# INTERNATIONAL LES STATEMENTS PER PARTICIPAN PRECORDING WORLD JUNE 1975 25p

EXCLUSIVE MOC EMERSON MOC Enterview Interview

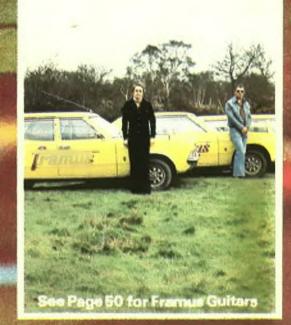
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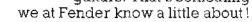
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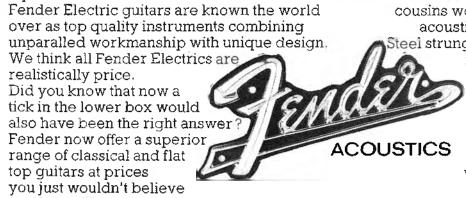
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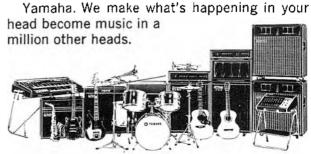


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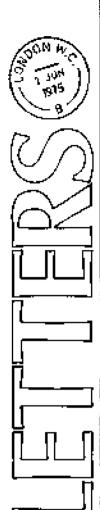
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Sir: I play Fender Rhodes Stage Piano (73 note) and the sound I'm getting from it is useless. The group I play for supplied the piano when I joined them and I think the guy I replaced must have messed with the tone. Is there anything I can do to improve the sound, as it doesn't sound like a Fender?

At first I put the piano through a Custom Sound 100W amp with 4 x 12" speakers and then I decided to change to an SNS 100 cabinet because I heard another Rhodes being played through the same SNS cabinet. But the sound is still no good. Can you suggest on the right amp for the plano to get that real Fender sound.

Dave Barratt, Birmingham.

We think it's unlikely that your choice of amplifier is responsible for the poor sound of the Rhodes piano. It's more likely that someone has tampered with it as you suggest. We spoke to Fender about this problem and the only advice they could give was to take it along to your nearest Fender Soundhouse for an examination.

Sir: I write songs which I like to record at home on my Sanyo tape deck and I recently bought a small battery-powered mixer to mix my guitar and voice before I record it. The problem I'm getting is that there's a lot of hiss on the tape after I use the mixer.

Is this because the two pieces of equipment are not compatible or is there something wrong with the mixer or recorder.

Dick Hentschell. Southend.

Small battery-powered mixers always present a problem when used with reasonable or good quality recording equipment. From what you say we would guess that you've bought a mixer that's really intended for simple PA applications and isn't really good enough for recording.

The hiss you're talking about is described as the "signal to noise" ratio and the level of hiss (or noise) against your singing and playing (the signal) is related to how good the electronics in the mixer are. Battery units are usually best avoided for use with tape and we think that if you're getting good results when you're plugging your mike directly into the tape recorder it's the mixer that's to blame.

Sir: In an album review of the Blueiavs album, you mentioned the "late lamented Ian Matthews". Surely he isn't dead. Whatever happened to him? He is Britain's only really talented country/rock artist.

Mary Iones.

Tintagel, Cornwall.

When we said late lamented we were referring to the fact that lan has quit the British music scene. Last year he went to L.A. and as far as we know he's still in California. He formed Plainsong after Matthews Southern Comfort and despite one brilliant album, In Search Of Amelia Earhart, the British public never really took to the band.

Sir: I wonder if you could give me some straight answers to some questions that I have wondered about for quite a while.

1) In the April edition you did an article on Rory Gallagher who is one of my guitar tutors. He mentioned using a 'Rangemaster' treble boost unit to help with problems of sustain et cetera. As I suffer from similar ailments, could you please tell me what a Rangemaster would cost and whether it would have a similar effect on a customised Burns Black Bison, or is it limited to a Strat?

2) Having seen Robin Trower at Newcastle, I noticed he was using Marshall Top and Fender Dual Showman 2x18' enclosures. Could you please tell me if it would be worth my while to come to London in search of a secondhand Dual Showman and what I could expect to pay?

3) I would like to put matching pair of Strat pick-ups on my Black Bison, Could you tell me how much I could expect to pay for them? Dave Taylor, Durham,

We made some enquiries and hopefully came up with some solutions to your problems. Unfortunately, the Rangemaster treble boost, which was made by Dallas, was discontinued about three years ago. We spoke to the manager of Sound City in London, and he told us that their engineer might be able to build a treble boost unit to your specifications for about £15. He assured us that the unit could be used by a Burns Black Bison. The address of Sound City is 124 Shaftesbury Avenue, London W1, and the telephone number is 01-437-6516.

A Fender Dual Showman comes in two set ups and the difference is significant. In good condition, a Dual Showman fitted with 2 x 15" Jenson Speakers goes for about £150 while the same cabinet fitted with 2 x 15" JBL speakers would go for about £100. As for coming to London, from our experience it would seem that anything second-hand would be more expensive in London, and a speaker cabinet would also have to be brought back to Durham, which might mean additional difficulty and expense. It all depends on how keen you are to get hold of a Dual Showman.

Finally, Clive Blenkhorn at London's Fender Soundhouse told us that Fender pickups retail at £22,35 each, without VAT.

Sir: I have just discovered your excellent magazine and I was particularly interested in your Soundcheck pieces. When I'm thinking about splashing out hundreds of pounds, I like to know what I'm getting for my money.

At the moment I'm contemplating buying an H/H IC 100 reverb combo to amplify my piano and synthesiser. Have you done a Soundcheck on this amp, if so have you a back issue of that test? If you haven't tested this amp I'd be grateful for any comments you have.

Keith Tamsden. Birmingham.

We haven't put any H/H omp through its paces yet. There's an enormous amount of equipment about which noone has ever published the true facts and it's always the problem of choosing which units to test. H/H amps are certainly popular and we hope to publish something on them in the near future.

Sir: Someone recently gave me an old bass guitar without any strings on it and as I've only ever played six string guitar I was keen to start playing bass. The bass is an old Hofner solid and the only problem is that when I put the strings on it the bottom strings, the E and A, sounded out of tune at the top of the finger board.

I suppose the neck may be warped, but is there anything I can do? The strings sound sharp when playing against the same note on the next string up, Douglas Corbridge, Birmingham

The neck on your bass may indeed be warped and on some of the early models there isn't too much you can do about this. By looking down the neck from the head end you should be able to notice any major bending. We think it's more likely that the bridge position has been changed at some time and that the top edge of the bridge is too near the fingerboard. If it can be moved, position the section of the bridge under the bottom strings a little way from the fingerboard and try this check: Play the harmonic at the 12th fret and then play the note at the 12th fret. When the bridge is properly positioned the two will be identical.

Sir: In your recent interview with Brian May he tells how he scours the country looking for AC30 s to link together. I have recently purchased a second AC30 and would like to know how to connect the two together in parallel to produce a greater wattage, I was wondering if you could give me this information.

P. Leighton, Cannock, Staffs.

An AC30 amplifier will only deliver 30 watts no matter how many you link up. Driving one AC30 with another AC30 is easily possible, but the input signal can't be increased above the input sensitivity, therefore the output will be 30 watts. There are a couple of ways you can use the two amps. You can split your guitar lead and feed both amps at the same time effectively giving you twice the output, or you can link the output of the first to the input of the second, also increasing your total volume. For a reliable method of linking the amps see our construction article for a Hum Loop Isolator in our May issue.

## EMERSON/ MOOG



Keith Emerson still reigns as king of the keyboards. Dr. Robert Moog is still king of synthesisers. Together they've formed a superb partnership and here they talk with Ray Hammond in an exclusive interview about Keith's music and Bob's electronics.

I.M. Do you play keyboards every day of your life?

K.E. It varies. I have been playing every morning lately, before breakfast.

I.M. When do you usually play?

K.E. Well, when I was living in Sussex, I would play at all times of the night, and then the disaster happened (Emerson's house burned down in April). Now I'm back to living in London, in a pretty sort of residential area and it really brought me down, actually the first night I moved into the new place because I had a flash of inspiration at three o'clock in the morning, and there was a phone call. It was the people next door, telling me to turn the radio down! They hung up, and the next morning there was another telephone call, and I just went bananas, got my car out of the garage, drove up and down the driveway, blowing my horn full blast just to annoy them. They haven't bothered to complain. Whether or not I play mornings depends if I feel like it, sometimes I have to push myself.

I.M. When you go to the piano, what da you play? Is there something that you always seem to find when you first sit down?

K.E. I usually go over a few things which I think are good exercise, any piece of music. It needn't be something that I would be playing or wanting to play for a concert. There are pieces which I just choose for regular practice — it could be anything, you know ragtime or just anything.

