65

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*Russ Ballard is a man of many talents. In the sixties, he played with the Roulettes and Unit Four Plus Two with drummer Bob Herit. When ex-Zombie Rod Argent decided to form his own band Argent, Russ and Bob joined and went on to produce some of the best music of the early seventies. Eighteen months ago, Russ broke away from Argent, and came up with his first solo album, Russ Ballard. On this outing, he played guitars, bass, drums and keyboards as well as singing all the vocal parts. Not content with this, he also wrote all the material and produced the album himself. He went on to produce Roger Daltrey and Leo Sayer, and is now working on his second album with his own band, and is also planning to get back on the road. International Musician caught up with Russ recently on one of his rare days off.*

*Why did you decide to do everything yourself on the first album?*

Well, it was something I've wanted to do for a couple of years — something I had to

get off my chest. If I hadn't done it last year, I would probably have got round to it in maybe four or five years time.

*Why the fairly long gap between that album and the new one?*

After the last album, I was going to go out on the road and promote it, and then write and record the second album around January, but the Roger Daltrey album came up. He asked me if I'd like to produce his album and I thought it would only take a couple of months.

*How long did it take?*

It took six months altogether, because he was doing the film and went on holiday, so we were cramming in sessions between all his commitments. It did upset my plans a bit, because I wanted to go straight on the road and just carry on where I left off. But in retrospect, I think it's probably done me a lot of good. It's given me more experience in the studio producing and I feel physically and mentally fit for the first time in about four years. I'm really looking forward to going out on the road now.

*Do you prefer being on the road doing gigs or recording?*

It's a different scene really. I love writing, recording and doing gigs so I wouldn't place one above the other. They're the three most important things in my life.

*Would you say you were a prolific writer?*

I think so. I'm always writing, even though I might not finish actual songs straight away. Every day, I get ideas — words or maybe just titles which will trigger off some lyrics. I've got a cassette recorder, which is probably the best way to do it. If you come up with a good idea — maybe just lying in bed — and you haven't got a recorder handy, by the time you wake up the idea's gone, so I put everything down.

*Why did you decide to co-produce the new album with Muff Winwood?*

Well, I wanted a producer for this album — just someone to be objective, because I write the songs as well as playing them and singing them. I felt that I needed somebody to be detached from it all, and to stand away and look at it because it's impossible for me

to do it being so closely involved, and I didn't want to go into the studio until I'd found somebody that I really respected. CBS suggested some people who I didn't think would be very good for me, and then Maurice Oberstein phoned me up and said he'd had a chat with Muff Winwood and he'd like to do it.

I knew Muff but I hadn't thought of him, so I had a drink with Muff and we talked about the ideas I had. He's a great guy personality-wise, and we hit it off really well plus of course he's been in the same position as me, being in a band, so he knows the drawbacks.

*When you left Argent, you gave as one of the reasons the fact that their songs were getting more drawn out, including long solos, and you wanted to do shorter numbers. Do you still feel the same?*

Well, at the time, I had six or seven songs ready before I started the first album, and they were all short, simple songs and that's what I was into then. I had about four years with a band that did



# RUSS BALLARD

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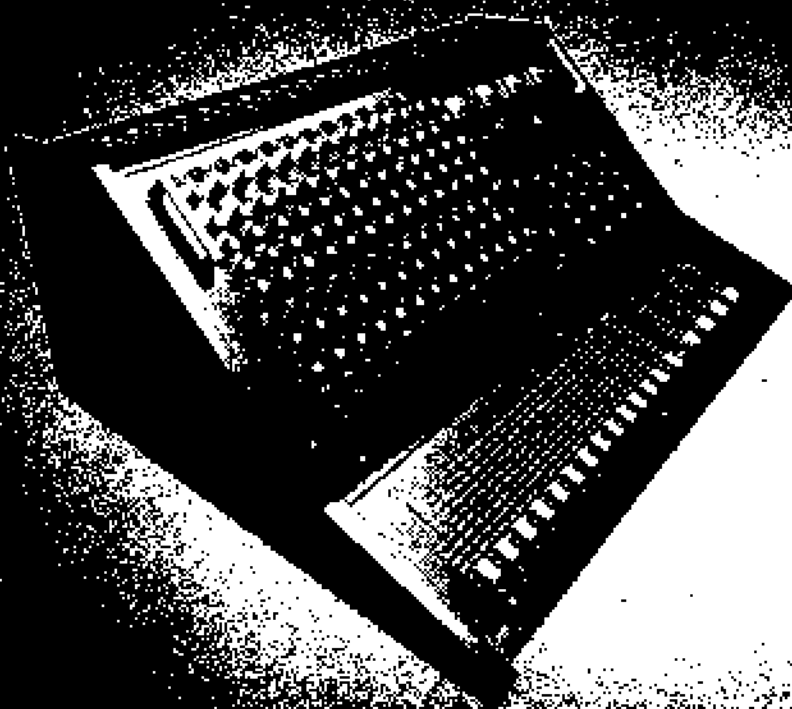
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extended solos and things, so I wanted to get away from it. Again, I just felt I had to get it off my chest, and do some short, simple numbers. It was like a reaction to all the stuff I'd been doing previously. I'm pleased with it, and I'm glad I did it, but the new stuff is . . . well, I don't like to say deeper . . . slightly more involved, and the songs are more about my experiences, things that have happened to me.

*It's been a year since your last album. Are you still pleased with it, or do you listen to it now and think 'I wish I'd changed this and left that out'?*

Oh yeah, but that's what's so great about the business really. If you can look back on an album and think it's perfect and couldn't be improved, I think you might as well give up. I mean, I'm pleased with it, but I sometimes think there are certain things I could have changed, but I'll always be like that. *Who's in the band?* Well, there's Al Wickett on drums, Tony Lester on bass, and Jeff Skates on guitar. I was looking for a keyboards

player, but the last few weeks of rehearsals have gone so well that I don't think we need a pianist. Anyway, the guitarist plays a bit of piano, and I play piano, so it seemed a bit pointless to get someone else.

*It's common for artists who leave a name band to get together a lot of ex-names to form a band, but the musicians in your band are relatively unknown. Where did you get them?*

There's a lot of names about not working, but I think these guys are as good if not better than the other people I could have got. How it came together was that I did a CBS convention in Eastbourne, using a band called Curly behind me and I liked Alan's style of drumming — nice and solid, but I didn't want to pull him out of his band. Later on, he phoned me up and told me he was leaving the band and did I want him to be in my band, so I thought 'Great!' Anyway, he brought along Tony Lester who was a friend of his from Birmingham, and Tony suggested Jeff on guitar. They're great guys, and we

hit it off well socially which is so important.

*Will you still be using the Strat on gigs?*

Yeah. Well, it's a Strat cum Tele really. I threw it up in the air on one of the last Argent gigs, and the neck fell off, so one of the roadies had it mended for me and when I got it back, I found they'd put a Telecaster neck onto it. I've kept it like that though because it's a nice neck. I've also got a Hayman, which is nice but a bit too heavy. A lot of guitars are too heavy. I've always found Gibsons too heavy.

*You've cut holes out of the body of your Strat. Was that to reduce the weight?*

Well, that came into it. A friend did it for me because I just wanted a guitar to look different from the rest. It's made it a lot lighter though. It hasn't made any difference to the sound at all. *The last album was very strong on vocal harmonies. Will you still incorporate harmonies in the new stuff?* This album will be slightly harder than the last. There will be some harmonies but it won't be quite as harmony-

orientated as the last one. It's going to be more like what the band are on stage. We want to keep the continuity thing from stage to studio, so I'm not going to use any orchestras or that type of thing.

*Is the act going to be tailored around the new album?*

Yeah. I think we'll do some of the older stuff as well though. In fact, during one rehearsal, we did 'It's Only Money' which was a song I wrote for Argent, and it sounded so good — really dynamic — it's ideal for doing on stage. I'm also thinking about doing 'Liar' — one I wrote years ago — that might be a good one to do. *When are you going to start doing gigs?*

Well, I hope as soon as the album's out, we'll get back to the old routine. I'm really looking forward to it. I think it's good for any musician who's been playing for ten years or whatever, to take a year off. It's good for your health and it re-charges your batteries. I'm hoping that when I get back on the road, I'll be able to have more time to write and just do the best gigs. □

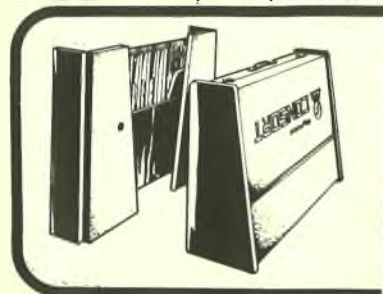


# RUSS BALLARD

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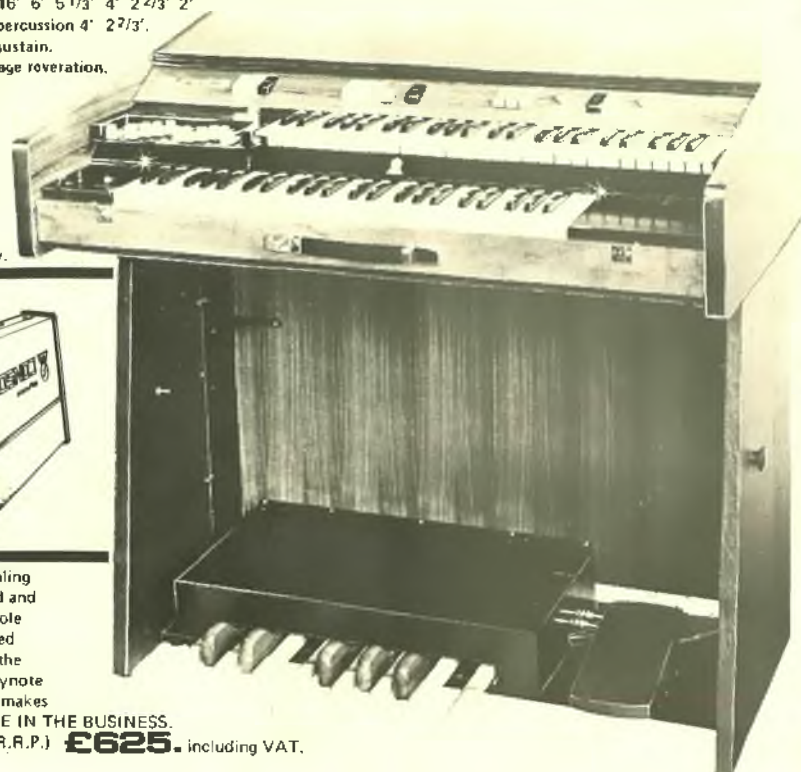
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Kenny Ball with arm on shoulder of soundman Pickstock outside London Hilton.

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## CHAKRA

Despite the recent assertion by Tam Paton that it was, in fact, The Bay City Rollers who put Edinburgh on the map, the City had been an arts and cultural centre for hundreds of years before earning the dubious reputation of being The Roller's home town.

Chakra are one of Edinburgh's most popular funk bands. The seven members of the band came together in November of 1974 after most of them had been playing with and around each other for years. Edinburgh is a city where most people have some point of connection with most other people. In that sort of situation its inevitable that any musician in the city will know another fairly well.

Colin and John, (bassist and acoustic guitarist) had been in (and out of) each other's bands since the early sixties and a similar, though shorter, situation had existed between Des and Jim, (drummer and lead guitarist). These four, and Dode, (vocals, percussion and another native of Edinburgh) were joined by two "Southerners", Pauline their main

vocalist, originally from London and Chris (sax, flute, clarinet, percussion), from Cleveland.

Chris, at 19, is the youngest member of the band, but he's been playing his instruments for years and used to play with the Northern Junior Philharmonic Orchestra. All of the band have full time jobs except Des who is studying architecture at Edinburgh University and any offer would have to be very concrete before any of them would go professional.

The band don't have a manager but feel they're managing themselves adequately just now. John and Colin know most people in the music business in Edinburgh and they have no problems organising gigs.

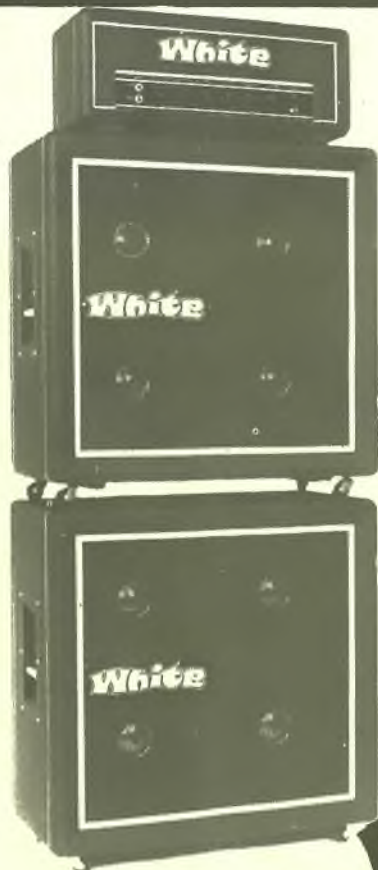
In fact, the band have few problems. They've recently acquired a Peavey 9 channel mixing desk which has helped to improve the overall sound of the band and especially the sound quality of the wind instruments. Andy Swales, a bachelor of science, is their sound engineer and he sorts out any problems which arise with the PA

system. Both Phonogram and Anchor have expressed an interest in Chakra and the band are happy to wait for the right offer.

Meanwhile, one difficulty is the lack of somewhere cheap enough and decent enough to rehearse.



John Fitzsimmons plays Gibson 335, Marshall amp. Colin Archbold plays Fender Bass and cab. Desmond Travis plays Slingerland Kit. Jim Condie plays a Gibson Les Paul Copy with Peavey 130 w. Chris Nelson plays Selmer tenor soprano sax, Lark Flute.



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# BRODY

Andy Miller, Brody's new manager, introduced himself to them by tentatively suggesting that he try to fix them up with some London gigs. John Ramsay, Brody's sound engineer explained. "We eat, breathe, sleep and shit music. We're not interested in promises. Give us something concrete, then we'll take it."

That was in August. Andy Miller became Brody's manager, has helped to organise them, and now they're playing 5 definite London dates in October. (including the Speakeasy on the 27th and the Greyhound on the 28th).

Brody began as a four piece band in September of '74. Ron Jackson joined them as vocalist in July of this year, and only since then have Brody felt that their line-up is complete.

All of Brody work full-time. Kenny McDonald (keyboards) and Dave Scott (bass) are both trained teachers — none of them do undemanding jobs and two of them are married. Yet they, (and their ladies) are all completely dedicated to the band and to each

other. The money they earn during the day goes straight back into Brody and that's as true for their roadies and sound engineer as for the guys who play on stage. For example, Charlie, *one of the roadies*, has just bought a Hammond L100 to replace the aging Galanti Duo which Kenny had been unable to afford to replace himself. The equipment and instrument set-up they use is more than adequate but they're still dissatisfied. "It's okay for the gigs we do, but we want the best" Dave told me. Most of their equipment is bought from Live



Music in Edinburgh, who they find sympathetic to any problem, financial or otherwise, which the band come up against. One difficulty they can't help with, though, are any major break-

downs of equipment. Fortunately these occasions are rare but when they do occur the equipment gets sent South and it seems to take forever to come back. "Sometimes when the stuff does come back, it's been gone so long that it's like getting a new instrument." Kenny groaned. It's not always the manufacturers fault, British Rail were responsible for the last blunder. Apparently they took three weeks to lose a Hi-watt cabinet and two weeks to find it again — and that was just on the return journey to Edinburgh.

Brody play mostly their own music. Kenny and Tom are the most prolific writers in the band and the others work from their ideas until they manage to work out the kind of sound they want.

This is done when Brody practice in a Womens Guild Hall on the outskirts of Edinburgh.

Their own music is received well and often requested, but people like them to play a few familiars, so their act is interspersed with variations on Stones and Wishbone Ash numbers.

A lot of clubs want funky dance bands and Brody as Tom explained just aren't a dance band. "We could go professional tomorrow, IF we wanted to play three hours of dance band music.

At the moment we're working on our own sound and people seem to like it. For instance we ran a ticket concert in the May summer, in Edinburgh, and sold 500 tickets. Soft Machine played the same night and sold 300. It was really a success."

Kenny Brodie plays Fender Stratocaster with Marshall stack. Dave Scott plays Fender Telecaster Bass with Hi-watt amp. Tom Archibald plays Pearl kit, Paiste cymbals and Hohner Blues Harp. John Ramsay uses a Canary 12/1 Desk, 600 watt custom PA. Mikes are AKG and Shure.