I.M. Do you play much ragtime?

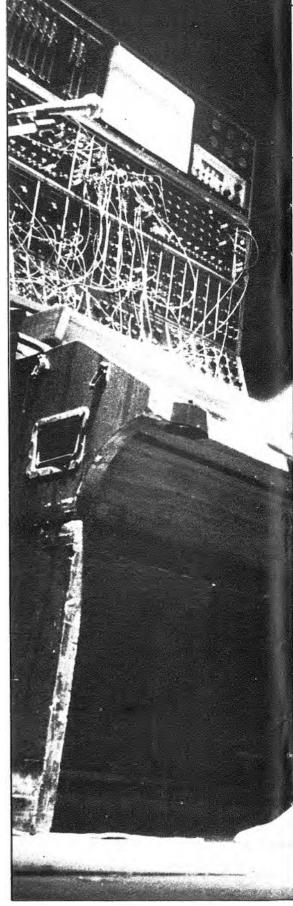
K.E. | like it.

I.M. Do you play it fast, or the way it was written?

K.E. I always play it both ways, really, the Scott Joplin way is meant to be pretty laid-back, but it really sounds good both ways. Scott Joplin reckoned that it ought to be played slowly.

I.M. I always thought it was funny that there was a revival of interest in ragtime when everyone discovered that it could be played slowly. How do you feel about that?

K.E. Well, about the same way I do when you get all the markings on classical music, and they dictate all these rules about which way it should be played. When I did the Brandenburg Concertos with The Nice ages ago, we had a small chamber orchestra in there, and we had to really push them to make them play at the tempo we wanted. At the end, they them-



selves got into a discussion, that perhaps this was the way Bach had really intended them to be played after all, at that particular tempo, I.M. You obviously must have lost a lot of stuff with the house. What kind of piano do you have now?

K, E, I've got a small upright Steinway.

I.M. Does it matter to you what kind of plano you're playing – does it alter your manner of playing?

K.E. Well, if you're at an instrument, the sound that comes from it is going to influence you, but usually I like to get the majority of my ideas away from the keyboard, writing them down on manuscript paper. I found the result



of working that way is a lot more valid. The basis of the idea, the construction of the whole piece of music is formed away from the keyboard. The first initial vibes do come from the instrument.

I.M. Are you trying to escape from the limits that are put down by actually sitting at a keyboard?

K.E. Yeah, if you play a keyboard instrument, you can fall into the trap of playing a figure which you've done before. That way it's done too mechanically, your fingers are used to that sort of reaction, and therefore you do it that way. That's why working away from the instrument is a lot more beneficial because then



you are putting down exactly what is in your head,

I.M. How easy do you find it to get an accurate transcription of what you're hearing in your head on to the staves? Is it usually 100% reliable, or do you find that you then have to take it to the keyboard and check it?

K.E. I usually do check it afterwards, adding the harmonies, and the counterpoint is needed, that usually comes after. It takes a long process of time, I take a long time to convince myself that what I've just done is right. I can mess about with an idea for a year, and possibly in the end think 'Yeah, I like it after all'. I.M. What you're saying in fact is that you are your own worst critic, that you toss things out when you possibly shouldn't?

K.E. Yeah, I could possibly work a lot quicker if I just worked all the way through it. I notice that way with all of us, when Greg writes, he thinks the same way about what he does, we're becoming more critical in our old age! I.M. To what extent do you rely on the opinions of others, not just the band, but on other people in general to judge what you've done? If you produce something you've written, and hold it up to someone and say 'what do you think of that,' how shattering is it to you if they don't like it?

K.E. Well, all musicians have this built in thing about what they do is like the end of everything and, of course, it's shattering to their egos when they hear the other side of things. Sometimes, if you look at it, it's true, other times it's not. Because they bring in all kinds of outside external effects, which just don't mean anything. They're put off by the wrapping paper.

I.M. As a keyboard player, what's the weakest area in your playing?

K.E. Well, there are quite a few, I'll have to think about that. Possibly, being affected by the reaction of the audience, wanting to please them so much that you really push it and it's like blowing your fuse in the end.

I think really to be genuine you have to have a certain disregard for the audience and remain unaffected by them. You play, and they have a certain idolisation for who's up there, and there isn't a musician alive who can say he hasn't been affected by it. The whole thing is to maintain a control, to go on stege completely stone cold. I mean, we play to huge audiences, and you go up there and it's just

like being led up to the guillotine: everybody goes through it.

I.M. Do you get to the point where you hate it? K.E. No, not really, but at the end of some gigs you come off thinking God, how did you get through at all? It's just keeping yourself together — that's half the difficulty, ignoring it, and being true to what you want to put out, without giving way to what they want to do, We do various atmospheric pieces on stage, and you can feel the vibrations from the audience. They feel edgy, especially if we're doing a space sequence, an ethereal piece of music.

This usually makes the audience shuffle in their seats, and they get agitated, and someone might yell out 'Play Lucky Man' or something like that, and ignoring this is something one has to try and achieve.

But we have to have some reaction from the audience, it's up to us to lead the audience into these different corridors that we're going down, and therefore you have to be a little bit oblivious. It does seem a little bit selfshif if the audience knows that's what's going on. I.M. When did you start using a Moog Synthesiser?

K.E. I was using a Hammond organ, not perhaps as the people at Hammond would wish it to be used — producing different kinds of feedback and other things. I came up with quite a few uses for the organ which of the Hammond Organ Company didn't realise. We used to take the organ back to be repaired at the shop in London. They'd been repairing my stuff for ages, but when the television thing came out, they said 'Oh no, we're not touching your stuff any more. Now we see what's happened. You don't respect your instrument, so go someplace else and have it done. We had that sort of reaction.

I.M. How did you first hear about the Moog? K.E. I popped into a record store and the guy behind the counter knew me and he said 'Have you heard this?" And he put on the Walter Carlos album, Switched On Bach, and I thought 'What the hell is this?' There was a picture of it on the cover, and I wasn't too impressed to be honest, it sounded a bit boggy, too heavy sounding, too laboured. Then I heard that Mike Vickers had one of the first modular systems over here, and I went over to see him and I was quite impressed. We were getting ready to do a concert with the Royal Philharmonic Orchestra. We were doing some Charles Ives, a bit of Strauss, stuff like that, and I said 'This is great, can I use it for the concert?' And he said 'Yeah, but I've never really taken this thing out on the road and I don't know how it would hald up. I've gone down to studios to do sessions with some people and I've wired it up before I got there, and it hasn't done the thing I wanted it to. All the things like electricity and lights, they vary a hell of a lot."

So I said 'Well, how can we work this?' And he said 'Well, maybe I can hide behind the thing with some headphones on and white they're playing, I can make the necessary adjustments and tune it' and he was there giving me the thumbs up or the thumbs down, and I could play! And it was literally like that. When we got on the stage, Mike Mickers is hiding from the audience, right down, well hidden with this candle in his hand. That was the first time I even used it, and I thought 'Wow, that's incredible!'

Continued on Page 8

The Nice broke up just after that, and I got hold of Bob (Moog), indirectly through our office in London and I heard that Bob was developing a modular system with a pre-set box which could be used on the stage.

I was waiting for this to come and our office was organising it, and a big package arrived at customs. They brought it back to my house, and ripped open all these parcels, set it all up—and just looked at it in awe. All these leads and wires—it took about two hours to find where we put the plug in! There weren't any instructions that went with it. We looked at it, and plugged things in here and there and we couldn't get a sound out of it at all, I called up Mike Vickers and he rigged up a patching arrangement.

I.M. To what extent did you understand the technique, generating noise from an oscillator? Were you still just finding out about the sound? K.E. I didn't understand exactly where the noise started from, it was as simple as that. Mike Vickers worked on it and set up this patching arrangement, I used that for a bit. We worked with Feldon for a bit, and Dag (Dag Felnar of Feldon Audio) came around. We got it ready eventually, for rehearsals.

I.M. How did the band react to it?

K.E. Invariably, when 1 got the thing set up, it wouldn't work. When you really don't understand that much about it, I mean, it could be anything. It usually turned out to be something pretty stupid, like one switch up, and that can change the whole thing, switch the filtering or the envelope off.

I.M. In the end, how did you come to control this monstor which was unleashed on you? K.E. Well, I've had it for about four years now and I know my way around it.

I.M. How long do you think it took you to really master it?

K.E. Possibly about two years, but even now you still come up with various odds and ends which are a bit undescribable — you can't come up with reasons why it hasn't functioned. Sometimes it's been down to humidity, hasn't it?

R.M. There were one or two instances where a circuit was shorted out because of excessive humidity.

I.M. Is that pretty rare?

K.E. Well, we usually found this if we went to a hall and the temperature went up. Everything could be fine when we went on stage and tuned up, but when we left it there and the audience came in, I'd usually send the roadies out to do a spot check to give me a reading on the instruments. They'd come back, I'd be sitting in the dressing room, biting my finger nails and they'd say 'It's still at four-four, it's doing this.'

I.M. What was it they were checking?

K.E. Usually the frequency, and the line voltage. It got really silly because the rest of the audience would come in and they'd start sweating and the humidity would go up, and just when you came out, you'd get the most bizarre things happening. We'd find the reasons for it afterwards. The pitch would drop off, and I had charts of the whole system, every switch, every knob — even if it wasn't used, I'd mark it. Even after checking that, you'd find that there were things you couldn't explain. When the temperature dropped off, it worked alright.

I.M. Bab, why were the early models more sensitive to this sort of thing than an organ or a solid-state amplifier?

R.M. They wired up the circuit boards inside the modules, they were the circuit boards and tha actual switching mechanisms of the keyboard and the rhythm control. The rhythm control, for example, triggers when you place your finger across a gap between two metal plates, and your finger then closes a circuit. It was possible for sweat or moisture from the air to do the same thing. That was one problem Keith experienced, once in Tokyo and once again in Pennsylvania, where it was just very wet outside and moisture was always condensing.

What Keith was describing earlier, when you let go of the key, the pitch will fly down, could simply be a case of moisture collecting on the key contacts. The circumstances under which the band work were incredibly difficult for any piece of electronic equipment, but especially so for the kind of circuitry that our keyboards and rhythm controller, both of these have a memory. When you let go of the key, it's supposed to remember what the voltage was and hold it so that the note drops off without pitch drop,

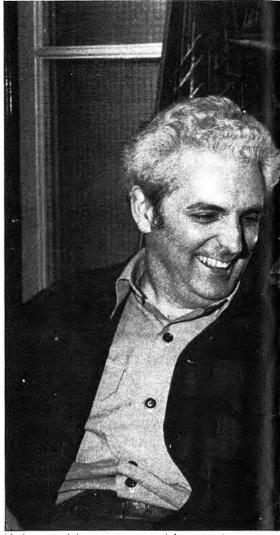
That works by charging a capacitor up at the voltage of a given key when you hit that key, and the capacitor is supposed to retain that voltage. With the least bit of moisture, the charge will be leaked off the capacitor and the voltage will drop. In the ordinary conditions of a studio, or even in a closed concert hall, you would never notice. But under conditions where you are literally playing in a fog, with water all around, you get difficulties with leakage in the current.

I.M. What did you do to improve the system? R.M. Well, we attacked each problem individually. For instance, on the rhythm controller, Keith now has a switch where he can completely disable that triggering strip and use a button instead, because there's simply no way of keeping moisture off a triggering strip if the group is playing when it's raining.

I.M. Does that make a difference in the sound? R.M. No, it's a mechanical means to produce the same effect. There's no advantage, you could make do with the button on its own. I.M. What about the general moisture problem that you have? At any gig, things will tend to be very sweaty, when it's going well and you're working hard. Have you improved the whole of the Moog line as far as moisture penetration goes?

R.M. The rest of the modular equipment is not that sensitive to moisture. The keyboard is because of all the contacts and all the possibilities for leakage — that's a sensitive area and the rhythm's a sensitive area. Both of these are generally active — they're controlling the pitch or the sound. If there is leakage in one, what you hear is a drift in the pitch. The tone source can be stable, but if the controlling device itself drifts, the pitch will drift.

K.E. Before we even approached Bob with the problem I was getting — Bob mentioned the Tokyo incident — this thing was so frequent, but I hadn't found a reason for it. We were playing in Tokyo, and earlier on in the afternoon, I thought, 'Well, I know that a rise in the temperature or humidity alters the function of the instrument.' So I got the roadies to set



this huge modular system up, and I went out there and it was all working well. All of a sudden it started to rain - in fact, there was a typhoon on its way - so we literally put polythene covers on it and ran across the baseball stadium with it and found a little shelter. I still wanted to see how long it would last under the wet conditions. So we sat under this shelter and wired it up and I sat there with these headphones. It was so damp it was like a sauna bath. I got the headphones on and it was doing really silly things. I thought 'Oh. no not again!' We packed it all up and I took it into the dressing room. We tried to get through to Bob's office and we finally realised that it was early in the morning in New York, no way could we get hold of him. We kept the fans in the dressing room going on it. We had this big entry laid on: the idea was that we had three limousines, one each with Emerson, Lake and Palmer on them. I'm in the dressing room, still not ready to go on. Everyone's saying 'Come on, let's get going, get in the limo' and I'm saying 'Leave me alone, I've got to get my instrument going, I don't care about your fancy entrance schemes' Stick anybody else you want in the limousine, they'll think it's me. I want to stay here and get my gear packed up.' So out go the limousines, across the stedium, spotlights on them, a great roar goes up - and I'm still in the dressing room working feverishly to pack it all up, because I think I've got it working, I'm nursing it and we loaded it into this great truck, which is backed into these stairs, and I creep into the truck with the synthesiser and they close the doors. According to the crowd, we're already on stage. The truck starts heading out toward the stage, across the stadium. As it draws away, the back doors fall open, the spotlight falls on me and they suddenly see me and this big cheer goes up! So I improved on the entrance really. The instrument worked when I got it set up, there was no decay or release, so I just out off the bypass into the mixer.



I.M. How did you get Greg and Carl to respond to your problems? They had no way of knowing instantly what the problems were, how did they manage to relate to it?

K.E. When a band's been working together for a long time, you get this ESP thing going. If I crawl through a number, I sort of relate that to a roadie and he goes around to tell Greg to skip the next number, if I can't do it. Or else I do it on another instrument, and he susses right away.

You have to be able to improvise very quickly. It was more of a headache in the early days, mainly because we didn't really understand what was going on. Now, I think we've faced about every problem possible. The early organs had the same problems, and eventually Hammond got so confident that they said 'You can take this organ in the jungles' — I think that was their sales slogan in the end. They've obviously been through the whole thing.

I.M. How has the Moog Synthesiser affected your writing?

K.E. It has opened up a lot of doors, It works in funny ways. You've got an awful lot of facilities at your command, numbers have been created by playing the synthesiser alone. We just finished a rehearsal and everyone was packing things away and I was fiddling around with it — I set up a certain sound and everyone sort of said 'What are you doing?' And I said 'I don't know man, but whatever it is, let's get set up again and get into it.'

The whole art of it is that you can discover things by accident. On things like the mini-Moog, you can discover things quite by accident — a novice can. But it's really up to the guy who uses it — how he uses it is his own choice. I.M. Are you in such command of the instrument that you can find something instantly? K.E. Yeah well, I usually mark it all down and keep a chart for every setting, and a patchwork of the modular system. The variations are endless. I don't need to do that so much

because I know a lot more about the instrument now.

I.M. (To Robert Moog) What effect, if any, has your communication with Keith had upon your building and design development?

R.M. In general, everything we've ever done has been in collaboration with musicians. It's not something you can do out of a formula book or in an ivory tower, there's constant experimentation. Keith was the first guy who really, in a professional and business-like way, took a large modular system on stage and made it work. That synthesiser of his is one of four instruments that we made that were the first pre-set instruments ever. We had no idea what the problems would be on stage, and what would be more convenient than the first arrangement we had. Over the years, Keith has come to us with complaints about what is convenient and what's inconvenient, and some of these things are ridiculously simple. In retrospect it's hard to understand how we overlooked them, getting into the pre-set-up without skinning your knuckles was something we overlooked. We had to devise ways of positioning the guard so that Keith could set the pre-sets up.

The range of pitch which you would want to pre-set and the accuracy with which you would want to pre-set it is something that we didn't know precisely.

Keith went out and developed his own technique for tuning the instrument up with one hand while playing the organ with the other, that was the damnedest thing I'd ever seen, and only at the highest level of professionalism could someone do that, to have the discipline to do it effectively in front of 10,000 people.

I.M. How difficult was it in those days to tune the instrument? Was it fucking difficult? R.M. That would be a good way of putting it. In addition to having an early pre-set box. Keith had our early oscillators too, which, although they were tunable, had to be retuned every time the temperature changed. Once again, in the studio, that was not a problem — especially in an air conditioned studio, But my God, when you're working outside, after dark when the temperature goes down by 20 degrees.....

K.E. You could draw a graph, plotting temperature against frequency.

R.M. Right. That very practical, prosaic thing of building an instrument that would stay in tune when the sun went in and out, was something that never occurred to us when we were working in a laboratory.

I don't want to take away any of the magic of the technology, but really the things that Keith brought to us out of his experience were very prosaic things. You'd be surprised how easy it is to miss these things when you're working in a laboratory.