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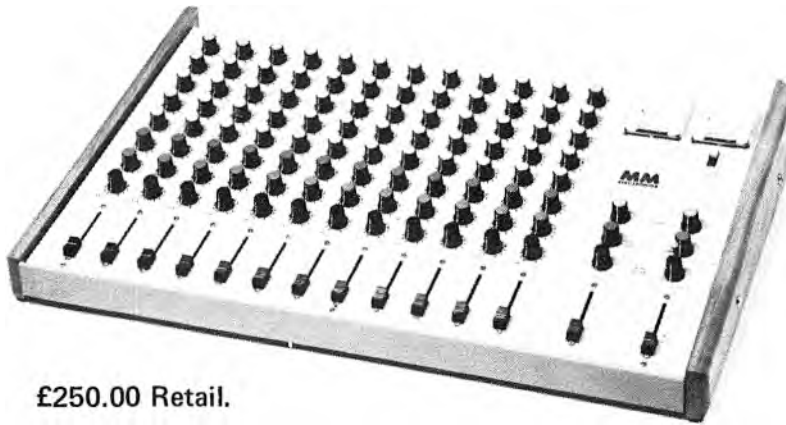
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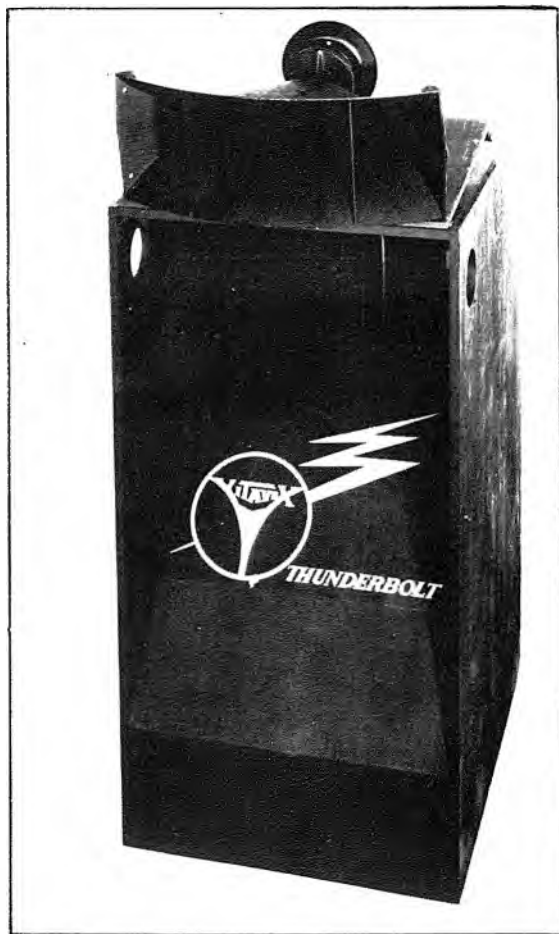
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# THUMBS UP FOR THUNDERBOLT

## 'Yes-a Great Sound' say Blackfoot Sue

"Yes, we really like it." That's the Okay for Sound verdict on Thunderbolt, the great new loudspeaker system by Vitavox. An exhaustive field trial, sponsored by International Musician was carried out by big sound group, Blackfoot Sue on gig through six weeks from Friday, 4th July to mid-August, 1975.

They used Thunderbolt on stage from Kent through the Midlands to Bournemouth and South Wales. It was a tough test under every kind of acoustical condition. This is what Blackfoot Sue and the men behind them say:



#### RIC CURTIN SOUND ENGINEER:

"Thunderbolt gives a solid clean sound without being too large. When stacked for a big P.A. the H.F. Horns could be used separately and positioned according to angle of coverage required."

#### FRANK GALLAGHER, CHIEF ROADIE

We really like it. We are very pleased. The sound is clear with plenty of punch. The Thunderbolt potential is truly tremendous and though we gave it all we've got, we do not feel we gave it full scope. Our first and lasting impression is that it gives a really great sound. There's only one thing better than a Thunderbolt and that's two of them."

#### BLACKFOOT SUE:

"I agree with Ric. Also, the fact that the H.F. Horn slides inside the Bass Horn is very useful - not only for transport but also on small gigs where there is not much room on stage. Thunderbolt is small enough to handle and truck easily."



Dave Farmer, Drummer.  
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Tom Farmer, Bass  
"Great"



Alan Jones, Rhythm Guitar  
"Solid"



Eddie Golga, Lead Guitar  
"Punch"



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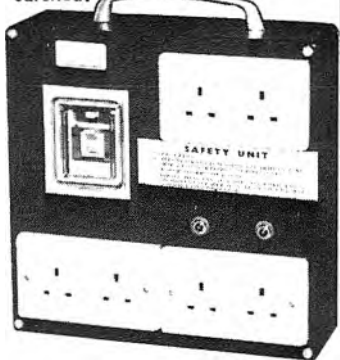
# MUSIC NEWS

## Chingford Organs Demo

Chingford Organs held a demonstration evening on September 18th at Walthamstow Assembly Hall to celebrate the 40th anniversary of the Hammond Organ Company, and according to Gene Ashworth "It was a tremendous evening. Really first class. As a result of the success of the show, Hammond are arranging a series of these evenings. "Among keyboard artists who took part were Robin Richmond, Tony Back, Bryan Rodwell, Keith Beckingham and Richard Dunn. The show was recorded by BBC radio for their "The Organist Entertains" radio series.

## Cleveland Safety Unit

Cleveland Music of Middlesbrough recently introduced a safety unit retailing at £75 which incorporates an Earth Leakage Current Breaker and a neon indicator light, together with six 13 amp sockets, a leakage to earth can be detected in a maximum of 0.03 seconds. The Stage Safety Unit is actually a smaller, portable version of one that has been used in clubs throughout the North East for over four years. Housed in a metal case, the new unit measures 12" x 12" x 4". Dennis Harrison: "We are happy that the equipment has been well field tested, and is completely reliable so long as the equipment plugged into it is earthed."



## WHITE OPENS

White Sound Equipment of Sunderland recently opened their second retail shop called Rock City Music. It is situated at 48, Cloth Market, Newcastle Upon Tyne. Bill White told I.M. "The premises are quite large. We will carry mainly guitars and amplification on the ground floor, and keyboards and percussion in the basement." Fender Rhodes keyboards, Rogers and Gretsch drums, Fender, Ampeg and White amplification will be standard stock.

## CMS in Europe

The Cardiff Music String Company recently announced the opening of their new European base in Amsterdam. It is a large office, showroom and warehouse complex which is spearheaded by Dutch managing director Kuhne Bakker, well known throughout the Dutch music trade after having previously held the position of sales manager for Gibson's distributor in Holland. The new European operation will distribute Sound City, Cathedral and Summit strings to the Netherlands and Benelux, as well as distributing the complete Cardiff Music String range (Sound City, Cathedral, Summit, Londoner and St. David) to Northern Germany and parts of Scandinavia.

## Leeman Drums hold 1st clinic

The Leeman Drum Co. held their first drum clinic and presentation show at the Birmingham Locarno on September 30th, to introduce Leeman drums to this country. Kits on show included the Silver Sonic, Silver Flare and Vortex double 26" bass drum kit. Also previewed were Indian congas, bongos and orchestral side drums. Ex-CBS session drummer Ashley Wardell demonstrated the drums and will be going around the country for the rest of the clinics. John Ryan told I.M. "The main thing was to show the public all the things that are unique about the drums. For instance there are no airholes in the drums, so when you hit them, the note is round and solid and doesn't go higher and then lower. Another feature is the aluminium hoops on the bass drum, which can be anodised black or polished aluminium. This is quite revolutionary and holds it steady as a rock—nothing can go out of shape."

## DAVOLI IN UK

Davoli (UK) Ltd., based at Park Royal, London NW10, are soon to start manufacturing in this country. They will be introducing a new 35 watt combo incorporating one 12" and one 15" RCF speaker, which will also be available with built-in phase and reverb facilities.

Davoli will also be manufacturing a new range of slaves and PA Cabinets. Managing Director Jeff Gardner explained "One of our most popular lines at the moment is the 2 x 12" exponential bin, so we've decided to manufacture what is virtually half an exponential bin with a 50 watt twin cone RCF speaker. We will also be introducing a version with a built-in horn mounting. The speaker will handle 50 watts and the horn will take 25 watts giving a total handling power of 75 watts, while still remaining extremely compact.

"Further to these, we will be

making a 15" exponential bin to match, and a tweeter and horn unit to sit on top. We feel the semi-pro and amateur musician is being ignored and, generally, equipment prices are constantly soaring, so we're endeavouring to produce some good-quality equipment at reasonable prices. The 35 watt combo will retail at around £110, while the phase and reverb version will be around £145." Jeff also promises "an exceptional guarantee on the power amp, apart from the standard one year guarantee." The normal Davoli range will still be available, and the new lines will be in full production on November 21st.

## MCI to make in Britain

The giant MCI Corporation of Fort Lauderdale, Florida, have decided to set up a UK manufacturing operation.

MCI desks and recorders have been making strong inroads in the European professional recording market and on July 1st this year, Dag Felner opened MCI UK Ltd. as the UK arm of the company.

Along with Technical Director Bill Dyer and Service Manager Terry Ralph-Knight, Dag has accelerated sales of MCI equipment — especially desks — in the last three months to the point where a decision has been taken about a UK assembly factory. It is hoped that the new operation will be under way by the end of next year and Dag is currently looking for the right premises.

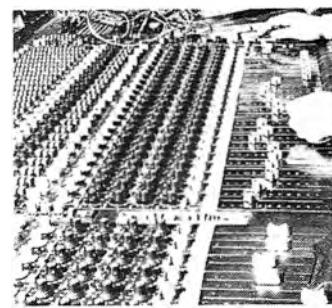
MCI UK are currently working from 21 Claremont Square, London N.1. (01 278 2288) and as well as importing and marketing MCI equipment the company are also distributing AVAB portable mixers from Sweden.

"Most of the business we've done on MCI desks has been for new studios," commented Managing Director Dag Felner. "Obviously we have supplied some studios who are replacing existing desks with MCI."

MCI believe that their system of "add on" modules which allows a studio to buy an eight channel desk and build up as re-

quired is responsible for a lot of the business that has come their way.

Two basic series of desks are available. The 428 model offers up to 28 channels in and 24 out and the 440 gives up to 40 in and 24 out. The 500 series is fully automated and offers 28 and 42 channel basic models.

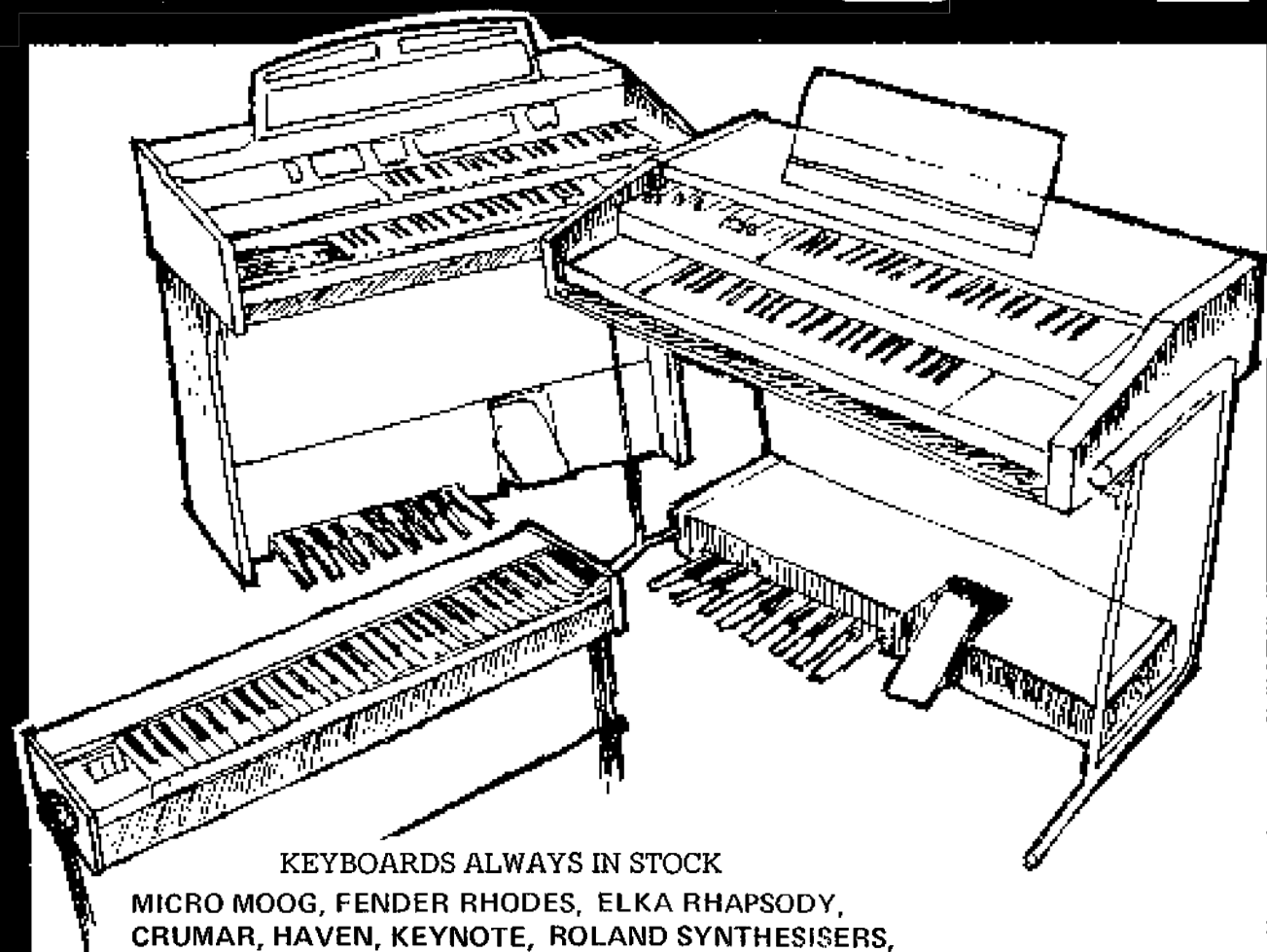


## Advison Rates

In our Studio facilities guide in last month's issue we inadvertently gave Advison studio rates incorrectly. Hourly charges in Studio One are, in fact, £43 per hour and not £30 as we stated. The compu-mixing facilities in Studio two — on which we reported in our April issue — have proved particularly successful and rates are now £35 per hour.

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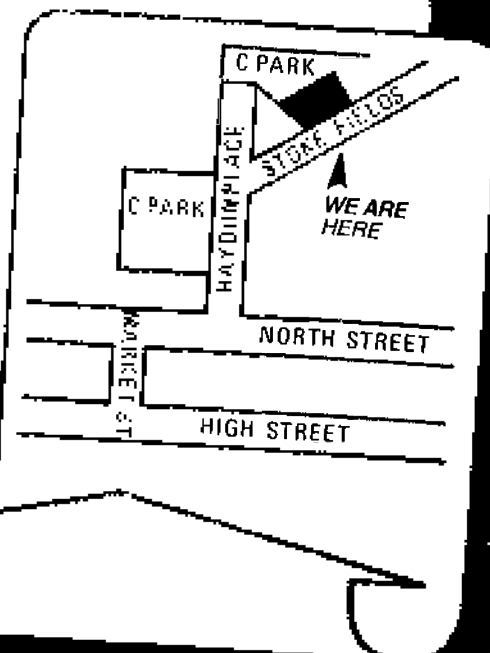
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# MUSIC NEWS

## SUE REPORT

Blackfoot Sue and Vitavox have made their report about the new Thunderbolt bins which the group have been testing on fields trials over the last few months.

When Blackfoot Sue were presented with the bin development was still going on. Improvements were still being made to improve deep bass performance and little thought had been given to hand holds.

Armed with a sound level meter Vitavox visited the Marquee on 28th May to hear, for the first time, Blackfoot Sue in a live performance. Following this their P.A. rig was brought to the factory for compatibility tests while the Thunderbolt was being prepared for the A.P.R.S. Exhibition on 19th and 20th June.

From comments at A.P.R.S. a few modifications were made such as the sealing of the circular hand-holds, and the Thunderbolt was ready for its debut at Stockwell College, Bromley on 4th July. From this date it was used as stage monitor for all dates until mid August when a new and very promising management deal took Blackfoot Sue off the road.

It was a slightly shorter test than had been hoped and time did not permit a set of Thunderbolts to be prepared for a main P.A. However, together with subsequent tests, sufficient information was gained to feel very confident about Thunderbolt's future.

On receiving the road test models Blackfoot Sue were delighted to find that many of their initial criticisms of May 1st had been heeded. Thunderbolt was

now easier to truck and handle, substantial bump strips were fitted, XLR connection was provided on a transparent panel which allows a view of the H.F. attenuator setting on the Cross-over and the H.F. Horn was now separable to allow alternative siting when used in a P.A. stack.

During the road tests the following recommendations were made which will make the Thunderbolt even more effective.

(A) X.L.R. connectors are to be provided on the H.F. Horn allowing total separation from the LF section and the method for stowage inside the mouth of the bass horn is to be improved.

(B) It was found that the H.F. Horn could slide out of the transit position if handled in a particular way while if a piece of gravel or such got between the sliding faces of the H.F. Horn panel and the LF Horn the H.F. Horn would become jammed in the transit position. Both of these faults have been eliminated by the design of a screw type locking device.

(C) It was suggested that the bottom corner was a more convenient place for the trucking

wheels with a grasp rail in the present wheel position. Having given this due consideration the present view is that to accommodate this would add to the cost and alter performance for little practical benefit. A simple diagram would indicate the recommended handling method in various typical situations such as stairways and truck on and off loading. This could be fitted for the guidance of inexperienced road crews.