As far as musical things go, we've constantly added to Keith's system. When we began, it was one cabinet with a pre-set box on it and now it's three cabinets. Every time we added something, it was Keith's suggestions, and after we added it, one of us from the company would work with Keith to get some patches that would do different things. Some of the really big associations that people have with synthesisers today are things that Keith pulled out of that modular set-up.

From 'Lucky Man' on up, that fantastic, gliding, driving, melody line, the way he used the sequencer or the C, F, G, that triad played on the keyboard. I think Keith was the first one to show what we totally believed was there, and that was the ability to get new tone colours out of things other than just octaves. I.M. Keith, to what extent has it taken you outside the normal chromatic scale?

K.E. As a musician, you have a totally new and different way of thinking about music. You can programme it to produce all sorts of scales, I.M. Have you worked with any deliberate intention of breaking into new scales?

K.E. No, not deliberately.

I.M. What I'm getting at is the extent to which this has forced you to revalue your own musical training.

K.E. I don't understand your question.

I.M. Has it made you feel that your basic training is now of less value to you than it was? Has the synthesiser forced you to break any of the rules you were taught?

K.E. Yes, I'm sure it has, I'm not really sure how to express it in words. If you're orchest-rating a piece of music, like this whole trip for musicians, I'm not that adept at total orchestration and so I work at it.

To your ear it works, but written down ... I've discussed this with classical musicians as well, who've seen my stuff written down on paper and they've said "It can't really work," and I've said But it does work, you can hear it, it does work.

I.M. What Is it about the synthesiser that makes it work?

K.E. Well, there we get into the mathematics involved in music. To put it simply . . . I started learning the piano and my piano teacher said to me 'You can't play a C and a C sharp together, it's a dischord.' But it depends, a C and a C sharp can sound good, but under what conditions? She was looking at it on the mathematical level: it's wrong, so you can't do it.

There's a fine degree here between the instrument and the player... a lot of people are worried about instruments taking over, you know, computerised instruments, which is probably where your question is leading to, it can work out. People have already started designing equipment which can write and compose, It's really a matter of who is leading who ... all I can say is that I know what sounds right and I got after it.

R,M. The synthesiser doesn't force anything. It's a tool, an instrument which you play. One big difference between it and most other acoustic instruments is that while most other acoustic instruments have a fixed way of working, a fixed set of sounds, a fixed set of pitches and they're optimised generally for 12 tones to the octave, the synthesiser doesn't have that limitation. It's possible to change scales to construct tone chords that just don't exist in most acoustic instruments.

This becomes useful to a musician only after he has absorbed the nature of the synthesiser into his technique so that it becomes part of his nature. He can stop thinking about what he's doing on a mathematical or professional level and just explore; the same way that a guitar player will pull strings without it being mathematically precise . . . the way a sculpture will push clay around . . . it's intuitive. It only happens after the musician has control over his instrument and what that means is they feel what's happening, without thinking about it, without going by the rules.

I.M. Do you feel synthesiser music as much as plano music?

K.E. Oh absolutely. Once you really know your way around the instrument, things are very easily accessible. When you write things down on manuscript paper, they might not look right, but working them out on the synthesiser broadens your musical mind to various tonal blendings, wave shapes. It's helped me understand a lot more about orchestration in its traditional sense — scoring the clarinet, for instance.

It's all created electronically and it's all there at your disposal. If you are concerned about orchestration, you can stop thinking about a clarinet as a clarinet, you don't think about its shape, only about its wave shape; the way it shows on the instrument. You can experiment with various blendings of wave shapes and produce a total blending of sounds. I.M. Do you think in wave shapes?

K.E. I didn't used to but I do now, it's taken me time to work up to that,

I.M. Can you tell now which shapes will work with which shape?

K.E. They can all work, they're all possible. It depends on what you're working on at that particular time. If you're using it at the lower end, for bass, a lot of things can throw the bass that much farther into the audience, just the wave shape makes a difference. It's not until you experiment with it that you realise that this particular bass sound travels that much farther, but then it's down to dynamics.

R.M. It balances among all the overtones. We've created a bass sound with tremendous punch; exaggerated or shaped to just about anything you want,

I.M. (to (K.E.) Is there anything that you now want extra on your Moog, any extra facilities, anything new? Or haven't you finished exploring the possibilities of what you have?

K.E. Well, one can go on exploring, but what we've been working on is making the modules I have a lot more controllable by pre-setting, I feel that my job with the synthesiser is obviously O.K. in the studio. They do wonders with it in recording studios. I'm very concerned with taking it on the road and playing it in a performance, I want to get as much as possible out of it. My large modular system has everything going for it. But with as much gymnastics as I've been performing with it; swopping leads over, etc, it makes it a risky business on stage.

While you're playing you have to tune up, it's hair-raising but I bring it on myself. I've been to Buffalo and I always approach Bob with all my problems and he finds a way around them. He's redesigned my pre-set box, which will give me more possibilities, with basically the same system I've had. The modules are the same, but more of them are arranged on presets.

! just want to show the people all the possibilities that one can get out of this, under spontaneous conditions. Given the time, working in a studio you can go through the whole range of ideas, When you work in a studio you can put endless overdubs on it. The one thing that stops me doing it is whether I can do it on stage or not. Whatever I put on record, whether it requires an overdub or not, I still have to be able to reproduce it on stage even if I do it in a different way.

I.M. Have you ever used tapes on stage?

K.E. Yes, but it kind of restricted Carl, because he was the one who had to play to the true rhythm so that he could keep along with the tape. Occasionally the tape would fuck up or he couldn't hear it through the headphones and of course the band would be playing merrily along to Carl, who's listening to the master thing, and if he didn't hear anything he'd probably stop playing. So for us it was a bit chaptic.

I.M. Did you ever get it on stage?

K.E. It worked out a few times but generally it was a bit too risky,

I.M. Do you feel that the synthesiser is going to take you away from more conventional keyboards?

K.E. No, not for me, because I always go back to the instrument which I learned on. I'm still a bit conservative in my way of thinking. The synthesiser broadens your mind, but you can relate to it, you can still lay it the same way as a piano. Of course you have to know how to set it up.

I.M. (to R.M.) What about polyphonic? Do you think this will cause a great new revival?

R.M. Synthesisers up until now have been monophonic instruments. Sure, some things are called polyphonic but they're not really. I think the monophonic synthesisers that we've had up until now have really changed the way that musicians think about solo artists. They've really opened musicians' ears up. I think we can expect the same sort of thing to happen with respect to chord playing and polyphonic playing when the polyphonic synthesiser comes out. Polyphonic instruments and monophonic instruments are two different things, making a melody or a single texture. It's different from playing chords, from playing two hands. The polyphonic synthesiser that we will be coming out with later this year will actually have a separate little synthesiser on each keyboard. That's only a technical description of what it has. Musically it will produce a range of tone chords that begin with organ-like, plano-like, and string section-like voices and using synthesiser techniques will stretch and expand those areas of sound into things that none of us have heard yet.

The reason that none of us have heard these sounds is that it takes a musician to listen to what the capabilities are and shake them into music. Until you do that you don't know whether you have a musical instrument or not. So what we're looking forward to is the discovery of the new capabilities of this polyphonic instrument by musicians and especially by Keith. As far as we're concerned that's where the real creativity is going to come, I.M. So has Keith got to start working all over again?

R.M. He won't have to throw out what he's learned, this will be in addition.

K.E. The prototype which I took on the road, was the very first one, held together by chewing gum and elastic bands. We were very dependent on that, and because it was a prototype on occasion it wasn't functioning, so we'd have to drop that number because nothing else



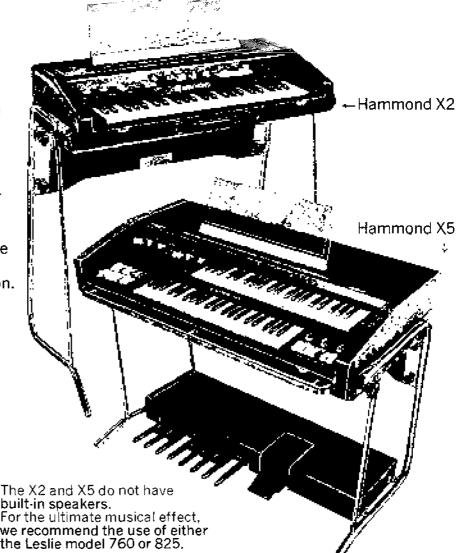
would substitute. If we'd done it originally on a conventional instrument like a piano, the number would have had a different direction. It would have gone a different way. It would turn out in a similar way but not that way. We used the polyphonic on 'Benny the Bouncer'. It could have been done on a conventional keyboard instrument but it would have gone a different way. It was right for that instrument and it was right every time we played it. I'm trying to create the same sort of effect as a conventional instrument through other means, On this new polyphonic you've got two oscillators. I've tried to produce thirds effect of an acoustic piano. You know how you get what I call a 'honky tonk' effect, you know, between strings. Well, I'm working on doing this with a conventional piano. When the polyphonic comes along it will be able to do this, plus a hell of a lot of other things.