(D) While no severe difficulties were found, experiments will be made using alternative hand-hold positions.

Rick Curtain, Blackfoot Sue's Sound Engineer: "Thunderbolt gives a solid clean sound without being too large. When stacked for a big P.A. the H.F. Horns could be used separately and positioned according to angle of coverage required."

Frank Gallacher, Chief Roadie: "I agree with Rick. Also, the fact that the H.F. Horn slides inside the Bass Horn is very useful — not only for transport but also on small gigs, where there is not much room on stage. Thunderbolt is small enough to handle and truck easily."

Blackfoot Sue: "We really like it. We are very pleased. The sound is clear with plenty of punch. The Thunderbolt potential is truly tremendous and though we gave it all we've got, we do not feel we gave it full scope. Our first and lasting impression is that it gives a great sound."

## CBS RE-OPENS

CBS/Arbiter's new Fender Soundhouse opened with a flourish at the beginning of last month. In an astonishing display of hard work and resilience Rod Alexander and his team have pushed the phoenix up from the ashes and re-created the glories of the old Fender Soundhouse.

The new shop spreads along a huge frontage at 57-87 Hampstead Road, London N.W.1., just a few hundred yards from the old Soundhouse. The shop forms parts of the Euston Tower complex.


Frantic imports have returned the Soundhouse stock situation to near normal and vast displays of Fender, Rogers, Rhodes and Arbiter can be found all on one level.

Commenting on the rapid re-opening, Chairman Ivor Arbiter said: "It's all due to the efforts of the people who work here. They've worked day and night to get us open again and they're a really great bunch."

Unfortunately some things are not so easily started again. A couple of months ago this magazine announced the start of the Fender Guitar Club. The club offers members great assistance in practical aspects of playing and Big Jim Sullivan is undertaking some clinics as part of the scheme. Many International Musician readers wrote in asking for details and before the letters could be replied to, the fire destroyed all the paperwork within the Soundhouse. CBS/Arbiter are naturally apologetic about this and ask if any interested musicians would write again to Andrew Wallace, Fender Guitar Club, CBS/Arbiter at the address given above.

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# DEALER NEWS

## MASSIVE DRUMLAND DISPLAY



DRUMLAND LTD., Birmingham is not the largest shop in the world. But, according to Bill Ward of Black Sabbath, it is the largest drum shop he's ever seen outside New York. Drumland has a street frontage of about 45 yards, the area it covers was originally four shops, and inside there are always at least 40 kits on display in the two level showroom.

Apart from the obvious advantages of having that much space, Drumland also has the advantage of having an extremely enthusiastic and friendly staff. Mike Evans and Mike Woodroffe, directors of Drumland, only opened the shop a year ago and already it has established itself as a drummers paradise.

There is a very large stock of spare parts, and Mike Evans explained that even if they never sold a kit, the income from brushes, heads and spare parts would be enough to keep the shop floating.

About a third of the kits they stock are second-hand, and they are always willing to take older equipment in part-exchange. The cheapest kit sold is a Delrey at £44 and the most expensive ever sold was a Billy Cobham Kit at £1600, but the most popular are the middle priced Premiers.

Peter Briggs and Adrian Vickers, who work for Mike Evans, find that everyone who comes in, buys, — even if it's only a cymbal to use as an ornament!

It is a busy shop but the staff are always willing to tune drums, or order special sticks and they even find time to organise lessons for beginners, anywhere in Birmingham.

The Midlands is an area swarming with bands and Mike Evans seems justified in thinking that about eighty per cent of the local bands, like Buzzard and Second Hand Band, are regular customers. Other recent customers have included Black Sabbath, Led Zeppelin, Wizard, The Fortunes, Alfonse Muso and Louis Belson.

Drumland's customers always come back and that's about the highest recommendation any shop can have.

## POSH PEPPER

PEPPER MUSIC is in Cliftonville, the posher part of sunny Margate. The owner, Robin Day, is aware of the number of struggling bands in the area and has tried to make Pepper Music a place where musicians can come for advice and sympathy as well as equipment.

To this end there is a varied stock of instruments and a selection of sheet music laid out for easy accessibility on the ground floor. The basement is full of speaker cabinets, of which HJH are the biggest seller. Pepper Music also has a large selection of percussion equipment and the best seller there is the Premier Drum Kit. Robin Day and his three assistants are all fairly technically knowledgeable about music and they try to do any repairs which come in on the

premises. Where possible, they find replacement equipment for their customers while repairs are being made.

There is a substantial amount of second-hand equipment always in stock but Robin Day's own speciality is second-hand guitars. He works to order and will go out of his way to try and locate an old Burns or Strat. However the demand for specific guitars is so great that there are rarely any in the shop for more than a few days at the most. As soon as they're found, they're bought. Among local bands visiting Pepper Music recently were Mister Blister, Chaucer's Tales, Mr. Leslie Herbert's Dixiland Band and Southbound. Any bands coming from farther afield might note that Pepper Music is open until seven on Fridays.



## CMC in Hull

CRAVENS MUSIC CENTRE is in the heart of Hull's busiest shopping centre. The shop is owned by Mike Oliver who is helped by three assistants, all of whom are able musicians and members of local bands. There are many bands in the area and among those that are regular visitors to the shop are Inner Sound, Rene, Bobby And The Helmets, Rats Blood, Majik and Dennis Keely And Lee.

The showroom is on the ground floor and displayed at the front of the shop is a selection of equipment to suit most tastes and pockets. Their stock of guitars include Fender, Rickenbacker and Gibson models and the amplification range is made up of Orange, Wem, Marshall, Peavey, Custom and Carlsbro equipment. The percussion kits they have, which include Stlingerland, Star and Ludwig drums, have been selling at a slightly increased pace since the budget made most other instruments an extra 25% more.

The stock in Cravens Music Centre also includes a fine selection of 2nd hand gear. At the back of the shop is the workshop which does repairs on amps and other equipment.

## West End in the country

KINGFISHER MUSIC CO. of Fleet, Hampshire, is a West End Music Store in the sticks. And the owners, Colin and Cathy Fisher, are happy to have that said because they have successfully combined all that is friendly about the countryside with all the efficiency of a West End Store.

As well as being a Gibson Star Dealer and a Fender Soundhouse they are also main agents for Pearl, Carlsbro and SG Amps. Included in their wide range of equipment and instruments are Orange, Traynor and Peavey (one of the fastest selling amplifiers they stock).

Colin is very interested in the electronics of music and he told IM that faulty amplifiers are never returned to the manufacturers but that he repairs them on the premises. It can sometimes take weeks for equipment to be returned to the manufacturer, repaired, and delivered back to the retailers again. If Colin repairs the equipment in the shop it means only days, instead of months of waiting. Colin is also a capable guitar craftsman. He was recently asked to build some special guitars for Jonathan King and he does expert repair and customising work for customers. With so much repair work being done lots of spare parts must be kept in stock, and the Fishers have built up a wide range of accessories. There is also a large selection of second-hand gear which makes up most of the turnover.

Recent customers have included Frisco, Tony Aston and The Original Shades, Junior Pilot, and Fargo.

Orange at Kingfisher



## DMI in Willesden

DMI MUSIC CENTRE has only been in Willesden, North-West London, since August. That was when DMI outgrew the old shop in Hurlesden and Steve Malpon, the owner, decided that it was time to move to larger premises.

The new shop is in Willesden's High Street and opposite Morgan Studios. As well as retaining their 'old customers', DMI have steadily built up a new clientele of musicians from Morgan Studios and the surrounding area. Bert Weedon dropped in recently, as did Sweet, who

bought a Guild. Local bands visiting DMI have included Cimarrons, Heroe, Tanglewood, Teddy Brown and Intercity Union.

DMI stock: a selection of second-hand equipment and equipment and instruments manufactured by Gibson, Fender, Davoli, Ovation and many other famous names.

The workshop at the back of the building can cope with most repair jobs and various PA systems and bass equipment are built and modified there.



Sweet in D.M.I.

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SOUND ENGINEERING LTD, of Jersey, has a selection of musical equipment and instruments and a concentration of amplifiers and guitars spread out over two floors of the shop in the main street of Jersey.

On the third floor, two full time engineers are employed in the workshop who produce Sound Engineering Ltd.'s own PA Systems and succeed in running a same-day repair service for customers on the island.

Working in the shop are Barry Roche

and Chris Belles, two competent musicians who are willing to advise their customers on any musical problems which develop. They offer good terms on part exchange and their selection of second-hand equipment is well worth looking at.

Barry and Chris find that the best selling amps are the HH slimline range with Carlsbro and Fender selling well too. Their best selling guitars are Fenders, Gibsons, Guild and the Japanese Kambari and Columbus range.

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*Studio Two's control room*

Deep in the heart of St. John's Wood, past rows and rows of large detached houses, along roads lined with Rolls Royces, Jags and Mercedes, lie EMI's famous Abbey Road Studios. On first glance at the building, it looks like any other four or five-bedroomed house you might find in the area but on stepping inside, you become aware of the sheer enormity of the place. There are three main studios, all of which are equipped for quadrophonic monitoring to varying degrees.



Studio One is the largest, measuring 94' x 58', and this is where the majority of EMI's classical recordings take place. It's basically 16 track, although it can handle up to 24 tracks, and has remote control, closed circuit TV linking it to another control room. Because of its size and acoustic properties, it is ideal for large orchestras but is considered too "live" for groups, although the historic recording of The Beatles' "All You Need Is Love" TV clip was made here.

Studio Two measures 60' x 38' and, with the aid of screens, can be converted easily for orchestra or group. General Manager Ken Townsend: "Geoff Love and a lot of middle-of-the-road acts record here, yet Paul McCartney still prefers to use it. In fact, most of The Beatles' albums were recorded in Studio Two. It's a very versatile studio. We did

an album here the other night with a live audience of 250 people." The control room of number two boasts one 24 track, one 16 track and four 2 track machines, all by Studer.

Studio Three is the smallest, measuring 40' x 32', but most groups prefer to use it. Late last year, work began on rebuilding and enlarging the control room, and it re-opened on January 3rd when Pink Floyd came in to record their "Wish You Were Here" album. The rebuilding took only seven weeks from start to finish, and this included demolishing an 18" thick wall and raising the floor. Studio designer Alan Brown: "We decided that the place the artists spend most of their time is in the studio and control room, so this is where we concentrated on. We made scale models of the control room and drew up loads of plans, so we could more or less

## EMI Studios Abbey Road

*continued on page 99*





# The Master Sound from Abbey Road.



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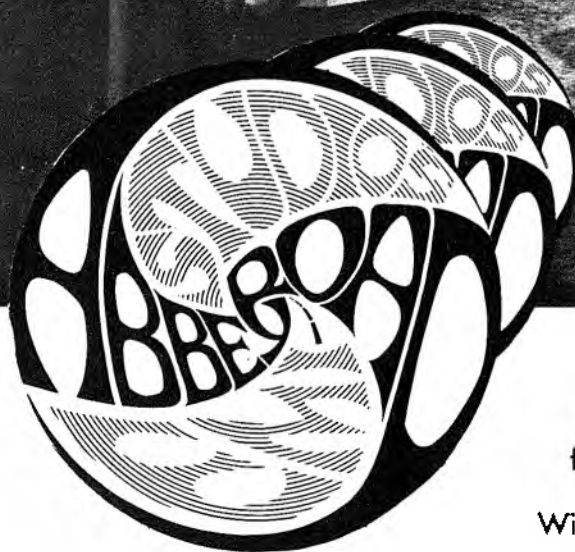
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**now... WISH YOU WERE HERE**

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# EMI Studios Abbey Road

from page 96

visualise what it should look like. The work was planned to a strict schedule, but from time to time, jobs would overlap, and you'd suddenly find builders all over the place, so it was quite a job."

"A lot of planning and work went into the conversion. As well as enlarging the control room, it's also been completely redesigned for quad. The original studios were built in 1931, by adding on to the basic structure of the house. In those days, of course, it was all a case of direct recording onto wax and gravity-driven lathes. The whole place has been slowly modernised over the years. Studio Three was given a "facelift" five years ago, but it's only recently that we redesigned the control room." It certainly was a worthwhile exercise. The decor is now unbelievably luxurious — thick, fitted carpets and plush, leather armchairs. The soundproofing had to be moulded in with the design and the JBL monitors have been modified into corner cabinets, so they are virtually unnoticeable. The lighting can be controlled by dimmers, built onto a separate section of the desk. The desk itself was designed by EMI and built by Neve. It's a 36 in, 24 out console and is linked up via a 1200-way patchboard to the tape machines, which number 24 track, 16 track, 4 track and 2 track Studers.

"We're also hoping to move some of the offices around," added Alan, "and incorporate a large, artist's lounge with colour TV and a bar, so musicians can relax between takes."

All three studios have Steinway grand pianos, and Studio One has a concert grand. Other keyboard instruments are available by arrangement.

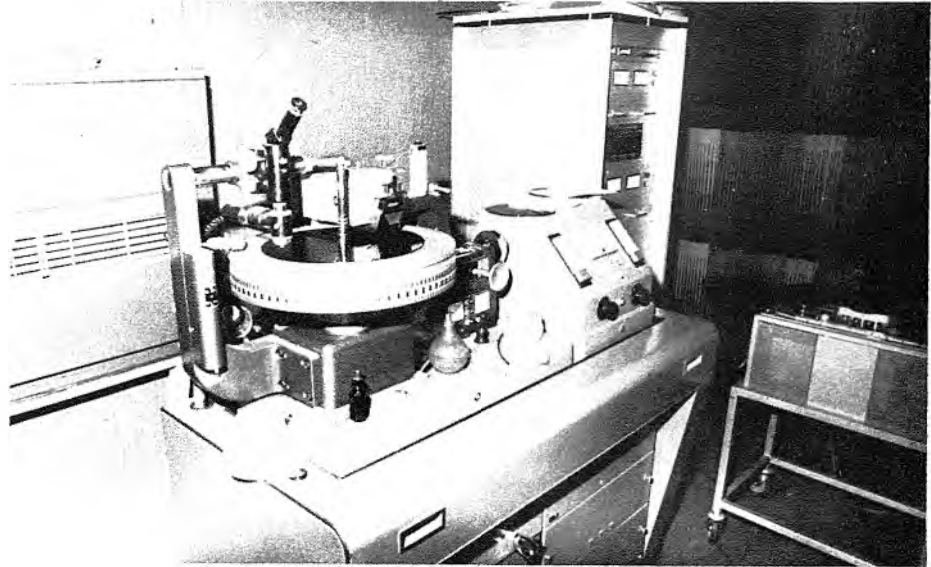
In addition to the three in-house studios, EMI also have two sets of mobile equipment and a Mercedes van. At the

moment they're 8 track, although they may be upgraded at a later date. Cutting facilities at EMI studios are in the form of six disc-cutting rooms, where no less than six out of the first nine number one records this year, were cut. Cutting engineer Chris Blair told me "We use a diamond cutter rather than sapphire because it gives a lot more top and less over-

all distortion. We also have cutting amps rated at 550 watts per channel, with literally millions of tone combinations." Their work is mainly singles, and they cut discs for over 50 different labels.

There are also three tape-copy rooms, where all EMI's master tapes are copied, and three 8 track editing rooms. On the top floor of the building is a room where

continued on page 100



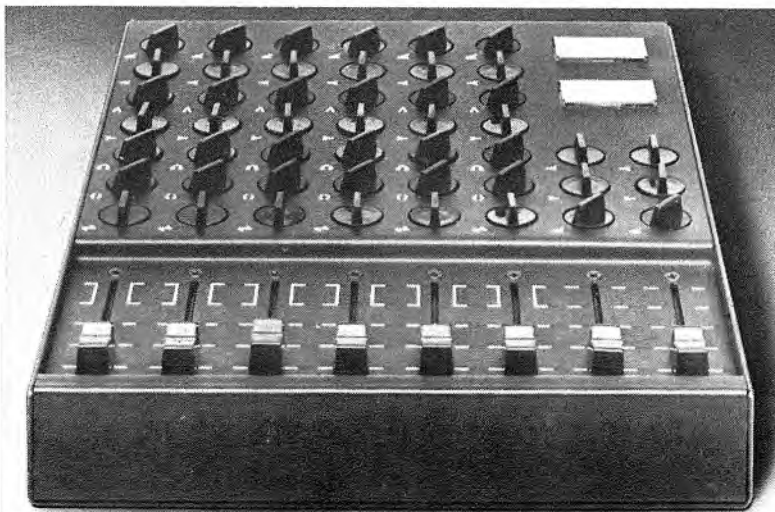
Studio Three's control room



Top: One of EMI's disc-cutting lathes

Bottom: Quadrophonic re-mix room

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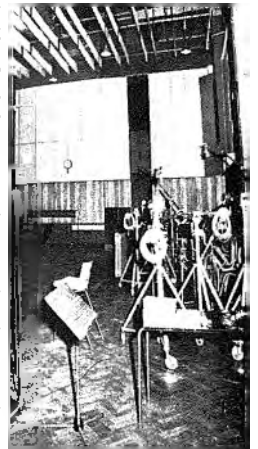
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## EMI Studios Abbey Road from page 99

old 78 r.p.m. records are cleaned up and transferred onto a modern tape. In keeping with the type of work carried out here, the decor is mock-regency complete with striped wallpaper, red wall lights and velvet curtains. A nice touch. There is also a quadrophonic re-mix room and a room where mono recordings are reprocessed for stereo. Also housed in the building are two laboratories equipped for testing disc-cutters and tape machines respectively, and a quality control room where initial test pressings come back for comparison tests. Along the corridor is a huge tape-library, where thousands of master tapes are stored. "The tapes we keep at Abbey Road are the most recent and current ones. After about a year, they are transferred to our main vaults at Perivale, where they join all the master tapes we've done in the past." Alan told me.

Studio bookings are arranged by Vera Samwell in the Studio Organisation Room, where all the complicated planning is done. Obviously, with three busy studios to look after, a careful watch has to be kept on who's booked in where and when. So, with the aid of wall-charts, one can see at a glance whether a particular studio is available or not. □



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# ROCK GUITAR LP

Years ago, anyone who wanted to learn to play guitar had the choice of going to a teacher for lessons or trying to learn from the hundreds of tutor books available. In those days, everybody wanted to be either Segovia or Hank B. Marvin, depending on what particular style you wanted to play.

It is, therefore, very refreshing to find that someone has decided to release an album aimed at those who have learned the basics of the guitar, but who want to apply that knowledge to a rock guitar style. "Teach Yourself Rock Guitar - Volume One" (Stallion/Belmont BUSAR 243) is the first release of a four-part series from the USA, which features Charlie Daniels playing and explaining what rock guitar is all about. Currently fronting The Charlie Daniels Band, he is well-

known for the many Nashville sessions he has taken part in, which include Dylan's "Nashville Skyline", "Self Portrait" and "New Morning" albums.

Charlie has an endearing southern drawl, which immediately puts you at ease. He runs through a variety of items starting off with advice on tuning, use of scales and chords, and progresses onto demonstrating what he calls "chicken pickin'" or "fatback". He then goes on to single string lead lines and shows you how to combine the two. All the points covered are explained very logically. For example, when he demonstrates string-bending he suggests that if you are having difficulty in bending the strings, it could be that the gauge of string you are using is too heavy. So from here he goes on to advice

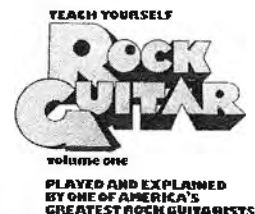
on choosing string gauges. Side One ends with Charlie and his group jamming on a slow blues, demonstrating what he has covered so far.

On the second side of the album, Charlie briefly touches on alternative tuning, slide or bottleneck playing and his views on playing fast. He then explains the difference between large and small amplifiers, and their use in the studio.

Towards the end of Side Two, Charlie is joined by a bassist and drummer who proceed to play a slow blues, in which Charlie takes the rhythm part, leaving the listener to improvise over the twelve-bar backing. The album finishes with the same treatment of a funky "fatback" jam, again leaving the listener to provide the lead

guitar part. This, of course, is ideal for the learner who hasn't got the facilities or perhaps the confidence to play with other musicians.

Enclosed with the album is a chord sheet with diagrams and photographs of the chords used. Overall, an excellent idea, well-executed and I look forward to the rest of the series.



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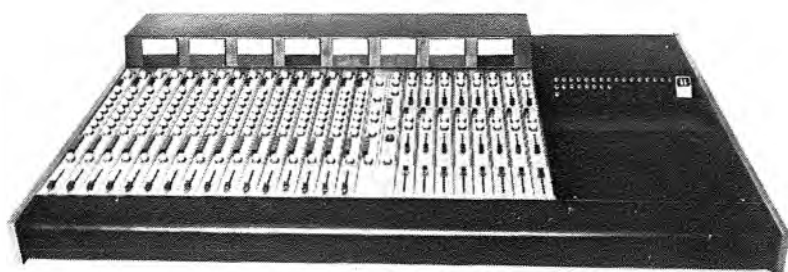
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## ATLANTIS

Atlantis Music Hire of Fortis Green Road, London N10, specialise in PA hire for tours or gigs. All their equipment is Midas, apart from the mikes which are Shure and AKG. Their basic rig is a 1400 watt system, and this is available for hire at £65 + VAT per night, including a two-man road crew and transport. They have provided PA systems for Snafu, Carl Douglas, Gonzales, East Of Eden and Be Bop Deluxe among others, as well as having organised PA's for various festivals in Germany.

## CABIN

Cabin are situated in Bamborough Gardens, Shepherds Bush, and have been in existence since the crazy days of 1968. They have a full range of backline equipment including a complete range of Acoustic amplification, and most makes of guitars, and keyboards. On the PA side, they have available anything from a 100 watt WEM system to their own 12,500 watt horn and bin system, which is a combination of Kelsey and Martin bins, Crown amps, JBL horns, and a 23 chan-

nel Hill mixing desk. Director Ian Howes explained "We have one road crew at the moment, but will soon have two crews on the road, each doing a 5,000 watt system, which is probably big enough for most British gigs. We're going to make other parts of our PA available as well, so it can be used as an add-on system, using an extra Crown amp, horn and bin."

They also have a rehearsal room for hire at a cost of £1.50 per hour, and equipment for rehearsal costs 10% of outside hire.

## CLEARSOUNDS

Clearsounds PA, who operate from the Old Kent Road, are experienced in both Europe and the States, having worked on four American tours last year. On the PA side, they offer up to 2,600 watts worth of Martin/Kelsey equipment, with a 16-channel Kelsey desk and Echoplex echo units. They can also handle transport and offer both road crews and tour managers. On the lighting side, they can provide up to 24,000 watts of Altman lighting. They have worked with many bands including Mike Heron's Reputation, Clancy, and Manfred Mann's Earth Band.

## COMPLEX 7

There're not many companies that can boast Rick Wakeman as one of their directors. In fact, there's only one. It's called Complex 7, and is in fact a group of companies who provide a complete service for the musician. Complex 7 Leasing Limited is a part of this vast organisation which is based in High Wycombe, Bucks. Paul Randall, manager of the hire section, explained "We have a lot of keyboards including Fender Rhodes, Mellotrons, Hammonds Clavinets and even a portable pipe-organ. Our amplification is mostly Fender and H/H, and we have a few guitars but I think most people have their own. On the drum side, we've got some small kits and will soon be doing things like tubular bells, vibes and timpani. As a company, we've only been in existence three months so we're building up as we go along.

"We do PA systems up to about 800 watts at the moment, but we eventually hope to do larger systems, as well as complete stage lighting. Most of our customers so far have been local people, and we actually do a special rate for local bands. We

try to keep our prices to a minimum. In fact, we have a large storage area, which costs only one penny per cubic foot per week, and this includes insurance. We usually store equipment for Procol Harum, Ace and a few other bands."

"Our aim is to be able to provide a complete service — all the backline gear, PA, lights, transport and hotels — in other words, a whole tour service."

## ELECTROSOUND

Electrosound of Winchester Walk, London SE1, can take care of most of your worries as they offer both PA and lighting equipment for hire. They can also provide a road crew and, if necessary, transport as well. Basically, all their gear is custom-built in their 15,000 sq.ft. factory. There is a choice of speakers which include Gauss, JBL and Altec, together with Altec and JBL horns. They have recently started assembly of their own mixing consoles — a 24 channel quadrophonic unit with twelve switchable EQ's, built to studio standards — which will also be available for hire. Their PA systems, which are all four or five-way, start from a four-bin rig

# HIRE

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rated at 1000 watts, and this can be added to and built up to 40,000 watts.

They are also well-versed in lighting, and in fact provided sound, lights and production for the recent Alice Cooper tour, as well as working with bands like the Baker — Gurvitz Army, Robin Trower, Uriah Heep, Traffic, Jack Bruce and George Harrison. In addition to the hire business, ElectroSound also handle concert and festival promotions, through the auspices of chairman Ricki Farr, promoter of the Isle of Wight festivals and many more, and offer a repair service, storage facilities, and flight cases built to order.

## ENTEC

Entec are one of the largest lighting companies in England. They have a very large stock of equipment, and therefore are able to undertake six or seven tours at the same time. "Our average rig is about forty lamps," Pat Chapman told I.M., "although we can hire the equipment separately. The biggest rig we've done so far was a 200 kilowatt system at the Reading Festival. We have all the Rank Strand and CCT range, Colortran PAR 64's, Genie towers, front, back and side trusses and a whole lot more. We also manufacture lighting control units — from a 6-channel to a 48-channel job — and our own dimmer racks housed in flight cases."

"We started off about five years ago as more or less a light-show, with slide projectors and things, and we still try and keep a very visual thing. If a band comes to us and asks us to make them

look superb, then we'll go all out to do it." Entec also do PA hire, their equipment consisting mainly of Midas Martin gear. As well as the lighting, they provided the PA for Reading which was a massive 20,000 watt system, and they are currently providing PA and lights for the Black Sabbath tour. They are also providing lights for the Temptations, Four Tops, Camel, Babe Ruth, Mud and the Carpenters. "We usually supply a road crew and transport with hire equipment, although we do hire gear out without crews to people we know" added Pat. "We have also got tour managers available, so one telephone call from a band to us will take care of all their headaches."

## E-ZEE

For those bands who just want to hire back-line instruments or amplification, E-Zee Hire Limited of Market Road, London N7, can supply all you need. Unlike most other hire companies they don't specialise in PA equipment, although it is possible to hire a small rehearsal PA. They are in fact keyboard specialists, and have resident tuners and repairers who are ready to deal with their stocks of Fender Rhodes, Wur-litzers and Clavinets. Big names in amplification include Fender, Ampeg, Acoustic, Marshall, Sunn, Sound City and Peavey, while the drum line-up includes Rogers and Ludwig. Although guitars are very much personalised instruments, E-Zee hold stocks of Gibson, Fender, Martin and Ovation axes. Again, road crews and transport are available if required, and there is also a rehearsal room for hire at a cost of £25 per day.

## FUNKSHUN

Funkshun Hire of Wellingborough Road, Northampton have PA equipment, back-line amplification and lighting for hire. They start from a basic 100 watt PA and progress to a 1200 watt bin and horn system. The larger bin rigs are designed by

them and custom-built with a choice of mixer consoles. They also supply back-line amps and cabinets if required. They have lighting systems available including Tutor 2 projectors and various sound-to-light units, as well as hiring out complete disco and lighting set-ups which have been used by Radio 1 and Luxembourg DJ's

*continued on page 105*



*ElectroSound's headquarters — Winchester Walk, SE1.*

# Versatile

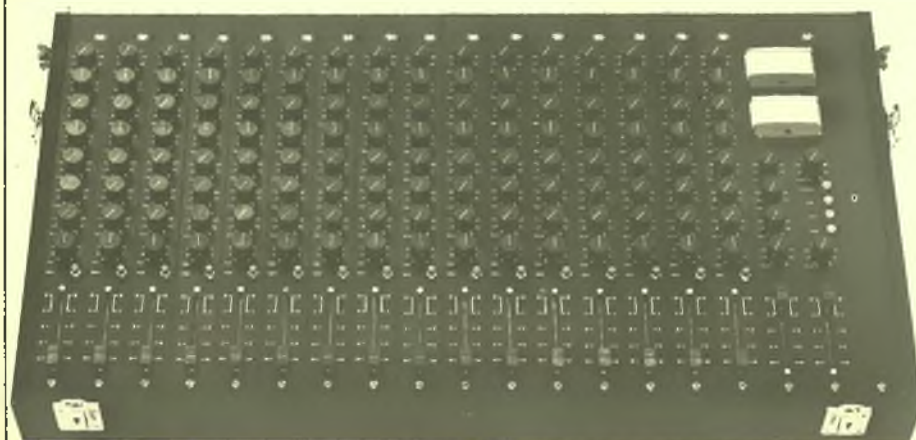
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# HIRE

from page 103

## HHB

HHB PA Hire are an Uxbridge-based organisation, who have been operating for eight months. HHB's Ian Jones explained "Basically, we concentrate on supplying three standard rigs — a 1000 watt, 1500 watt and a 2000 watt system, all with adequate monitoring systems. The desk we mainly use is a 12-channel PA:CE unit with a five-way stereo graphic equaliser. All the systems have an Amco three-way stereo electronic crossover. The mikes are all Shure and AKG, including SM58's and D12's. We always supply a two-man road crew and transport, and our charges are around £60 per gig. We can also provide specialised personnel such as Class 1 HGV drivers and excellent sound engineers if required."

In their relatively short existence, HHB have worked with bands like Country Gazette, Motorhead, East Of Eden, Gong and the Half Human Band.

## IES

International Entertainers Services are situated in Sharpleston Street, NW1, and offer PA systems of any size for hire. Most of their speaker and horn units are JBL, while the mixers are their own Mavis range, which includes mini-mixers and monitor mixers.

Their charges depend on the size of the system hired and the length of tour, and they can also supply transport and road crews if required, IES also have a comprehensive range of test equipment and are willing to undertake virtually any repairs within the entertainment field.

## JULIAN

Julian Keyboard Hire Specialists are, as the name implies, specialists in the hiring of various electronic keyboard instruments. The main difference is that they deal exclusively with recording studios. Manager Gordon Graham told I.M. "We hold a large stock of Fender Rhodes pianos, Hammond and Yamaha organs, string ensembles, synthesizers, and we even have clavichords and harpsichords." Back-line amplification can also be supplied, if required, as they hold a stock of most of the Fender range. In the effects pedals line, they have wah-wahs, fuzz boxes, treble boosters, Schaller Rotorsound and Binson Echo units.

"We try to keep up with what's happening," explained Gordon, "and so we've got to keep up to date with the musician's requirements. Everything is delivered to the studios in perfect condition. We pack all the gear with foam rubber so nothing is

left loose and floating. Our charges depend on the value of the instrument or amp hired, and this is done on either a daily rate or a weekly rate."

## KELSEY

Kelsey Acoustic Hire Limited of Alba Place, London W11, offer facilities for equipment hire. They specialise in custom PA systems, incorporating speakers, horns, monitors, mikes and three types of mixers. The mixers themselves are custom-built, as are the cabinets which are fitted with Gauss, JBL or Altec units. The amps are either Quad or Phase Linear, and they always send a technician along with whatever setup is hired. Dave Jacobson, who is in charge of the hire side, explained "We have a special monitor system, whereby you can have four or five mixes, and we also offer what is basically an effects rack, incorporating echo, phasing or any number of effects. Our main mixer is a 20 channel desk, and we are at the moment in the process of building sub-mixers which can be linked up to the main mixer if more channels are required. As far as I'm concerned, there are two types of bands — together or untogether bands. We would like to aim for the more together bands who know what they want." The Pink Floyd's

massive 50,000 watt system was built by Kelsey, so if a particularly large PA is required, they just have to call on the 'Floyd.

## KWIKHIRE

Kwikhire of London W11 mainly concentrate on PA equipment hire and trucking. They have a 2000 watt system, consisting of RSD bins driven by Phase Linear amplifiers, Electrovoice horns and JBL tweeter units driven by H/H amplifiers and a 16 channel stereo desk with built-in echo and three-way crossover. Their second system is an 800 watt rig, incorporating Martin bass bins, Phase Linear amplifiers and Electrovoice horns, and used in conjunction with two WEM Audiomasters. Director Ray Clegg: "We also have a combination of different trucks including three Ford 3-tonners and a Mercedes, together with a couple of road crews. There's also a six-seater Peugeot for band members to travel in." In the past, Kwikhire's customers have included Savoy Brown and Mungo Jerry.

## LIVWARE

Liveware Audio and Lighting Limited are a young and enthusiastic company based in Wardour Street. Among other facilities,

*continued on page 107*



*Pink Floyd — sound system built by Kelsey.*

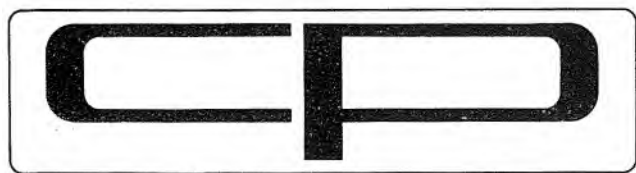
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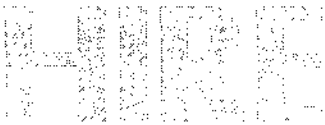
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Discerning users include: Alvin Lee, Clair Brothers Audio Inc., Colosseum Acoustics, Deep Purple, Entec, Jethro Tull, Keith Emerson, Roy Harper, Scope Equipment Hire, Supertramp, Wings and Yes.



from page 107

they offer equipment hire, lighting hire and rehearsal premises. Liveware's Dennis Richards explained "We're professionals, and so we're very selective about who work for us. As we usually send out a road crew with PA hire, they've got to be good. As well as being able to hire PA equipment, bands can also lease a PA for any amount of time. This is ideal for a young band who need a PA for six months, but can't afford to buy one."

As well as being able to hire a PA from Liveware, bands can also lease equipment for any amount of time. Their equipment at the moment is basically RSE gear, although they have a research and development programme for the introduction of new equipment. It's possible to hire anything from 200 watts of PA up to any size of system.