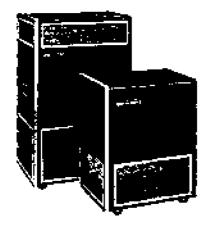
# Hannond portables movable assets

No more need to put up with 'Second best'. Here are two portable organs with genuine 'Hammond Sound' which means good news for the organist 'on-the-move'.

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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### IMPROVING A COPY GUITAR

We gave guitar maker and repairer Stephen Delft an Antoria Les Paul copy and asked him to Improve it as far as possible. This is part two of his report.



Before changes

In this part I shall discuss some of the ways in which you can improve the performance and/or reliability of electrics inside your guitar. Let us first deal with problems of reliability.

Faulty electrics in guitars may be caused by bad design, corrosion of contacts, poor quality components, or simply wear and tear over a period of time. I do not intend to separate which causes what; all you want to know is what you can do to minimise the chance of troubles occurring, so let us start with DUST. Many guitars spend their whole lives with the electronics compartments full of a mixture of sawdust and polishing compound, left behind when they were first made. You do not need any technical ability to remove all cover plates and clean all the cavities in the instrument with a SOFT brush and a vacuum cleaner. Dust can get inside volume controls and switches and make them crackle long before they are worn out.

The next thing you can do while you are inside is to gently clean any exposed switch contacts with one of the strips of impregnated pink card, distributed by Electrolube or R.S. Components. (Ask your local radio/T.V. shop). This also applies to the contacts and inside hole of jack sockets. There is an exception to this rule -- if your guitar has a selector switch which works on the Fender principle. with a long, pivoted switch arm, operating a roundish flat plastic disc with connections round the edge, this sort is better left alone unless definitely noisy, as its contact springs are easily put out of alignment. You could apply a little Electronic Switch Lubricating Oil on a needle but ONLY IF IT STATES "SAFE FOR USE ON PLASTICS". If it seems strange to be cleaning perfectly O.K. switches, remember that switch oils and cleaner cards also have a preservative action against atmospheric corrosion. The other thing which will protect contacts against the sulphurous mixture we use for air in cities is a piece of old-fashioned MOTH BALL, clipped into each cavity. Remember to fasten it down firmly - if it gets loose, it may do more harm than good. It is possible to find dirty switches, even on new guitars: and it is always worth cleaning them before considering replacement.

Another thing worth checking is the fixing nuts on any controls. Apart from being inconvenient, loose controls put more strain on the wires and components connected to them.

Poor or unsuitable components generally make themselves known by faulty operation after some time. The cure is obvious, and the difference in cost between good and mediocre replacements is negligible compared with the cost in time of taking things apart to *make* the replacement. Always use the best quality spares



After changing capacitor and 'pot' on lower part of circuit,

you can get, but be aware that some very good volume controls are stiff to turn and may make "Violining" almost impossible.

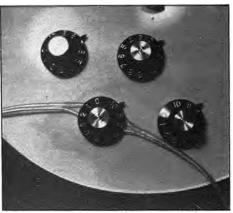
There remains the subject of bad (or just lazy) design. Certain problems frequently occur in new electric guitars and the most common of all are tone controls which are almost like switches, and do nothing between 3 and 10, and volume controls which interact with each other and with the tone controls.

The tone control problem rarely occurs with Fender-type guitars, but as a matter of taste, you may wish to try varying the usual 0.1 tone control capacitor to 0.05, 0.22 or even 0.1. As the value is reduced, the tone control becomes less a balancer of treble against bass and more a modifier of the tone of the top two strings.

Generally, funny tone controls occur on Gibson-type guitars with humbucking pick-ups. Most of these are fitted with 500K log 'pots' for volume and tone, (or worse still Lin pots). I believe that if the first half of a tone control does nothing, you may as well throw away that half, and spread the remainder over the whole dial. This is done by replacing the I.C. controls ONLY with 250K LOG pots, Also use the opportunity to check whether the capacitors are between 0.01 and 0.05. (Yes this is up to 10 times smaller than the recommended values for Fenders, Read the noughts carefully), My preference is 0.02 for real Gibson humbuckers. and 0.01 for most copies. It varies because of a complex relationship between pick-up and tone control, and for this reason, I recommend that tone controls should generally come before volume controls in a conventional 2-tone/2vol

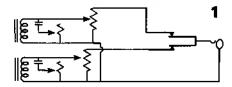
The problem of interacting volume controls is one which can only be perfectly resolved by either putting a pre-amp inside the guitar body (or using a 'Stereo' lead and doing the mixing in the two channels of your guitar amp), or by accepting a lower output from the guitar. Guitar pre-amps are becoming distinctly fashionable, if only because they give a measure of immunity to interference from theatre lighting (later in the article, I'll describe a device of my own design which solves the problem neatly) and 'stereo' conversion (which only approaches stereo, if you use two separate amps) will be covered in a subsequent article. It is, incidentally, so absurdly simple that I find it hard to justify the extra price asked for this facility on a new guitar or bass.

There are two accepted comprises over this problem. The first, used on most Gibsons and similar copies, is to accept the fact that, with both pick-ups on, if either volume is turned below about 3, it begins to affect the output of the other pick-up as well. It also affects the

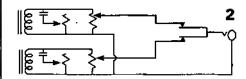


Removing difficult knobs.

other pick-up's tone control. Strangely, I find that if a guitar with a famous name acts like this, it is accepted, on the grounds that one does not use the volume set as low as 3 because it affects the "tone". However, if one of my own guitars has the same behaviour, it is instantly noticed, and bitter complaints follow — an interesting state of affairs indeed. Strats and Tele's do not suffer from volume interaction because there is only one volume control. A circuit for the first compromise is shown in Dia. 1.



The second compromise is shown in dia. 2 (a conversion from type one to type two is shown in dia. 2). Here you will see that the 'in' and 'out' of the volume pots are reversed. The control still operates in the same direction (and for the technically minded, forms an unbalanced T-attenuator with the internal impedance of the pick-ups).

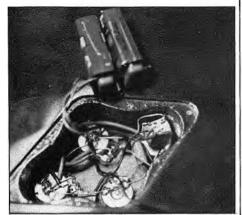


With the type 2 circuit, the volume controls are largely independent of each other, but low volume settings may seriously affect the tone on the *same* pick-up, and at high volume settings, *both* tone controls affect *both* pick-ups. Yer pays yer money and yer takes yer choice.

For reasons I have already explained, some makers of 'one-offs' prefer to use circuit two, but I feel type two is the lesser evil. However, both circuits suffer from an interaction between guitar and amp, which causes a change in tone between (say) volume 10 and volume 8.

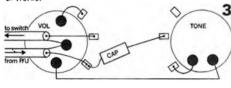
The difference in tone is small enough to be compensated for by most amp tone controls: the problem is that the tone varies, and by an amount which depends on the particular amp in use at the time — hardly a satisfactory situation.

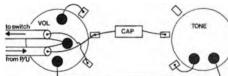
The problem arises because most pick-ups work best when they "see" a certain value of load resistance connected to them. This is called the Optimum Load, and is tolerant of small variations, depending on how you like your tone.



Electronic device in position.

It appears that most standard (high impedance) pick-ups are happy with a load between 150K and 500K. If that sounds confusing, all will be explained in future articles.

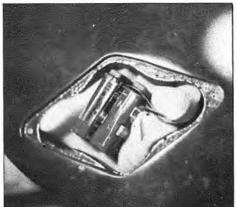




With either system, when a volume control is on full, the pick-up sees a load which is a little lower than the "input Impedance" of the amp. (You may think of this as an imaginary resistor across the amp's input jack) and this resistor may easily be as low as 33K—considerably lower than the recommended 150K minimum. I mentioned abov

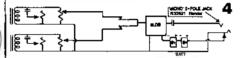
The device I mentioned above runs off two small batteries, is small enough to fit in most guitars without modification, and which gets between the guitar and the amp and ensures that the pick-up never sees a load less than 150 150K. It does this without lowering the output, by drawing a little power from the batteries (2 milliamps) to make up any losses. This device should be used with the type one circuit (dia. 4)

Its second advantage is that the output to the amp is at a relatively low impedance, which means you can use really long leads without

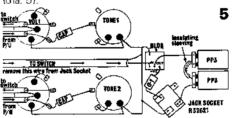


Batteries in position on foam packing.

the usual loss of treble, the leads don't crackle, and you are less likely to pick up interference from mains or lighting cables. The only component not included within the device is an output coupling capacitor, which for most purposes need not be larger than 0.1 microfarad, but some cheaper effects pedals may require you to fit a larger one of about 1 or 2 microfarad (as used in last month's hum loop isolator) if you lose a lot of bass. In either case, the capacitor should be a non-electrolytic type, rated at 30 volts or more.



I have used a Rendar one make/one break Mono Jack Socket Type No. R 32621 (available in small quantities from Rendar Instruments Ltd., Burgess Hill, Sussex, for 29p each inclusive of tax and post) to switch on the batteries when the guitar lead is inserted, but you could use a different switched socket or a separate switch. Remember that the battery Positive (plus) goes to the 'Earth' connection (dia. 5).



Finally, a few hints on tools. To change controls, you must first remove the control



Examples of tone pots with long and short threaded fixing bushes.

Also note plain and splined spindles.

knobs. These come in three varieties: those held on by a grub screw, or collett fixing under a centre cap, those which pull off, and those which should pull off but don't. For these you use a piece of twin figure-8 mains flex, split in the centre just enough to slip under the knob each side, Hold both ends and the guitar and pull.

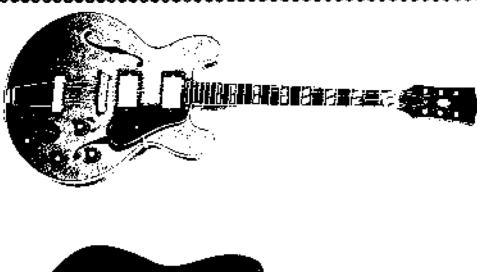
The simplest way of getting replacement pots which will fit push-on guitar knobs is to buy spares for American quitars, It is also the most expensive way! Take care that the pots you buy have a long enough threaded fixing bush for your guitar. (Some are meant for fixing to a thin plastic panel only — for a pot fitted from the back you may need 9 or 10mm of thread). You may have difficulty obtaining 250K pots with long threads. The other solutions are used to pots with round or D-shaped spindles and either fit new screwfixing knobs, or drill out the originals and glue them on. By the time the pot wears out, the knob is generally worn out too. You cannot solder to the case of most English pots without filing RIGHT DOWN TO THE STEEL INSIDE FIRST, and you will need a minimum 25 wattiron.

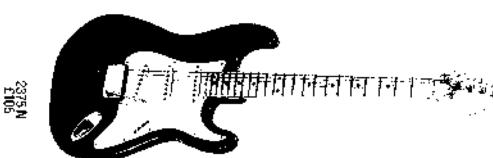
Tweezers and non-melt silicone rubber sleeving are useful aids in confined spaces. Take care not to burn the guitar body or other wires when soldering and don't drop solder on the back of the guitar. Tubular spanners are the safest way of dealing with control fixing nuts. Pliers tend to slip and gouge the guitar top.

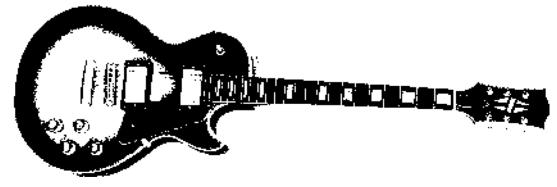
Draper no. 5225 10/11mm, also 5/16" and 1/4" Whit hexagonal, and 1/2" A/F. These fit most nuts.

I believe this is the first ever article on a do-it-yourself basis covering electronics fitted to standard guitars. I hope to keep you in touch with further developments in this field.











#### Doobie Brothers: Stampede. Warner Brothers K56094.

The standard of the best American rock and roll bands is so far above young British bands (in general) it's a crime. There's light years of difference between this band and, for instance, Horslips whose album is reviewed elsewhere on this page. Everything on this album is so tight it's breathtaking. The band understands the dynamics that have to exist between a vocal line and the backing and at times the lines are so closely integrated that they fuse to form a very close sound indeed. The Doobies are one of the best bands in America today and this album is an outstanding example of their work. Because the band sounds so integrated, it's difficult to pick out individuals. Suffice to say that on one track an acoustic solo is frighteningly good, on another the bass player and keyboard player work so closely together the drummer is free to find rhythmic cross patterns usually way beyond what is possible with strict time-keeping limitations. The material is excellent, If the Doobles have failed to make a big impact on the U.K. single charts it's because they make no concessions to formulas but prefer to rely on sheer togetherness to make people listen to them. Produced by Ted Templeman, engineered by Donn Landee. Ray Hammond

#### Alan Price: Metropolitan Man: Polydor 2442 133.

Despite himself, this album will confirm Alan Price as a superstar. Not that he will allow it, of course, but there's little he can do to prevent it with an album this fine. He states his feelings very clearly on side one of this album: "Yes, there've been some, who've tried in vain, to preserve just what was left of their brain." More than anything else Alan Price is not after "Fool's Gold", but his music is so fine it makes us fools want to give it to him. If you'll be content to listen to amazingly good songs in the privacy of your own home without forcing adulation on the Jarrow lad then buy this album. Price's ability to write fresh melody lines laced with lyrics about real things is unique and, one can't help feeling, a little delicate. Despite the aura of toughness that he gives out, it's not hard to believe that it's only by a superhuman effort that Alan Price manages to hold the sycophants at bay and keep a close grip on his own reality that is the greatest spur to his writing. He sounds as if he enjoyed making the album which is comforting and you'll enjoy listening too. Produced by Keith Grant and Alan Price, assistant engineer David Hamilton-Smith. Ray Hammond,



#### Horslips: The Unfortunate Cup Of Tea. RCA SF8432.

This is a band who've been strucgling for a long time to get an album down that will release them from the second league. Unfortunately, I don't think this is it. The main problem is the quality of the song writing. When the songs get to the stage of rehearsal within the band some fine ideas come out and the use of instruments for colour rather than sound fillers is particularly appealing. But the songs in themselves lack commanding melody lines and compelling rhythms and that makes all arrangement work a little superfluous. It's a fault that is common to many fine bands now. The necessity imposed on them to create their own material often means that a bunch of fine musicians produce material far below their musical capabilities in an effort to be fashionable. The recording of this album is a There's a fair amount of little poor. background hiss where there shouldn't be any and the fade on the second track of side one, "Ring-A-Rosy", is the worst I've ever heard. On the same track the fiddle is out of tune. The vocals are uninspired throughout and they're kept company by the lyrical content. Horslips prove they can get it on as a band night after night all over the country and it's a shame that they can't find a better album than this I find the spasmodic use of the synthesiser particularly annoying as if it's tossed in because there seemed to be a hole in the arrangement when mixing came round. Some of the keyboard playing by Jim Lockhart deserves credit, but we'll have to wait for better from the band. Recorded at Rockfield, cut at Apple, engineered and produced by Fritz Fryer, Ray Hammond.

#### Marcel Dadi: The Guitar of Marchel Dadi. 2 LP set, Transatlantic TRA (D) 294.

Full credit should be given to Transatlantic for trying to expose French guitarist Marcel Dadi to British audiences. This is not a double album, it is two albums packaged together by Transatlantic and it is intended to serve as an introduction to Marcel. He's a quitarist who claims Chet Atkins as his biggest hero. It's peculiar that only Britain and the U.S. have managed to throw up guitar super heros (perhaps with the exception of Jan Akkerman). but France certainly has something to offer judging by these albums. The Chet Atkins' influence is very great and at times Marcel just sounds like a pale imitator but then he adds a pull on a string that Chet would never do and it's very different. Unfortunately, much of his work is skilled but uninspired. He's a bloody fine acoustic guitarist, but he hasn't gone on from developing a good picking technique to finding an in-dividual style. He's very young — early 20s - so perhaps that will come in time. On the album called "Dadi's Folks" one track is absolutely ghastly, "Old Black Piano" is played on a Yamaki 12 string and it is very out of tune. There's really no excuse for this. Marcel Dadi can currently be heard touring British folk clubs and people interested in improving their picking style can watch him and follow with his own style of guitar transcriptions which are enclosed with these albums, Ray Hammond.

#### Alan Hull: Squire Warner Bros. K56121.

I don't know if it's damning with faint praise to say that **Squire** is a minor classic (if it is, I retract the statement immediately) but that's exactly what this album is. Alan Hull and a company of really fine musicians have produced a real treasure. The players include Kenny Craddock, Ray Laidlaw, Ray Jackson and the brilliant Albert Lee, as well as Colin Gibson, Terry Popple, Micky Moody and Brian Chatton of Snafu, should also mention Jean Roussel's arrangements, which are really splendid. So much for the rest of them, the bulk of the credit belongs to Alan Hull, for producing, playing, singing, writing, and bringing together and using other people's talent as well as your own is no mean feat. The songs are beautiful - original, thoughtful, each a separate page from a poet's psychic scrapbook, and the total effect is more like a gift than a record album. It is a rare thing to find a song with lyrics that could stand alone as poetry, but these do. My favourite is "One More Bottle Of Wine", a fine poem which Hull's vocals interpret perfectly: sentimental, ves, but not maudlin. There is all the difference in the world. Also of particular interest is "Dan The Plan", a really tasty little number which is really microcosm of the variety found on this album.