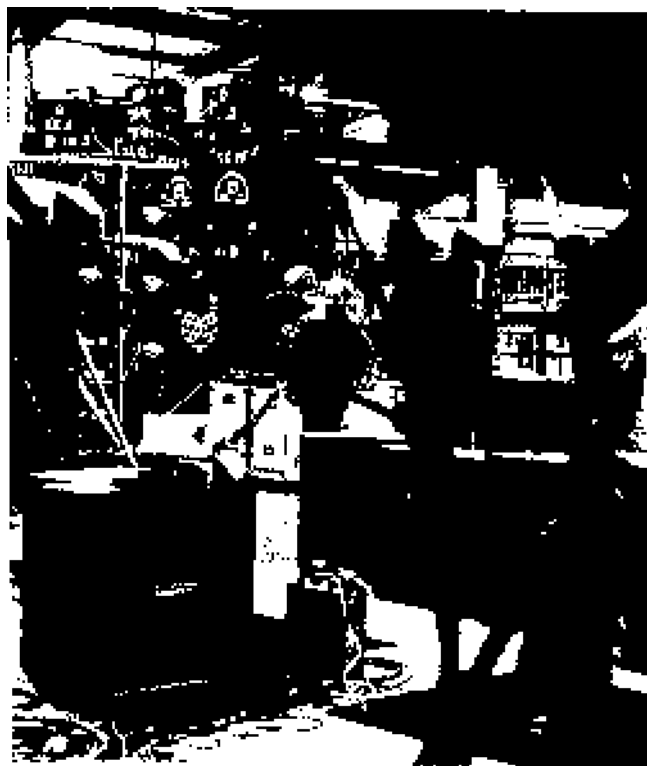
"We've just supplied Dr. Feelgood with a 6,000 watt PA," Dennis told us. "Our gear is basically powered by Quad amps driving Electrovoice, JBL and Gauss speakers. Our mixers are RSE and we've recently taken delivery of a new Triad desk. There's also a full monitoring system, incorpor-

ating bins and wedge monitors of a new design, which is twice the standard power range. The systems are full-range, so they're basically hi-fi, which is the standard we're aiming at. We can also supply the usual special effects like echo, phasing and ADT.

"Our aim basically is to be the best. All our staff are highly trained. All our engineers are studio-trained. We've got a good sound, which is developing all the while as new improvements are introduced."

### M.E.H.

Marshall Equipment Hire have built a reputation in their five years of existence. Based in Mile End Road, London E3, they are known as "the American equipment specialists" and carry a large stock of equipment by Clare, Showco, Crown, Mavis, Alice, Neve and Marshall among others. Together with Ken Flag and Martin Birch, MEH's Joe Brown designed a new desk going under the name of Gelf. "It's a very expensive desk," Joe told IM, "but everybody who has seen it raves *continued on page 110*



Backstage view of MEH's equipment at a recent Who gig.



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# HIRE

from page 107

about it." This is borne out by the fact that it was the desk used by Sinatra at the Albert Hall early this year, and every review, almost without exception, praised the quality of the sound. "We don't stick to one particular type of equipment," added Joe, "so if anyone comes along with a good idea, we'll try it. Bands can have the choice of a Clare system, a Showco system, or a mixture of both. All we've done is to look at things very logically. We take no notice of all the bullshit about 'Oh, so- and -so's got 40 tons of equipment.' If we're doing the sound for a gig, we put in exactly what we say we'll put in." Marshall Equipment Hire are geared towards major acts on the road, rather than small, one-off gigs. "We can only deal with bands that have sound engineers with a brain" stresses Joe. "When people let us take control, one can get amazing results. Obviously, we have to work closely with the bands' own sound engineers, but it's got to be done our way. To run a successful company like this, you've got to firstly, see to the goods, secondly, have intelligent people working for you, and thirdly, work your balls off!"

## MUSIC FORCE

Music Force of Oxford Road, Manchester can hire PA rigs from 400 watts to 2000 watts, and up to 50 kilowatts of lighting power. Music Force's Martin Hammet explained "The big system is by Turner. We have a four-bin Altec rig, and a lot of GB Audio equipment, which we manufacture ourselves. We're incredibly busy at the moment. We're working with 10cc and Fairport Convention and in the past, have worked for the Chieftains, Barclay James Harves, Alberto Y Los Trios Paranois and a lot more."

## PLACQUET

Maurice Placquet Hire Limited is probably the oldest hire company in England, having been established for over ten years. They operate from Jeddo Road, deep in the heart of Shepherds Bush, and they can provide anything from a gigantic PA system to a pair of finger-cymbals. PA supervisor Sam Simpson told I.M. "Our motto here is 'We can supply anything at any time' and this means literally anything musical. We can take care of

*continued on page 112*

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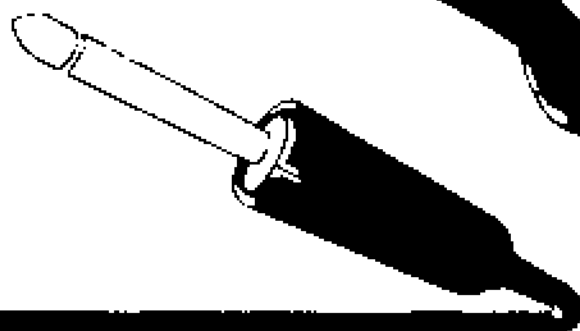
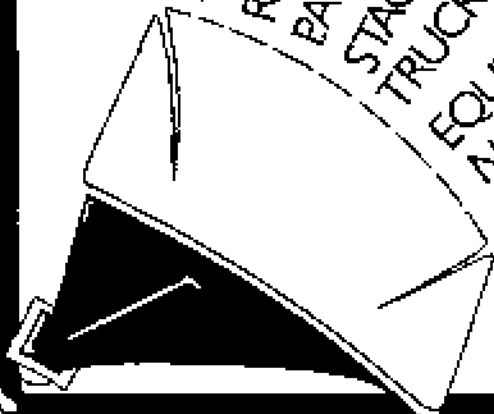
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# HIRE

everything involved with a tour or show, from the PA system right down to the trucks. We've got a lot of regular customers like Wings and Gary Glitter who we've worked a lot with in the past, and now we reckon we're a force to be reckoned with." In the new year, they will have a large rehearsal studio available which will be completely soundproofed and will be able to accommodate top-name bands and even large orchestras. Although PA systems are available for hire, they do not specialise just in PA's, and in fact hold stocks of virtually every type of equipment. Among their ampli-

fication range, names like Marshall, Hiwatt, Ampeg, Fender, Acoustic and Sunn figure prominently. "The only thing" Sam stressed, "is that we don't generally do private hire. We prefer to do business through a band's management or record company. If a band wants to hire something, they will have to lay down a deposit, so from both points of view, it's much better all round if they go through a reputable management or record company."

Maurice Placquet Hire Limited have their own transport section, but it is mainly used for local



Wings - regular customers of Maurice Placquet Hire.

# standish light & sound hire limited

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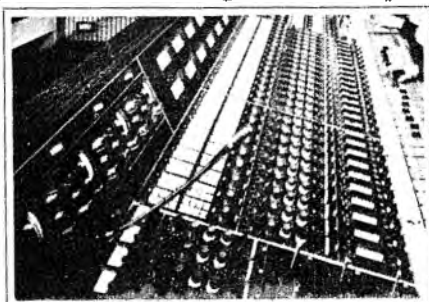
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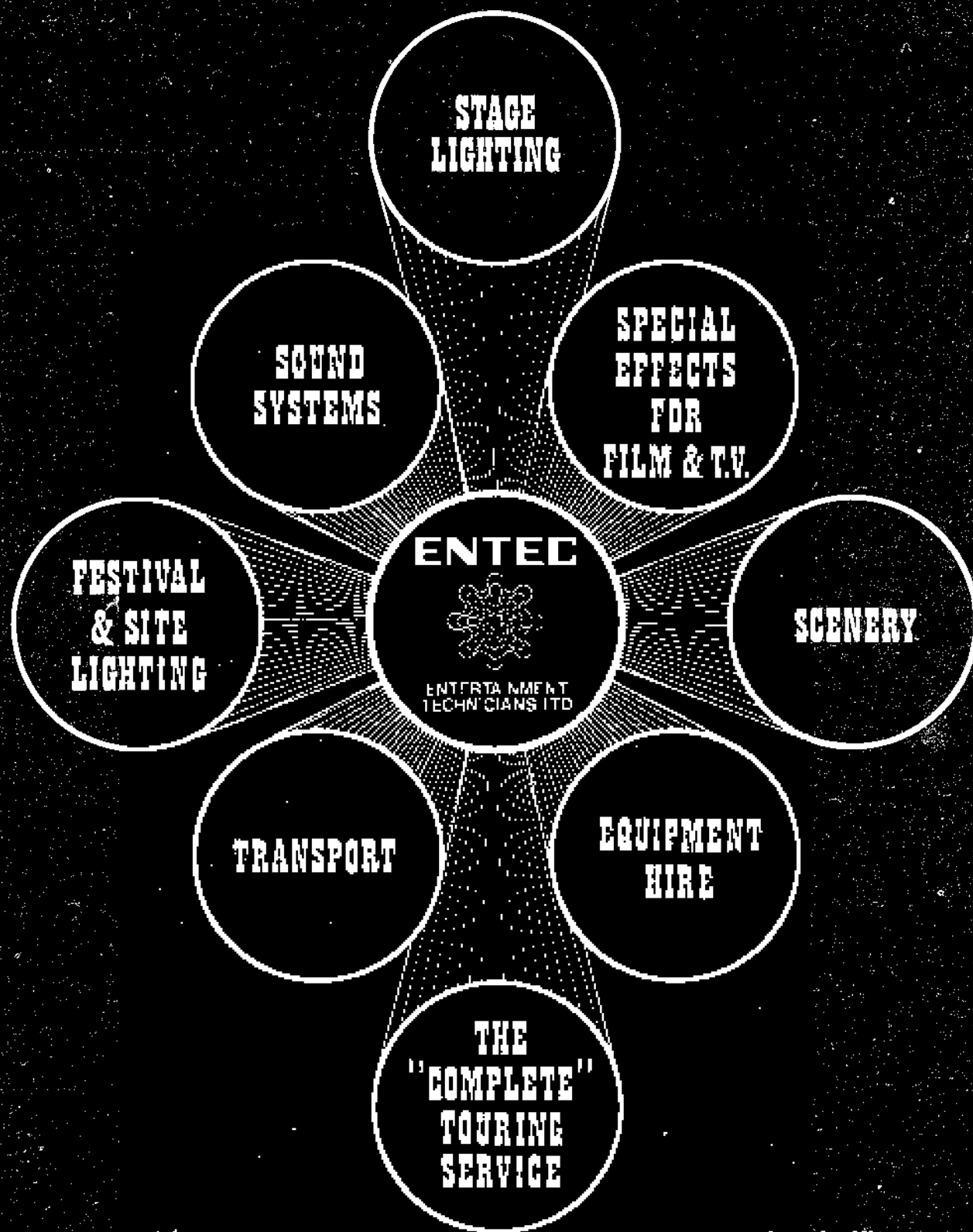
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# HIRE

from page 112

deliveries. In the case of a big tour, where a band will be carrying a lot of equipment, they work in conjunction with Edwin Shirley Trucking and arrange it between them. If lighting is required, they sub-contract to other lighting companies.

## SCOPE

Scope Equipment Hire of Stanhope Street, NW1 can arrange PA equipment, lighting, trucking and road crews. With a selection of Midas, Martin and RSE PA gear, they can hire out systems of up to 10,000 watts. On the lighting side, they can provide Genie towers, CSI follow-spots, strobes and an assortment of projectors and screens. On the recent Barclay James Harvest tour, an impressive dry ice "fog" machine was used, courtesy of Scope Equipment Hire. As well as Barclay James Harvest, Scope have also worked with Wishbone Ash, Caravan, Renaissance, Climax Blues Band, Curved Air, Argent and The Average White Band.

## S.L.A.S.H.

Standish Light and Sound Hire Limited is conveniently situated close to the M6 motorway and



Mud on tour with Entec gear

with easy access to the North West. They specialise in PA, lighting and discotheque equipment and, during the past twelve months, have been providing up to 2,000 watts of JBL horn and Gauss-bin PA equipment with a 20 channel Hill mixing desk, lighting rigs and road crews for a wide range of functions from talent contests to international orchestral concerts. Their range of equipment includes Traynor amplification and PA, and SAI disco and lighting.

thing we make is available for hire. If a road crew and transport is required, we can also provide them." T.Y.A.S. also do a "package deal" which includes a PA, stage lighting disco and light-show, and they offer a discount rate for colleges. They have worked with bands like the Groundhogs, Budgie, K.C. and the Sunshine Band and Junior Walker.

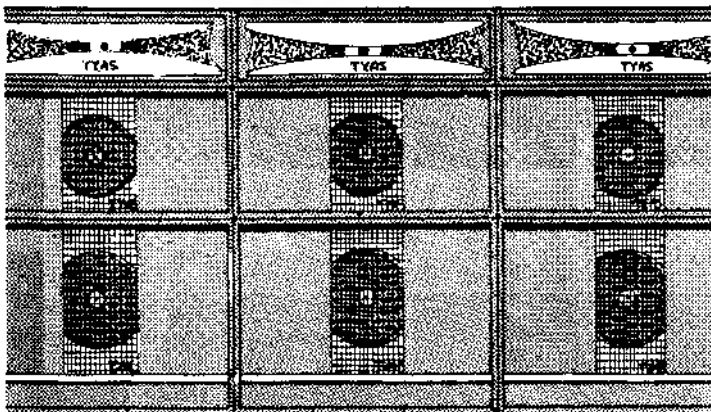
## ZENITH

Zenith Lighting have been in existence for eighteen months, and have worked with bands such as Led Zeppelin, Bad Company, Nazareth, Sparks and Robin Trower. They have a massive range of equipment available including specially-designed 40' trusses capable of taking 64 lanterns each, 24' pneumatic Genie hoists which carry up to 16 lanterns and are built into convenient road-boxes, Rank Strand follow-spots and a range of Rank Strand control consoles. They have two full-time experienced lighting designers and, as well as being able to provide smoke bombs, dry ice machines and other special effects, are also well-versed in backdrops and curtaining. □

## T.Y.A.S.

T.Y.A.S. Hire of Oldham have PA, disco and lighting equipment for hire. They have a choice of six PA rigs available - 125w, 250w, 500w, 1000w, 2000w or 4000w - together with six, eight, 16 or 24 channel mixers, and cabinets with a choice of speakers including Electrovoice, Gauss and Vita-vox. They can also supply up to 40 kilowatts of stage lighting. Dave Tyas: "We build all the equipment ourselves, and every-

# the loud mouths are here



When you hit the road, your right to want the best equipment available. So we've put together a completely compatible Modular P.A. system, to suit all P.A. needs from 200w to 4000w + fold. In addition, to make your show extra special, we are able to offer a complete light show including, Projectors, Kaleidoscope, Strobes and synthesised stage lighting. To maintain the systems inherent flexibility the whole package is backed up by our experienced road crew. So now you know what we can do, give us a ring and let us quote you a price for your P.A. HIRE requirements.

Tyas where you get a great deal, more for your money.

**TYAS** 174 Crossbank Street, Oldham, Lancs.  
Tel: 061-620-7114 & 061-620 8444

# Junkshun

MUSICAL INSTRUMENTS AND AMPLIFICATION

## CASH 'N' CARRY CABS

100 watt 2 x 12 P.A./DISCO	£49 inc.
100 watt 2 x 12 GUITAR	£49 inc.
200 watt 4 x 12 P.A./DISCO	£89 inc.
200 watt 4 x 12 GUITAR	£89 inc.
MINI BINS 1 x 15 100w.P.A./DISCO	£69 inc.
MINI BINS 1 x 15 100w BASS	£89 inc.
BASS BINS 1 x 15 100w	£89 inc.
R.C.F. 100 watt HORNS	£88 inc.
100 watt MAP - ALL PURPOSE	£69 inc.