Recorded at Morgan Studios and Trident Studios, Master Cut by George Peckham at The Master Room, Engineer Mike Bobak, produced by Alan Hull. Carroll Moore

#### Bachman-Turner Overdrive: Four Wheel Drive. Mercury 9100012.

Bachman-Turner Overdrive represent most of what's bad in American commercial music at the moment. The only real surprise is that they're Canadian. I don't usually review albums that are this bad, but it is such a betrayal of the single ("You Ain't Seen Nothing Yet") that it occurs to me that people might go out and buy it. And that would be a mistake, economic crisis or not. Even in the most affluent of times, Bachman-Turner Overdrive should not be encouraged. If Four Wheel Drive is any indication, this band might possibly record an album every time they hear a new riff. It might, in places, almost be a medley of other people's riffs, from Blackmore to Paul Rogers, almost everybody's ideas are represented competently, I must concede, on the instrumental side. If the vocals weren't so appallingly bad, it might be excusable. But they are, and the whole thing reeks of a bald-faced attempt to clean up other people's stuff and re-package it for the vast post-Osmond market, On one track, "She's A Devil", there is the most shocking example of a guitar break which was clearly written for an acoustic, and then played on an electric guitar that it startled me. Nothing sounds worse than that, but take my word for it, and don't buy the album to

Recorded at Sounds Interchange, Toronto. Engineer Mark Smith, producer Randy Bachman. Carroll Moore

# Marshall Sound? Well...its a rock sound. Its topical...a bit dirty

Chris Runciman Climax Blues Band



Chris Runciman is roadie for the Climax Blues Band, he knows his job. This is what he says, "Marshalls are reliable,

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Test Report on: Canary 12 Channel Mixer

Date: May 1975 £ 496:00 EX. VAT.

The Canary 12 channel mixer is an impressive looking unit with an appearance very much like a small studio console. The 12 input channels each have an input gain control, a master slider, bass, middle, treble, echo send and 'on stage monitor' (fold back) level controls. There is also a small button, which puts any single channel signal on the monitor headphones, and a separate level meter for each channel.

There are three mixing stages: one to drive the output line; one for the echo send and the third for the 'on stage monitor'. Each had a master fader; and the output line and 'on stage monitor' mixers also have good sized output meters. The headphone monitor can be switched to the output line, the 'on stage' monitor on to P.F.L. (pre fade listen).

Construction

The case construction is of wood, with solid teak ends, and vinyl covered top, back, bottom and front edge. This supports a large blue painted metal front panel which is covered from end to end in controls and meters which makes the unit attractive.

Most of the electronic construction is on one huge glass fibre printed circuit board which covers almost the whole area of the front panel. The reverb electronics and power supplies are mounted in the bottom of the case. The standard of soldering and quality of components is good and there are many expensive components. The fitting of many of the components is bad however. The circuit board is grossly overcrowded in some areas and empty in others. There is insufficient clearance between the backs of the faders and the input amplifiers which resulted in an intermittent fault on channel 10 when the front panel was touched. This was cured by bending the transistors 'out of the way'. In the first few minutes of testing the headphone monitor developed fault. No altempt was made to find the cause but it could also be due to the poor mounting of components.

Measured Performance Maximum Input Level

I am going to deviate from the normal method of tabulating results because most figures require explanation.

This is the maximum signal level which can be fed into the 'hi' input on any channel, with the gain control set at 'max' before overloading occurs. The figures for the 12 channels varied from 14mV to 17mVRMS; or expressed in dBm that is -35dBm to -33dBm, and an average of -34dBm (15mVRMS).

The input level meters indicated from -0.4 volume units to -2 volume units. Even with maximum input the meters are insensitive! The meter on channel 6 did not work at all.

Input Noise

If all faders are set to zero except for one channel at a time, then the noise at the output is divided by the gain of the system, the result is the equivalent noise referred to the input. This was done with channels one to four and the results were an average of -100dBm, as outlined in the table:

Ch,	Gain	OP Noise	IP Noise
1	52dB	-48dBm	-100dBm
2	51.5dB	-48.3dBm	- 9 <b>9.</b> 8dBm
3	52dB	−47.5d <b>Bm</b>	−99.5dBm
4	51.5dB	-49dBm	-100.5dBm

Dynamic Range

Signal to Noise Ratio

Total Harmonic Distortion This is the ratio of maximum input before overloading compared to the noise level. For this mixer the maximum input is -34dBm and the noise is -100dBm so the dynamic range is 66dB.

The manufacturers quote the sensitivity as -45dBm. If we compare our -100dBm input noise with this level we get a signal to noise ratio of 55 dB for one channel. This is very much worse than the 70dB quoted by the makers. Their figure is impossible if the entire dynamic range is only 66dB.

Measured at 1 KHz with an input signal of -45dBm, the input gain and fader at max, and the line output set to a OdBm level. Channels 1 to 4 were measured and they gave results of 0.8%, 0.66%, 0.62% and 0.65%.

Almost all this distortion was second harmonic and the figures are far worse than the less than 0.1% quoted by the makers for conditions which are far less favourable than those quoted above.

I was able to get slightly better figures by setting all the gain controls to maximum on one channel and all the others to zero. The input level was then reduced to give an output level of 0dBm. This gave T.H.D. figures of 0.32%, 0.28%, 0.32%.

Mixer Stage Noise

Noise from the mixing stage should be negligible but with all faders set to zero, except the line faders, an output noise level of -58.5dB was monitored.

All the above noise and distortion measurements were made with all unused faders set to zero, tone controls set to midway, and a 10K dummy source in the 'Hi' input for noise measurement only.

Tone Controls

	BASS @ 30H2			MI	DDLE @ 5	00Hz	TREBLE @ 10KHz		
	CUT	BOOST	RANGE	CUT	BOOST	RANGE	CUT	BOOST	RANGE
MEASURED	-10.5dB	+11.4dB	21.9dB	-4.6dB	+9.4dB	14dB	-9.5dB	+17dB	26.5dB
SPEC.	-7dB	+17dB	24dB	-7dB	+8dB	15dB	-10dB	+17dB	27dB

Frequency Response

the specification.

A square wave test which was to set the frequency response on flat if possible (i.e. set the tone controls so that a square wave in will give a square wave out) revealed treble boost which could not be compensated with the controls. Consequently it was decided not to measure the frequency response.

The figures are relative to the control in its zero position. This is fair agreement between the measured results and

Conclusion

The appearance is so good that I was disappointed to find that the performance was not all it should be. The only makers' specification figures I could confirm were the ranges of the tone controls.

Most of the troubles seem to be related to driving a meter from each of the input channel amplifiers without having a proper meter driving circuit. The meters are not sensitive enough anyway.

It arrived with one meter not working and a fault on channel 10 and the headphone amplifier developed a fault in the first few minutes of testing.

D.J. Power Master Stereo 200 u 1975 £120 ExVAT. May 1975 Date:

The D.I. Stereo 200 is a dual slave amplifier rated at 100W + 100W. A feature which is concealed by the word 'stereo' in the title is that the two channels are independent, even to the extent of having separate off on switches, and may be used as separate amplifiers. There is nothing in the engineering which commits the two channels to being used for stereo signals only.

The 'Power Master' range also includes a single channel 100W unit and dual and single channel 150W versions. Controls on slave amplifiers are usually kept to a minimum: just volume controls, input jacks, output jacks and an offlon switch. However, on the D.I. 200 there are also buffered line output sockets with level controls for driving extra slave amplifiers; output meters and seperate illuminated off on switches for each channel. All unexpected

Construction

The unit is housed in a black painted metal case 22% in. long, 5 inches high and 10% inches deep. A silver satin finished control panel sloping at about 45 degrees is mounted behind an aperture along the top front edge of the outer metal case. All the working parts, including the control panel, are mounted on a 'U' shaped aluminium chassis, which is about 1/8th inch thick This forms the bottom and back of the case and is also the heat sink for the power transistors. This permits good accessibility for servicing and a tidy layout. In appearance it is a bit of an 'ugly duckling'; rather large and awkward but very strong. The large size does, however, mean that it is cool when

The electronics are clearly divided into two separate amplifiers; mains transformers at the ends and glass fibre printed circuit boards towards the centre. Wiring is very short and neat and held in place with plastic clips. The standard of soldering, care in assembly and attention to detail are good and should contribute to above usual reliability.

Performance Test

The measured performance of the unit provided for test was better that the manufacturers specification in every respect. In particular the signal to noise ratio was 87dB compared with the manufacturer's claim of only 70dB and the distortion measurements were about 50 times better than claimed.