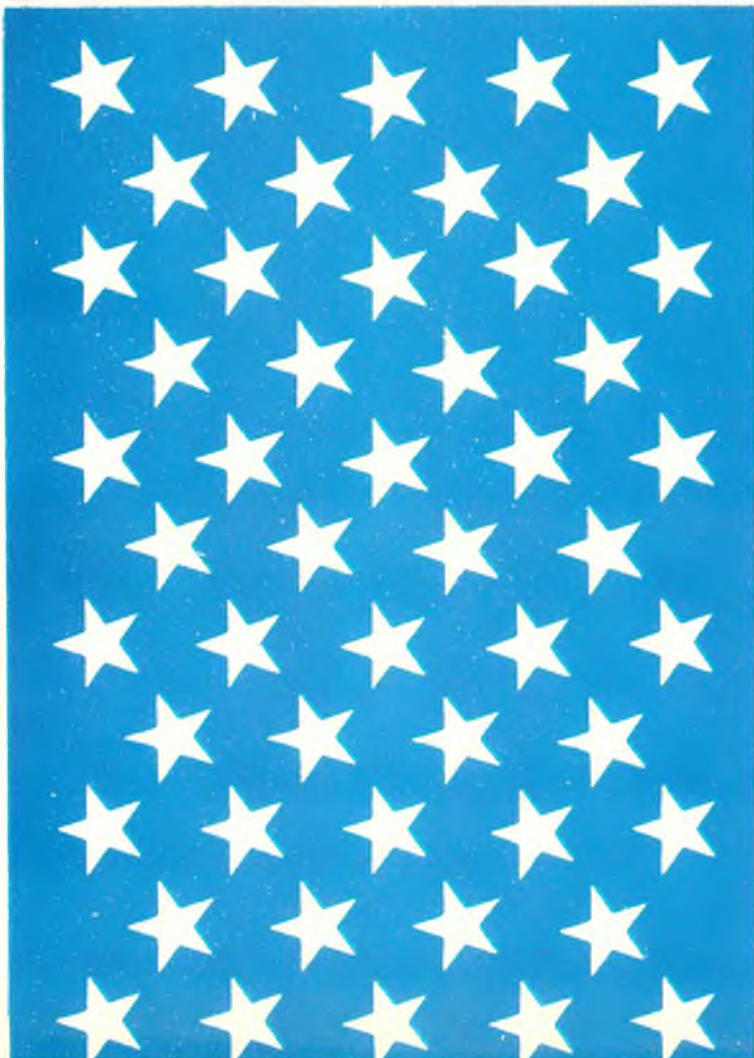
Sturdy attractive cabs with corner pieces handles feet, covered in tough ICI vynide. Kickproof fret.

NEW + USED INSTRUMENTS + AMPS  
DISCO + LIGHTING SALES + HIRE  
P.A. HIRE - MIXERS, SLAVES, BINS, HORNS

152 WELLINBOROUGH ROAD, NORTHAMPTON 34100

# W.M.E.H.

THE AMERICAN EQUIPMENT SPECIALISTS



TELEPHONE  
01 980 1668

TELEX 28905  
REF 204

RADIO TELEPHONE  
4375804  
REF GREY 385

# PRICE SCANNER

Compiled by  
Elaine Cooper

ALL PRICES ARE WITHOUT V.A.T.



T.M.'s Price Scanner aims to be the most comprehensive guide to the retail prices of musical instruments and equipment available.

All our new retail prices are exclusive of V.A.T. and while we have taken exhaustive care to ensure that the prices are correct, we'd be obliged if you could let us know of any alterations, additions or deletions necessary.

Unfortunately we have to disclaim responsibility for any problems arising out of any inaccuracy in this price guide.

## Sound Equipment

### AMEK

#### P' SERIES DESKS

10/1	330.00
10/2	520.00
16/2	750.00

#### MODULAR DESKS

16/2	2054.00
16/4/2	2194.00
20/2	2386.00
20/4/2	2526.00

Includes electronic X/overs

#### In studio format:

10/4	1656.00
16/8 (VU)	2604.00
16/3 (PPM)	2754.00
24/8 (VU)	3258.00
24/3 (PPM)	3418.00

up to 16 track

#### 'M' SERIES

16/8 (VU)	3992.00
16/8 (PPM)	4142.00
16/16 (PPM)	5256.00
24/16 (PPM)	5576.00

P.A. system custom built P.O.A

#### ELECTRONIC X/OVERS

2-way stereo	64.00
3-way stereo	85.00
s/w freq	105.00
9 freq graphic	105.00
S508 pwr. amp. (50+50)	90.00+

### JOHN BIRCH

12" Crescendo	95.00
12" Gauss	108.00
15" Crescendo	140.00
15" Gauss	170.00

### PENETRATOR

12" Crescendo	95.00
12" Gauss	108.00
15" Crescendo	140.00
15" Gauss	170.00

### CANARY MIXERS

B'SERIES MIXERS	
12/1	496.00
12/2	573.00
15/2	697.00
18/2	856.00

#### FREIGHT CASES

12 ch.	31.00
15 ch.	38.75
18 ch.	44.00

#### A' SERIES CUSTOM MIXERS

20/6/2	2850.00
18/8	2900.00
24/2	1700.00

CROSSOVERS	
2 way stereo	68.19
3 way stereo	79.04

### CARLSBRO

VALVE	
60 TC	109.00
100 TC	144.00
60/5 P.A.	123.00
60 P.A. Reverb	137.00
100/7 P.A.	163.00

S/STATE	
Stringray	115.00
Stringray Super	144.00
Stringray Combo	189.00
Stringray Super Combo	217.00
Marlin	153.00
Slave	92.00
Scorpion	96.00

#### SPEAKER UNITS

4 x 12" B.L. 120w	153.00
1 x 18" 100w	107.00
Bass Bin 100w	125.00
Mini Bin 100w	130.00

4 x 10" P.A. 100w Pr	118.00
2 x 12" P.A. 80w Pr	121.00
2 x 12" P.A. 120w Pr	155.00
4 x 12" P.A. 150w Pr	227.00
4 x 12" P.A. 240w Pr	292.00
2 x 12" 1 Horn 80w Pr	157.00
2 x 12" 1 Horn x20w Pr	191.00
Horn Unit (2) Pr.	107.00

CBS/ARBITER	
10/1	330.00
10/2	520.00
16/2	750.00

GUITAR AMPS	
Dual S/ D-130F	612.70
Supr S/ D140F	632.50
Dual S/mn Top only	357.50
Dual S/mn Enc.	292.60
Quad rev JBL	459.80
Super 6 Fen.	443.30
Super 8 JBL	772.20
Vibrotone	410.00
Twin Fen.	393.80
Twin JBL	490.50
B/mas. Fen.	386.10
B/mas JBL	492.80
B/mas Enc	249.70
B/mas Top only	170.50
Super Fen.	339.90
Super JBL	508.20
Pro Fen.	313.15
Vibrolux Fen.	280.70
D/ix Fen.	207.90
Princeton rev Fen.	155.20
Princeton Fen.	115.50
Vibro Champ	68.20
Champ	61.60

### CBS/ARBITER

GUITAR AMPS	
Dual S/ D-130F	612.70
Supr S/ D140F	632.50
Dual S/mn Top only	357.50
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D/ix Fen.	207.90
Princeton rev Fen.	155.20
Princeton Fen.	115.50
Vibro Champ	68.20
Champ	61.60

### ENCLOSURES

CS 7112W	45.00
CS 7215 150w	117.00
CS 7215S 200w	180.00
CS 7215A Altrec	285.00
CS 7115 75w	93.00
CS 7115S 100w	117.00
CS 6115A Altrec	180.00
CS 6112S mini bin	180.00

### AMPLIFIERS

CS 7001 comp. P.A.	820.00
CS 700A PA/Mx 150w	160.50
CS 700B Twin. Rev	77.00
H5 150w	133.50
CS 700C Pwr. Amp	97.50
150w	97.50
CS 700D Combo	183.00
CS 700DS combo	227.50

### ENCLOSURES

CS 7112W	45.00
CS 7215 150w	117.00
CS 7215S 200w	180.00
CS 7215A Altrec	285.00
CS 7115 75w	93.00
CS 7115S 100w	117.00
CS 6115A Altrec	180.00
CS 6112S mini bin	180.00

### AMPS

50w	106.00
100w	140.00
200w	210.00

### AMPS

50w	106.00
100w	140.00
200w	210.00

### BASS AMPS

100 Fen	408.10
100 Top only	231.00
100 Enc. only	217.80
50 Fen.	339.90

### CLEARSTONE

CMI	
2x15 Ld. cab 120w	122.21
2x15 Bs. cab 120w	118.62
2x12 Ld. cab 50w	97.50
1x18 Bs cab. 100w	98.81
4x12 Ld cab 100w	129.00
4x12 Bs cab 100w	129.00

PA CABINETS	
2x10 col. 50w Pr.	100.11
4x10 col. 120w Pr.	142.26

HORN CAB.	
100w cab	81.57
2x12 col. 100w Pr.	158.57
6x10 col. 150w Pr.	127.87

#### SOLID STATE

50w L&B	118.84
100w L&B	127.47
50w PA	116.84
100w Mst. PA	153.50
100w Slv.	111.36
250w Slv.	181.60
6 Ch. Mkr	257.41
50w Combo Amp	173.05

CELESTION SPEAKER	
G12 M25W	15.33
G12 H30W	15.26
G15 M50W	22.98
G18 G100W	41.23
S10 15W	5.49
G15 Twin Cone 50W	25.07

#### MAXIMIN CABS

210 50w	65.16
410 100w	85.39
212 100w	105.62
152 100w Bin	118.87
100w Combo Amp	196.91

BINSON SALES	
SPK R. CABS. VLT. REGS	97.00
30w Col.	166.00
120w Col.	253.50
60w Col.	126.00
100w Col.	215.00
60w Col.	149.00
100w Col.	162.00

P.A. AMPS	
MA100 5 ch./rev.	97.00
100w	138.72
MA100-S 5ch 100w	119.34
S130 sl.amp 120w	89.90

P.A. SPKRS.	
212DC 2x12"100w	92.54
412DC 4x12"col 160w	139.50

### J.T. COPPOCK

ELGEN	
100w Id.	115.27
100w Id.	115.27
100w ster.	127.31
100w ster. slv.	104.52
100w PA	119.90
100w PA slv	80.09
50w G/P	80.09
50w combo w/reverb	159.25
50w bs combo	137.07
fkd. hn. cab. FH10A	194.44
50w bs. combo	165.74
rd. hn. cab. FH100A	189.05
1x15 cab 100w	146.29
4x12 cab.	114.81
4x12 cols. pr.	177.31
2x12 cols. pr.	113.42

### AMPLIFIERS

50w ster	185.75
100w ster	293.60
50w ster trans	281.50
100w ster.trans.	318.75
6 Ch. Mx	210.00
8 Ch. Mx.	234.00
6 Ch. Mx.	223.50
4 Ch. Mx.	187.00
4 Ch. PA Mx	231.00
6 Ch. PA Mx.	262.00
8 Ch. PA Mx.	275.00
100w Slv.	161.00
10 Ch. PA Mx.	635.00
15 Ch. PA Mx.	761.50
100w Comb.	338.50
200w Comb.	393.87
100w Amp & Cab	427.00
200w Amp & Cab	487.50
100w8 Ch.Mx.	518.67
200w8 Ch. Mx.	559.00
100w8 Ch.Mx.	559.04
200w8 Ch.Mx.	886.50

### COMBINATION AMPS

1/2C 100 Twin Rev.	109.00
1/2C 100 Sustain	206.15
75/100w	189.10

INSTRUMENT SPKRS	
412BL.kc bs.org.	155.00
4 x 12" 200w	155.00
Twin ported reflex enclosure. 200w	165.85

### HOHNER

AMPLIFIERS	
GA2	31.81
GA3	35.83
G40R	75.97
GSOR	98.06
GBO126	71.85
GBO158	83.47
Super 50	119.44
1500B	60.19
Phase 100-2	72.00
Super 100	78.90
Model 120-8	89.80
P100 Slave	42.00
P200 Slave	53.00
FAL 50	33.00
FAL 100	55.00
PA 200 Cols.pr	135.00

### F.A.L.

SPEAKERS	
M8 Q8"	3.01
M10 L10"	15.23
M10 N10"	6.81
M12 L12"	15.51
M12 N12"	8.24
M15 D15"	44.07

### WEDGE MONITORS

W12 50 W	55.00
W12BL 100 W	125.00
W15CH 100 W	280.00
W15 RH 200 W	375.00

### HORNS

JBL2420	190.00
H.F. radial	280.00
JBL2482	280.00
M.F. radial	280.00

BINS	
B15 15" 200w GAUSS reflex	145.00
MARTIN 15" 200w GAUSS	199.00

### PE 200A

YS 200	126.20
TA 200A	309.08
YTA 200A	435.28

BASS STACK	
BE 200	108.50
BS 100	261.11
YBA 100	269.61

Gand B'SERIES COMBO AMPS	
GS0112	156.48
G100S212	221.30
G10011B	263.89
G100410	273.14
850115	184.25
8100115	273.15
PM200B	214.81
PS75 pr.	319.17
YPA150	532.99
PS75B pr.	351.85
YPA150B	566.67
PS100 pr.	

## BOSE

Bose 1800 AMP	550.00
Px-800 spkr/eq.	420.00
Px-800 spkr.add-on	360.00
Bose 800 eq.	60.00

## BOOSEY & HAWKES

LANEY AMPN L60	122.45
L100	134.85
L4 12 8100	148.79
L4 12 8120	183.47
L60 PA amp.	122.45
L100 PA amp.	151.85
L2 12 PA50 col.	166.65
L4 12 PA100 cal.	295.18
LV11 reverb. un.	58.33

HAWK AMPN. 9865 5 w.	26.80
9865 15 w.	41.66
9865 25 w.	53.47
9867 50 w.	74.02

AMPEG VT40 80 w.vl.	311.11
VT22 100 w.vl.	364.81
G2 12 120 w. w/s	367.59
G4 10 120 w. w/s	409.26
G4 12 120 w. w/s	436.11
B1 15 120 w. w/s	328.95
B4 10 120 w. w/s	381.48
B15 80 w.vl.	417.59
B15 N 30 w.vl.	311.11
HDSVT. 300 w.vl.	417.59
HDSV4 100 w.	226.67
vlbs.	225.93
HDB25 B 55 w.bs.	289.37
HDA100 w.vl.	277.78
HDV2 60 w.vl.	277.78
HDV6 B 240w.	306.33
s/s	306.33
EXSVT. 240w.	302.78
8*10	311.11
EXB 8 240 w.	483.89
2*15	483.89
EXB25 B 120 w.	156.48
2*15	156.48
EXV4 120 w.	220.37
4*12	220.37
EXV2 120w.	217.59
4*12	217.59
EXV6B. 240 w.	250.93
2*15	250.93
SR6 120 w. PA com.	637.04

AMPEX 1000	108.00
UP200	132.00
UP100 + 100	145.00

AR150	18.50
AR400	37.79
FR150	37.79
HC400	12.29
M253	203.00
1823M	33.50
1823	33.50
1828C	21.50
1828R	21.50
1828T	29.59
1829	34.08
1829T	42.29
PA12	15.59
PA12-45	16.39
PA12P	18.50
PA30A	22.39
PA30A-45	24.00
PA30AT-2	30.39
PA30AT-7	30.39
PA30R	24.19
PA30RT-2	34.09
PA30RT-7	34.09
PA30R-45	24.00
844A	30.99
847A	37.79
848A	56.19
Musicaster IA	72.50
Musicaster IIA	93.50
Supraster	99.00
Eliminator I	259.33
Eliminator II	220.00
Sentry IA	194.44
Sentry IIA	194.44
Sentry III	450.00
Sentry IV AR	414.81
LR2 SA	53.89
LR2 SAT	63.79
LR4B	190.00
LR4SA	96.00
LR4SAT	111.69
EVM12 L	61.50
EVM15 B	69.00
EVM15L	69.00
EVM18B	79.50
L8B	19.89
LS12A	24.39
LS15	29.09
LT8	35.18
LT12	37.52

AC100	62.79
AR150	32.79
AR400	18.50
FR150	37.79
HC400	12.29
M253	203.00
1823M	33.50
1823	33.50
1828C	21.50
1828R	21.50
1828T	29.59
1829	34.08
1829T	42.29
PA12	15.59
PA12-45	16.39
PA12P	18.50
PA30A	22.39
PA30A-45	24.00
PA30AT-2	30.39
PA30AT-7	30.39
PA30R	24.19
PA30RT-2	34.09
PA30RT-7	34.09
PA30R-45	24.00
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LR2 SA	53.89
LR2 SAT	63.79
LR4B	190.00
LR4SA	96.00
LR4SAT	111.69
EVM12 L	61.50
EVM15 B	69.00
EVM15L	69.00
EVM18B	79.50
L8B	19.89
LS12A	24.39
LS15	29.09
LT8	35.18
LT12	37.52

CITRONIC LTD. Stateline II	429.81
Kansas, st.	346.00
Stateline II	346.00
lowe st.	430.00
Stateline II	524.00
Texas, st.	524.00
Stateline II	524.00
Delaware, mono.	230.00

MUSICAL INST. SYS G.32 200W	256.03
GB 36 400W	453.09
BF 36 300W	305.79
B 36 300W	285.89
B 48 400W	408.82
8 36MF 300W	245.59
B 48MF 400W	455.05

SOUND REINFORCEMENT SYS L.48CF 500W	418.25
L.48CFD I.L.48CF with hrm exp. op.	517.77
L.48DF 2000W	1027.84
RMH 1 100W	293.84
M.36 300W	375.00
M.48 600W	430.69
HMF.4 200W	413.31
H.F. 100W	244.09
MLT.4 250W	305.79
PZ.12 35W	181.97

REVOLVING EQUIP. Rev30	186.17
Rev120	429.83
Rev250	645.54
RC1	86.17
C2030 12"spk.	105.90
C2036 15"spk.	111.10
C2038B 15"spk / bass	121.34
PASO	186.87
PA120	293.09
JC60 Jazz chorus amp	233.74
JC120 Jazz chorus amp	317.44

## CABS.

B50 50W	59.50
B60 80W	85.00
B60 80W	92.00
B150 150W	T.B.A.

COMBO AMPS J6 6W	33.00
Tempest 25T 25W	67.00
Tempest 50 T50W	130.00
Sup. Stud. 500 50W	141.00
Sup. Stud. 1000 100W	205.00
Storm 25 25W	62.00
Storm 50 50W	133.00

MIXERS B08 50w	85.00
Clubman 50w	160.00
Mixer 6 100W	310.00
Compact Mixer	125.00

STEREO MIXERS Mer. 12 Echo F	420.00
Mixr. 12 +5	992.00

SLAVES UP100	108.00
UP200	132.00
UP100 + 100	145.00

P.A. SPKR'S VP25 40W	44.80
VP40 40W	53.50
DK45 45W	58.60
DK75 75W	92.50
DK90 90W	115.00
DK120 120W	150.00
DK180 180W	196.00
DK200 200W	T.B.A.

P.A. HORNS 10 100W Bxd. Hn.	110.00
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P.A. BINS Exponential 100W	145.00
Titan 100 100W	164.00
Titan 150 150W	195.00

HORNS 1212FX100W FM	230.59
1212GX200W Gauss	190.74
1315F100W FM Bs.	114.81
1315G200W Gauss Bs	156.48
1317X200W Radial	131.48
1323X200W cell	173.15
1336X400W 15 cell	303.70
1345X200W H.F	104.63

AR150	18.50
AR400	37.79
FR150	37.79
HC400	12.29
M253	203.00
1823M	33.50
1823	33.50
1828C	21.50
1828R	21.50
1828T	29.59
1829	34.08
1829T	42.29
PA12	15.59
PA12-45	16.39
PA12P	18.50
PA30A	22.39
PA30A-45	24.00
PA30AT-2	30.39
PA30AT-7	30.39
PA30R	24.19
PA30RT-2	34.09
PA30RT-7	34.09
PA30R-45	24.00
844A	30.99
847A	37.79
848A	56.19
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Sentry IIA	194.44
Sentry III	450.00
Sentry IV AR	414.81
LR2 SA	53.89
LR2 SAT	63.79
LR4B	190.00
LR4SA	96.00
LR4SAT	111.69
EVM12 L	61.50
EVM15 B	69.00
EVM15L	69.00
EVM18B	79.50
L8B	19.89
LS12A	24.39
LS15	29.09
LT8	35.18
LT12	37.52

NON-MODULAR DESKS. M102 10/2	230.00
M102 B 10/2	400.00
M162 16/2	350.00
M16 B 16/2	550.00
M162 C 16/2	700.00

POWER AMPS: JIC108 S	70.00
IC116 S	70.00
100 W/16 ohms IC204 S	70.00
200 W/8 ohms IC208 S	110.00
200 W/16 ohms IC404 S	160.00
400 W/4 ohms IC402 S	180.00
400 W/2 ohms IC802 S	300.00
800 W/2 ohms	

MILS L15"	28.56
M15 N15"	18.26
M15 O15"	10.56
M600 Horn	8.10
M1200 Horn	27.96

COMBINATION AMPS YTA 15	89.99
YTA 25	99.09
YTA 45	171.81
YTA 95	226.26

COMBINATION BASS AMPS. YBA 45	126.36
YBA 85	214.54

LD STACKS Pb 200A	126.20
TS 100A	196.44
YTA 100A	322.84
Pb 200A	126.20
TS 100A	222.72
YTA 110A	348.93

## FELDON AUDIO

All prices subject to currency adjustment.	
EVENTIDE CLOCKWK. FL 201 Flanger	321.00
DDL 1748A Dgit. Delay Line	2512.00
2826 Omniprs.	325.00

PANDORA A-080-1.80 & 9 m/st. dl-1 e/pt	1450.00
Addtional delay modules	232.00
Additional output modules	261.00

ORTOFON GD701	4928.63
DS5651	1765.00
DS5731	2856.00
DS5732	2620.00
STL732	650.00
CP5691	1645.00
GKS681	370.00
LV1701	252.00
SSJ701	352.00
SM721	327.00
DS681	540.00

PROF. POWER AMPS ID 500 Series	239.00
600W 4 ch P.A. Basic	59.00
Meters	27.00
Cannon connectors	27.00

IC520SERIES 600W 2 channel P.A.	245.00
Basic	35.00
Meters	19.00
Cannon connectors	19.00

GUITAR AMP F500 Series	57.41
RN Tone-boost + overdrive	165.00

MONITOR SPKR / AMP COM. 100W 12" spkr + horn	180.00
150/200W 12" 15" spkr + ar horns (Gauss/JBL/ATC)	from 280.00

P.A. SPKR'S 100W Mini Bin	145.00
1" x 15" spkr + 2 horns;	
200W Mini Bin	242.00
1" x 15" Gauss + 2 horns;	
200W Maxi Bass Bin	216.00
1" x 15" Gauss	
100W H.F. Horn	

JENNINGS AMPS. V.30 30w	163.00
V.30 50w	174.00
V.100 100w	145.00
AP 100 100w	115.00
FR 50 50w	79.00
FR 100 100w	96.00

SPEAKERS B.1 1x18"	95.00
B.2 2x15"	115.00
B.3 1x15"	78.01
B.4 4x12"	135.00
T.50 2x12"	83.00

P.A. 100	148.00
2x12 col./horn	109.00
2x12 col.	90.00

KEMBLE COMBINATION AMPS YTA 15	89.99
YTA 25	99.09
YTA 45	171.81
YTA 95	226.26

COMBINATION BASS AMPS. YBA 45	126.36
YBA 85	214.54

LD STACKS Pb 200A	126.20
TS 100A	196.44
YTA 100A	322.84
Pb 200A	126.20
TS 100A	222.72
YTA 110A	348.93

MILES PLATTING V.50	89.53
V.50 S Spkr.	71.30
V.100	119.38
C.50	160.35
B.50	103.48
PA 50-S PA Spkr.	120.37
PA100	123.15
PA 100S PA Spkr.	199.07

ZENTH CD# SD	23.96
Z3	28.77

## LIVINGSTON

SPEAKER CABINETS 2 ch.	120.00
3ch.	150.00
2 ch.	120.00
2 ch.	120.00
3 ch.	150.00

L.S.E. 101 pwr. amp.	87.00
102 2 ch mix	135.00
2 & pwr. amp.	135.00
105 5 ch mix & pwr. amp.	145.00
4000/M8-oh mix	372.00
8000/M8-oh mix	493.00
8000/Mp mix	130.00
5112 s cab.	94.00
5210 s cab.	34.10
412 s cab.	101.50
110s cab.	32.85

MACINNES AMPS IC150 Console	209.00
D60 60w	180.00
D 150 140w	285.00
DC 300A 500w	465.00
M600 1350w	950.00
M2000 2700w	1900.00
IC60	240.00

SPEAKERS ES212 75w	440.00
IMA Inter-Mod. Dist Analyser	495.00

MM ELECTRONICS Sound Blender 150w	187.50
Slave Amp. 150w	87.50

N.B. AMPLIFICATION Nolan
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Dominator 100 rev transistor 199.07
Dominator 100 stan. 190.56
GX40 77.78
GX100 101.85
AX40 77.78
AX100 101.85
Slave pwr stage 87.98
Bandmixer 129.63
Reverbmsr. 194.44
Audiomstr. 275.93
Pre-mix IV 48.80
Super 40 74.07
Starfinder bs. 87.96
Starfinder twin 15 106.49
Super starfir.200 148.15
Starfinder super80 115.74
Aggressor 120.37
1X12 40.40
1X12/vol. con. 49.60
2x10" 41.60
2x10"/horn 49.60
4x10" 60.19
6x10" diffuser 92.59
8x10" 60.19
Band 2x12" 74.07
Club system 87.96
Band system 87.96
Foot monitor 97.22
Intruder reflex bin 134.26
Vendette sys.MKII 143.52
4x12" A Super 90.74
X39 reflex bin 263.89

WHITE

LW 100 149.00
SL 150 119.00
SL 250 135.20
PA 150 185.00
M50 1x12 mnr. 62.90
PA 50 1-12 PA.cab. 52.00
PAS 1002-12 PA.cab. 82.20
PAS 1004-12 PA.cab. 137.20
LW 200 4-12 gtr.cab. 137.20
LP 1000 1-12 gtr.cab. 129.86
PAS/1154 PA.cab. 238.85
PAR 123 1-12 bin 181.90
PAR 155 1-15 bin 211.15
PAR 152 1-15 fld.hrn. 202.70
H100 E hrn. 162.60
H100 V hrn. 209.10
Iens 327.00
1-18 fld.hrn.bs. 222.00

WING TRAYNOR

COMBOS
YGM-3, 30 90.00
YGM-4, 40 111.00
YGL-3, 30w 198.00
YBA-2B, Bass 30w 90.00
YBA-4, 50w 141.00

AMPs
YBA-1, 50w Bass 89.00
YRM-1, 50w 111.00
YBA-1 A, 100w Bass 120.00
YGL-3 A, 100w 141.00
Monoblock 325 225.00

SPEAKERS
YS-15P, 15" 81.00
YT-15, 2x15" 102.00
YF-10, 4x10" 102.00
YC-8 10x10" 170.74
YC-6 10, 6x10" 129.00
Y-2 12, 2x12" 96.00
YF-12, 4x12" 138.00
YCV-18B, 1x18" 252.00
YCV-15, 2x15" 252.00
YCV-212, 2x12" 159.00

P.A.
YVM-2, 30w 69.00
YVM-3, 30w 90.00
YVM-4, 4ch 158.75
YVM-5, 5ch 179.00
YPM-1, 100w 90.00
MX8, 8 ch 179.00
MX16, 16 ch T.B.A.

W.M.I.

AMPLIFIERS
CM.8 15 69
K.65 27.73

J.T. COPPOCK

ELGAM ELECTRONIC ORGANS
24A 449.37
244C 504.82
237 300.00
237C 361.11
2049C 152.77
249 281.48
249R 326.00
610 249.00
810R 288.14
3049 DL 169.81
3049 DR 238.88
2049 145.37
1049 112.96
1037 87.96

ELGAM ELECTRONIC PIANO

Gypsy 310.18
Portable 184.25

DAVOLI

KEYBOARD & SYNTHESISERS

DYVOLISINT 215.00
Sintacord 250.00

ELKA-ORLA

CHICAGO
37/12 96.66
Chicago 49 100.82
Tiffany 3/6rth 114.77
Tiffany 4/6rth 117.99
Companion P37/12/6 rhy 128.95
Companion P21/6rth 132.09
Companion P37/12/6 rhy & auto bs. acc. 149.38
Companion L5/6 rhy 136.82

CONSOLES

Fantasy 20/37/12/6 rhy 157.22
Fantasy 20/6 rhy 161.97
Fantasy 27/10 rhy 204.44

ELKAPORT. ORGANS

Tornado 4 182.90
T.L. 49 182.90
Capri Junior 191.50
Capri Junior/rev 211.98
X-55 558.58
X-55/rev 754.97

ELKA CONSOLE ORGANS

Minuette 99 372.48
Minuette 99/MT 438.98
Capriccio 11 457.32
Capriccio 11/MT 523.85
Capriccio 11/0 507.01
Capriccio 33 680.14
Capriccio 33/MT 756.70
Capriccio 33/0 839.88
Capriccio 33/OL 939.84

NOTTURNO

Notturno 44/L 806.58
Notturno 44/MTL 873.13
Notturno 44/OL 956.33
Notturno 66/L 1005.78
Notturno 66/OL 1155.90
Notturno 86/MTL 1072.70
Elka Elec. K-brds 209.52
Elkapiano 88/cs+igs 250.32
Elkarhapsody 490 250.32
Elkarhapsody 490 240.18
Elka rhapsody 610/cs+igs 432.80
As above, amplified 493.85
Elkapiano 88/A 662.61
Elkarhapsody 610/A 662.61

ELKARHAPSODY

ELKAPIANO 88/cs+igs 209.52
Elkarhapsody 490 250.32
Elkarhapsody 490 240.18
Elka rhapsody 610/cs+igs 432.80
As above, amplified 493.85
Elkapiano 88/A 662.61
Elkarhapsody 610/A 662.61

FARFISA

Pianofort
Balfour 405.07
Baurmont 520.00
Belgrave 636.92
Baltimore 710.76
Berkeley 996.82
Berestford 1200.00
Buckingham 1433.94

PROFESSIONAL

Duo 973.84
VIP 600 758.46
Pedalboard 101.63
VIP 400 549.23
Pedalboard 101.53
VIP 233 426.15
Pedalboard 41.53
VIP 345 453.84

EKO PORTABLE ELECTRONIC ORGANS
3208 Tiger 228.00
3205 Tiger Mate 280.00
3206 Tiger 61 280.00
3207 Tiger 61 R 319.20
3202 Tiger Duo 340.00
3204 Tiger Duo R 399.20
3212 Tiger Duo A 447.00

EKO CONSOLE ELECTRONIC ORGANS
3026 Cantorum 44A 399.20
3032 Domus 37 (A) 399.20
3034 Domus 44 (A) 479.20
3019 Corale LTS 799.20
3002 Majestic Auto Ct 1196.00
3003 Coliseum e.p 1196.00

LOGAN CONSOLE ELECTRONIC ORGANS
10.022 Weekend 559.20
10.060 Holiday 719.20
10.061 Holiday 940.00

ADD-ON ELECTRONIC KEYBOARDS
10.023 Logan 462.04
Siring Melody 23.24
6639 bongos 23.98
6531 bimbales, 13/14clic 65.80

ELECTRONIC PIANOS
CEP2 Crumar Piano 208.33
CEP3 S Crumar Piano 226.85
CEP72 B Crumar Piano 226.85
403 RWA Balaani 'Modern' Console Organ 204.00

JENNINGS ORGANS

J.70 2 Man.Port. 536.00
J.71 3 Man.Port. 548.00

KEMBLE

YAMAHA K'BDS
B2R 276.00
BK2 412.00
BK4R 490.00
BK4B 524.00
BK5C 600.00
BK5R 678.00
B20BR 988.00
B30R 988.00
CSV1 1040.00
CSV2 1200.00
BK20B 1120.00
D3R 1200.00
D3R (white) 1240.00
DK40A 1578.00
F10AR 2178.00
ESAR 300.00
EX42 750.00

ZILDJIAN BRILLIANT

10" 19.44
13" 25.92
14" 30.56
15" 32.41
16" 34.72
17" 37.04
18" 41.20
19" 48.15
20" 48.15
21" 54.40
22" 54.40
22" 59.26
22" 65.51

ZILDJIAN HI-HAT

13" 44.44
14" 83.70
15" 58.33
16" 62.04

COMBO ORGANS

YC 26D 651.00
YC 45D 1225.00

PORTABLE SYNTHESIZER

SY1/case x Exp. 440.00
ped 130.00
SY2/stand x pedal 480.00

PORTABLE ORGANS

YC45D 651.00
YC25D 1225.00
B.P.1 85.00

LIVINGSTON

Chorist 81 MB 380.00
Minstrel T.B.A. 8.70
Abbey Chapel 590.00
Abbey Chapel/13 Nt pdibrd. 648.00
Abbey Chapel/spkr.cab. 890.00

VOX

String Thing 370.36
Corfs. Elec. Org. 370.18
Elec. piano 175.66

Percussion Instruments

BOOSEY & HAWKES

BEVERLY
Panorama 21 181.15
37 (A) 273.55
Panorama 22 215.05
Panorama 24 145.00
Galaxy 1B 159.45
Galaxy 21 181.89

5005 Snare 28.98
6111 Snare 43.43
6121 Snare 45.37
6130 16x15 37.59
6131 13x9 26.34
6132 12x8 21.71
6136 14x14 34.25
6148 bass 18x15 40.32
6160 20x15 41.02
6162 22x15 43.01
6164 24x15 48.90
6170 20x17 45.69
6172 22x17 50.14
6174 24x17 52.65
6638 bongos 23.24
6739 bongos 23.98
6531 bimbales, 13/14clic 65.80

ZILDJIAN CYMBALS

8" 13.43
10" 16.74
12" 19.91
13" 22.22
14" 26.85
15" 29.17
16" 31.02
17" 33.33
18" 37.95
18" 43.98
19" 40.28
20" 48.98
20" 50.93
20" 50.93
21" 51.85
22" 55.56
22" 62.04

Tom TOMS

1411 12x8" 51.18
1401 13x9" 55.46
1398 14x10" 59.07
1399 15x10" 61.43
1400 15x12" 65.61
1403 14x14" 75.48
1405 15x16" 87.94
1470 18x16" 103.06
1475 20x18" 123.07

BASS (inc. spurs)

323 14x18" 97.14
323 14x20" 114.87
335 14x22" 125.50
306A 14x24" 141.22
314 14x26" 158.00

CONCERT TOMS (inc. stands)

90 Low Pitch 227.39
91 High Pitch 141.02

LATIN AMERICAN PERCUSSION

Prices to be announced.

DAVOLI

RITMO
10 8.14
11 8.79
12 9.53
13 11.85
14 15.00
15 18.20
16 19.05
18 26.65
20 31.94
22 39.35
24 46.29

AXAX HI-HAT CYMBALS

13" 7.13
14" 8.70
15" 10.83

Avante 22" 541.64
24" 547.31
Jazz Rock 2x24" 731.00
Modern Solo 22" 429.06
Pop 22" 428.75
Duet 2x22" 568.95
Mod. Jazz 20" 358.63
San Juan 22" 466.22
Concorde 2x24 928.17

SLINGERLAND DRUMS

4N Joe Castalia 20" 303.32
4N Joe Castalia 22" 345.35
80N Super Rock 22" 380.08
51N Super Rock 24" 417.80
80N Buddy Rich 22" 408.96
80N Buddy Rich 24" 420.37
1N Gene Krupa 20" 309.11
1N Gene Krupa 22" 319.74
80N Avante 22" 425.09
80N Avante 24" 446.25
57N New Rock 24.1 647.13
2R Model Solo 22" 360.00
58N Pop 342.46
14N Duet 22" 487.27
9N Modern Jazz 18" 266.85
9N Modern Jazz 20" 252.84
85N San Juan 22" 354.10
11N Concorde 24" 830.36

SNARE

120 Super Sound King 5x14" Ten Lug 92.37
121 Super Sound King 6 1/2x14" Ten Lug 96.06
Sound King 5x14" 8 Lug 63.03
131 Sound King 6 1/2x14" 8 Lug 64.95
132 Sound King 6 1/2x14" 10 Lug 64.05
133 Sound King 8x14" 10 Lug 67.00
176 Buddy Rich 4x14" 8 Lug 66.12
141 Festival 5x14" 8 Lug 60.82
152 Artist 5x14" 8 Lug 60.93
173 D/lx Concert King 5x14" 10 Lug 86.93
174 D/lx Concert King 6x14" 10 Lug 83.11

BASS DRUMS

1411 12x8" 51.18
1401 13x9" 55.46
1398 14x10" 59.07
1399 15x10" 61.43
1400 15x12" 65.61
1403 14x14" 75.48
1405 15x16" 87.94
1470 18x16" 103.06
1475 20x18" 123.07

CLYMPIC BASS DRUMS

1175 24x15 45.70
1173 22x17 42.30
1163 22x17 45.40
1172 22x17 41.90
1171 20x17 39.20
1161 20x17 43.70
1170 20x15 38.90

TOM-TOMS

1446 16x16 33.20
1445 16x16 hhd 26.80
1435 14x14 31.90
1433 13x8 22.30
1442 12x8 20.90
1441 12x8 hhd 16.60

OUTFITS

860 22" bs. 94.21
80 20" bs. 91.30
862 22" bs. 135.90
82 20" bs. 135.80
B1031 22" bs. 179.19
1031 20" bs. 179.09
B1033 22" bs. 205.50
1033 20" bs. 179.09
B11 20" bs. 238.69
B111 22" bs. 240.30
B202 22" b.d. 346.09
202 20" b.d. 343.90
303 20" b.d. 393.50
8707 22" b.ds. 538.30
707 20" b.ds 534.00
203 Kn. Cir. cym. 433.69

WOOD SHELLS:

31 14x5 37.19
2001 14x6 47.58

PREMIER

TOM-TOMS
446 16x16 44.30
445 14x14 42.20
440 14x10 35.70
444 14x8 32.90
433 13x8 29.90
442 12x8 27.10

ZYN
236 16" 14.90
235 15" 13.50
234 14" 12.00
233 13" 10.10
232 12" 8.60

HEAVY PRS. SUP-ZYN
376 16" 53.50
375 15" 48.80
374 14" 44.60

ZYN CYMBALS
282 22" 16.60
288 5 20" 14.20
280 20" 13.80
268 5 18" 14.20
268 5 18" 12.50
278 18" 12.20
278 18" 8.50
275 15" 7.20
274 14" 12.10
274 14" 6.04
273 13" 10.10
273 13" 5.05
272 12" 3.95

SUPER ZYN CYMBALS
362 22" 40.50
360 5 20" 33.20
360 20" 32.40
358 5 18" 29.00
358 5 18" 28.20
358 18" 24.30
358 16" 44.40
354 16" 40.60
354 14" 20.30
353 13" 18.10
352 12" 16.10

BASS DRUMS
125 24x17 63.90
132 22x17 54.90
130 20x17 52.70
127 18x15 49.00

CLYMPIC BASS DRUMS
1175 24x15 45.70
1173 22x17 42.30
1163 22x17 45.40
1172 22x17 41.90
1171 20x17 39.20
1161 20x17 43.70
1170 20x15 38.90

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1445 16x16 hhd 26.80
1435 14x14 31.90
1433 13x8 22.30
1442 12x8 20.90
1441 12x8 hhd 16.60

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B111 22" bs. 240.30
B202 22" b.d. 346.09
202 20" b.d. 343.90
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202 20" b.d. 343.90
303 20" b.d. 393.50
8707 22" b.ds. 538.30
707 20" b.ds 534.00
203 Kn. Cir. cym. 433.69

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1445 16x16 hhd 26.80
1435 14x14 31.90
1433 13x8 22.30
1442 12x8 20.90
1441 12x8 hhd 16.60

WOOD SHELLS:
31 14x5 37.19
2001 14x6 47.58

Full Dimension 22"N.P.

Phen. Satin 409.26
Vid-F/igs 372.22
Vid-F/igs Satin 398.15
Full Dimension 24" F/igs. 412.04
Full Dimension 24" F/igs.Satin 439.81
N.P.Phen. 386.11
Full Dimension 24" N.P.Satin 413.89
Soundventure 22" Vd-F/igs. 362.78
Soundventure 22" Vd-F/igs.Satin 375.00
Soundventure 22" F/igs. 421.30
Soundventure 22" F/igs.Satin 443.52
Soundventure 22" N.P.Phen. 384.26
Soundventure 22" N.P.Phen.Satin 407.41
Soundventure 24" Vd-F/igs. 362.96
Soundventure 24" Vd-F/igs.Satin 384.26
Soundventure 24" F/igs.Satin 449.07
Soundventure 24" N.P.Phen. 393.53
Soundventure 24" N.P.Phen.Satin 412.04
Rock Kit 24" 333.33
Rock Kit 24" Satin 347.22
Rock Kit 24" 307.00
Rock Kit 24" F/igs. Satin 383.52
Rock Kit 24" N.P.Phen 337.96
Rock Kit 24" N.P.Phen. Satin 372.22
Powermate 22" Vd-F/igs. 283.52
Powermate 22" Vd-F/igs Satin 309.26
Powermate 22" Powermate 22" 242.59
Powermate 22" F/igs. Satin 358.33
Powermate 22" N.P.Phen. 314.81
Powermate 22" N.P.Phen.Satin 330.56
Image-Creator 22" 258.33
Image-Creator 22" Satin 273.15
Image-Creator 22" Vd-F/igs. 258.33
Vd-F/igs.Satin 273.15
Image-Creator 22" F/igs. 288.89
Image-Creator 22" F/igs. Satin 302.78
Dyna-Max 22" 177.78
Dyna-Max 22" Satin 194.44
Thunder King 22" 205.56
Thunder King 22" 222.22

2212 12" T.T. 20.83
2216 16" T.T. 35.11
2213 13" T.T. 23.14
2222 22" Bs. 65.65
8622 5 22" Bs. 83.33

8620 5 20" Bs. 74.07
8612 5 12" T.T. 33.79
8613 5 13" T.T. 35.64
8616 5 16" T.T. 55.56
8622 22" Bs. 74.07
8620 20" Bs. 64.81
8612 12" T.T. 30.09
8613 13" T.T. 32.40
8616 16" T.T. 46.29
8614 14" T.T. 42.69

3014 Met.Shl.Par. 31 01

MIAMI
FT1 25.35
FT2 29.83
FT1 Bs. 32.69

Guitars

Table listing various guitar models and prices, including Yamaha, Fender, and other brands.

Table listing bass guitar models and prices, including Fender, Squier, and other brands.

Table listing acoustic guitar models and prices, including Martin, Taylor, and other brands.

Table listing electric guitar models and prices, including Fender, Gibson, and other brands.

Table listing classical guitar models and prices, including Yamaha, Fender, and other brands.

Table listing guitar accessories and parts, including strings, picks, and amplifiers.

Table listing microphone models and prices, including Shure, Sennheiser, and other brands.

Table listing condenser microphone models and prices, including Neumann, AKG, and other brands.

Table listing various other audio equipment and accessories, including speakers and headphones.

Table listing miscellaneous audio equipment and accessories, including cables and adapters.



<b>DAVOLI</b>	ME 20 T5	39.58	ME 20 Z	41.25
	PA 202	42.69	PA 202 Bass	42.69
	SA 200	40.37	SE 2 B Bass	36.81
	Sup. Les Paul	90.00	SE 2 T	26.81
	mahog. gl.		SG 2 S	37.36
	Sup. Les Paul	101.50	SG 10 B Bass	43.10
	mahog. gl.		SG 22	37.46
	S.G. Type B str.	85.00	SG 20 V	54.03
	Walnut gl.		SG 2000	54.03
	Les Paul Bs.	90.00	SP 1	25.74
	mahog. gl.	90.00	ST 30	51.76
	G.2.Bs.Wal.gl.	90.00	ST 300	65.19
	Jazz bs. Nat. Chr	95.00	TF 200 N	52.31
<b>FLETCHER, COPPOCK &amp; NEWMAN</b>	CONCERTER		SK 614 N	14.77
	SK 614 N	14.77	GK 200	20.28
	WK 599 SH	30.37	WK 599 F	30.65
	WK 599 F	30.65	FK 599	27.15
	FK 599	27.15	FK 299	25.50
	FK 299	25.50		
<b>COLUMBUS ELECT.</b>	N.36 Semi-Acou	39.35		
	N.113 S/Body	36.99		
	N.85 S/Body	44.40		
	N.85 Sumburst	44.40		
	N.54 S/Body	43.47		
	N.66 S/Body Bass	45.32		
	N.77 S/Body Bass	45.32		
	N.82 Bass	46.02		
<b>KIMBARA CLASS.</b>	N.105	22.45		
	N.106	24.54		
	N.169	27.73		
	N.178	30.06		
	N.25	32.27		
	N.39	30.90		
	N.81	41.67		
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R-R-C-Cr

**KEY FOR STUDIO GUIDE**

T Track  
Cap Capacity  
p/h per hour  
p/d per day  
D Dolby  
f Transfer facilities  
R-R Reel to Reel  
CP Copying  
Iba to be advised  
K3 Keyboards avilbe  
R-C Reel to Cassette  
R-Cr Reel to Cartridge  
Dc Disc cutting  
d-t Disc to tape  
G Quad  
OTC Overtime charge  
M Mono  
S Stereo  
fcf fully coated film  
Vs Video Studio  
Ac Accommodation  
ba by arrangement  
SM Session Musicians

## Hire Guide

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# COMPETITION

Here are ten points of PA system design. Select the five points you consider most important, place numbers against them in your order of preference (e.g. if you think low impedance is the most important point of all place a 1 against e) and so on). When you have selected your preferences 1 to 5 tell us in not more than 25 words why you would like to win the PA system. Fill in your name and address and send it to us at:

PA Competition,  
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London WC2E 7PA.

## IMPORTANT POINTS IN PA SYSTEM DESIGN.

- The desk should have jack sockets
- The desk should have XLR sockets
- The speakers should be of the column type
- The speakers should be of the bin and horn type
- The desk inputs should be low impedance
- The slave amps should be of transistor design
- The desk inputs should be high impedance
- The desk should have headphone monitoring facilities
- The desk should be equipped with foldback facilities
- The speaker cabinets should be mounted on castors

Name .....

Address .....

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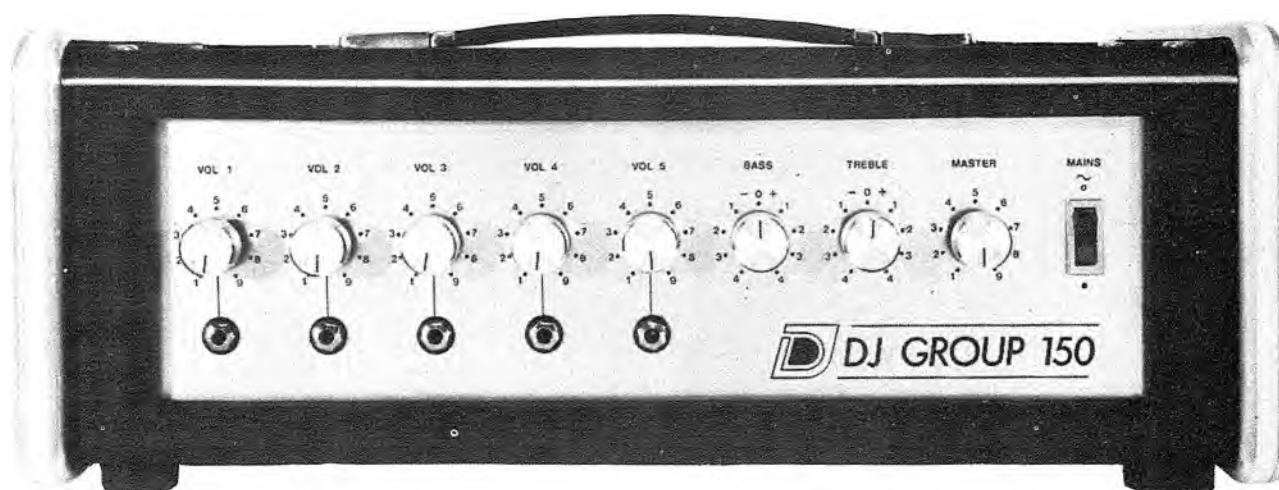
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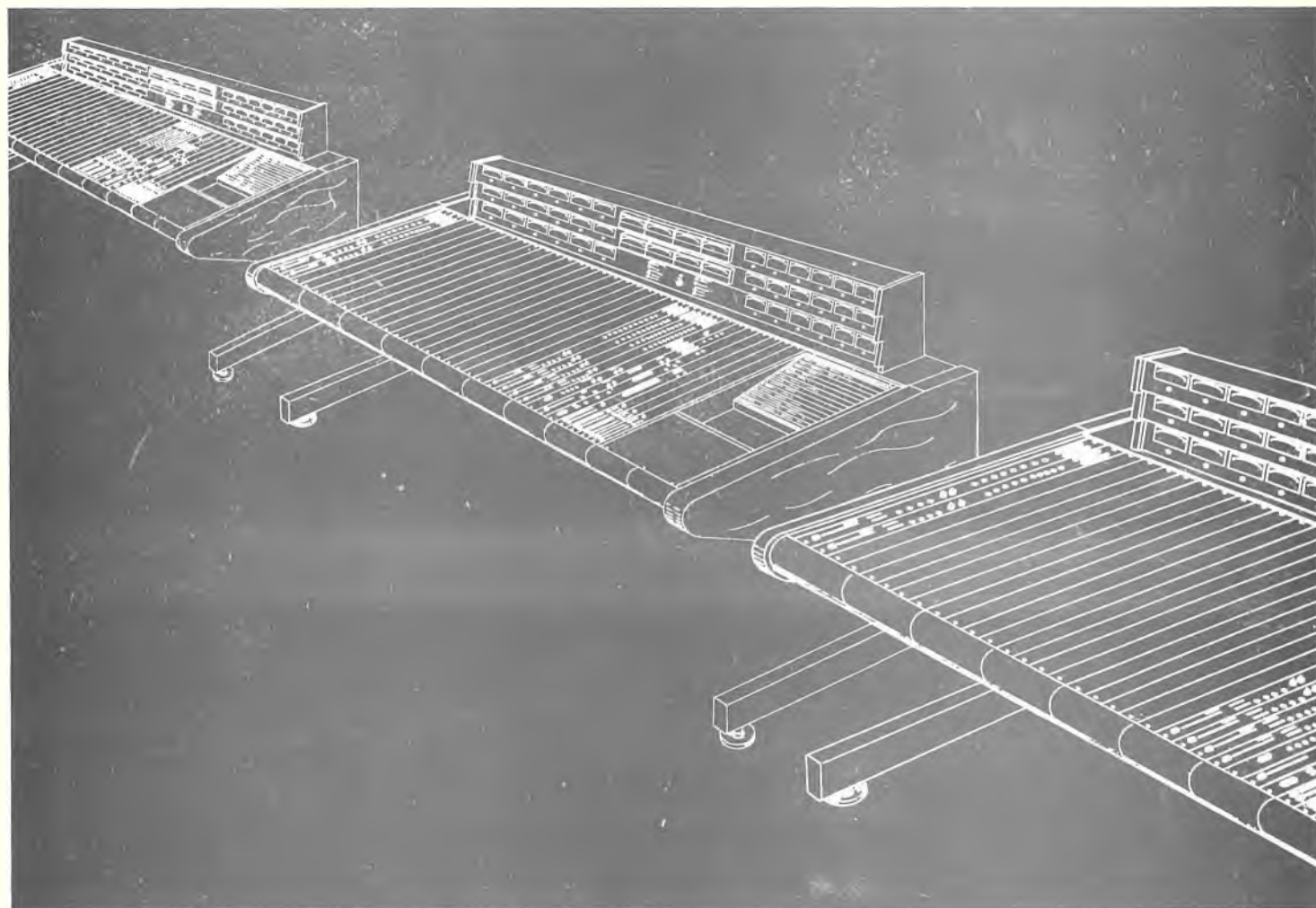
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