The overload protection caused surprise. It was tested by trying to drive full power into a 0.1 ohm load. The protection circuit turned off the output 'short circuit'. This test condition was maintained for 2 mins, and then the load was restored to normal. The output only turned on again when the input type of overload protection, but it clearly works well.

Measured Performance (One Channel)

Distortion (Total Harmonic)

RESULT Power Output into 8 ohms

157WRMS 107WRMS

> 0.023% 0.02% 0.014%

Sensitivity 660m VRMS

Bandwidth 49 KHz 22 Hz

Square Wave Good

Capacitive Load Test Good

> Noise Level Slave OP level

0.2uWRMS

-1.4dBm

Zero

TEST CONDITIONS

The following table sums up other aspects of performance:-

@ 10% total harmonic distortion @ 1% total harmonic distortion

@ 90% rated power) @ 50% rated power) 1 KHz @ 1 WRMS

for full output

Upper -- 3dB point Lower - 3dB point

Clean response to 1 KHz & 10 KHz square waves.

1uF and 8 load.

Wide hand measurement 660mVRMS at full output COMMENTS

Very much better than the 'less than 1%' claimed by the manufacturer.

Valtage gain of 43 compatible with OdBm signal levels.

Wider range than required for audio signals.

No overshoot or ringing, therefore good stability margin.

-87dB below 100W good.

This output impedance is about 270 ohms

Less than 3m V.

Conclusion

DC offset at Output

This is a well designed and manufactured piece of equipment with a performance for in excess of that claimed by the makers. The manufacturer's specification does not do justice to themselves or their amplifier. Very good value for money indeed.

Test Equipment

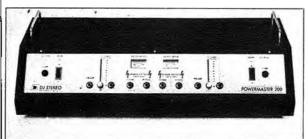
Oscillator; purpose built sine wave generator, total harmonic distortion measured at 0.005%. Total Harmonic Distortion Factor Meter, Sugden JE \$1452. Advance OS250 Oscilloscope with calibrator.

Resistive loads 2% tolerance, 4, 8 and 16 ohms.

Level TM3 milli-volt meter.

Power measurements are correct to + 10%.

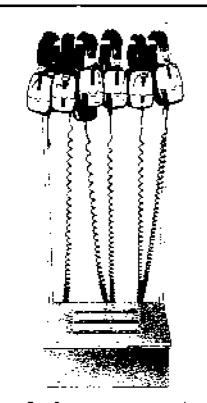
Sensitivity measurements are correct to +0.5dB.



D.J. Stereo 200

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Polar Pattern:
Output Level:
EIA Sensitivity Rating:
Electrical Impedance:
Load Impedance:
Hum Pickup Level (50 Hz):

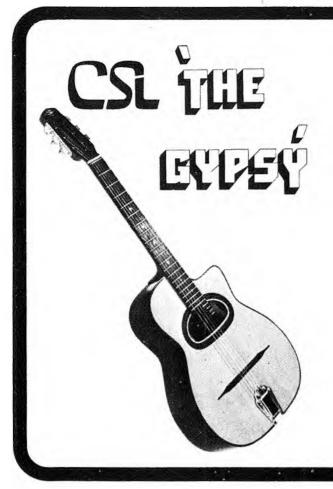
Tel: Haywards Heath 51003

 $40-18\,000$  Hz Hypercardioid 1,4 mV/Pa  $_2$  -56 dbm  $_-$  149 dbm 200 chms  $5~\mu$  V/5  $\mu$  Tesla

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Few Jazz Guitarists have not at one time or another had the burning desire to own and play the type of guitar used by the legendary gypsy guitarist Django Reinhardt.

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#### Ovation Bread~ winner

#### Retail Price £209.08

This a two-pickup-plus-electronics solid guitar. Its shape is weird but comfortable, and the cutaway extends to the 23rd fret. I seem to remember reading a review of this guitar in an American paper which said that it was made of rigid foam plastic, however my pet woodworm assures me that it's mahogany; in fact the neck is very similar to those used on the Ovation acoustics, Body and neck are finished with a creamy-white, hard-textured lacquer which is polished more or less smooth on the back of the neck. The fingerboard is good ebony, with small mother-of-pearl dots, and it would be difficult to find fault with the fretting on this sample. The machine heads are plastic-bodied Schallers and on the review sample they are loose.



The truss rod adjustment slot is machined clumsily and unfortunately the cover-plate is off centre. I particularly like the clear white dots in the edge of the finger-board but the contrast between white lacquer and ebony highlights the fact that more care is required in cleaning lacquer off the edge of the finger-board. The neck screws on to the body, which can be a weakness, but this joint is sensible and strongly made. The bridge is adjustable at each end for string height and has individual adjustments for intonation.

Do not be mislead by the apparently plastic bridge assembly; this is a cover for a substantial metal bridge fitted inside the body.

Because of this no screws or sharp edges project from the bridge. For years I have wanted a comfortable hand-support just behind the bridge; Ovation have now produced one, and it has a non-slip surface.

Any doubts one might have about the unusual bridge are rapidly dispelled by the instruments' excellent and natural sounding sustain — the bridge obviously does its job very well. The fact that the guitar includes a pre-amp means that the pick-ups can have a low external magnetic field without needing to be uncomfortably close to the strings, and this combination not only improves string sustain but also minimises the chances of the magnets "dragging" the lower

strings and making them appear out of tune. However I should like to see adjustable pole pieces on the pick-ups, as I feel the balance between strings could be improved.

There is a considerable amount of electronics inside the body, powered by two "Mallory" batteries, accessible from a panel in the back. (Standard radio batteries will fit but are not recommended).

To get the best out of this quitar you must first forget everything you know about tone controls and pick-up switches. Only the volume control works in a conventional manner. The tone control operates from maximum treble at 10, to mild bass boost and a very round quality in the treble at 0, WITH NO LOSS OF VOLUME IN ANY POSITION. The selector switch gives from left to right, neck pick-up, bridge pick-up, and both pick-ups - apparently out of phase. It also gives a progressive loss of volume, moving from left to right, for which there is no excuse, as there are pre-set controls fitted inside the body for balancing the output of the pick-ups. When balanced correctly, this is the only guitar I know which can produce an out-of-phase tone, without the usual drop in volume.

The remaining switch operates an "L-C" filter which can change the whole tone quality of the guitar from warm and acoustic to cold and hollow sounding. I believe this is another Ovation innovation.

I have several small grouses about the design and construction of the electronics. First, I feel that any guitar which requires batteries should have facilities for taking a signal from at least one pick-up directly to the quitar amp, as it can be difficult to buy batteries at 2 a.m. Alternatively, the maker could supply a "Phantom Line" mains power supply box. Either of these requirements could be made fully compatible with normal battery operation of the instrument by fitting either two sockets or one internally switched stereo socket.

I should like to see some protection, (such as a pair of diodes across the output socket), to prevent a leaky guitar amplifier causing serious damage.

While the general construction of the circuit board is excellent, I am not happy about a heavy choke mounted on its own wires, nor about flexible wires connected directly to the board without terminal pins.

#### Fender Jazz Master Retail Price £343:00\*

This is an expensive guitar in the honourable Stratocaster tradition, which has obviously been designed with the jazz guitarist in mind. Its resonating properties are part way between a Strat and a deepbodied acoustic jazz guitar, mainly, I think, because of the

considerable length of string between bridge and tremelo device. This 'dead' string length produces a noticeable echo, like some acoustic tailpiece guitars and semi's, and also, with the pivoted bridge, allows a note played on one string to activate related harmonics on other strings. If this effect (which also appears on the Jaguar) is not wanted, it is necessary to damp unused strings while playing.

I think this instrument is aimed at the sort of player whose main interest is Jazz, but who requires something versatile enough for any studio job. In this respect, the overriding switch which inserts a duplicate set of tone and volume controls, can be most useful. For example: one can set the amp and the primary guitar controls for maximum treble from the bridge pick-up (sounding almost like a 'Tele'), have two more lead tones available on the normal selector switch, and still override the lot with a mellow rhythm tone when necessary.

The Tremelo device works well and may be locked and the arm removed if you don't need it (also useful if a string should break).



If you should want to play with pick and fingers, this is a better proposition than a Strat. The strings are well spaced and further than usual from the body, and there is no centre pick-up to get in the way.

The most unexpected pieces of music work on this guitar; 'Cherokee' is a little too obvious, but would you believe Bach's Concerto for Two Violins in D Minor? I believe there is now a repressing of the 1938 recording of Reinhardt, Grappelli, and Eddie South, playing it. (If anyone knows the whereabouts of this, or the Reinhardt/Lonnie Johnson record, please get in touch.)

This is essentially a Fender Solid, redesigned for Jazz (as the name would suggest). There is one point: - it is expensive, but you may feel this is justified by its facilities and flexibility.



#### Farfisa Buckingham Organ

Retail Price £1659·52\*

This is the pride of the Farfisa range of console organs and it is intended for the professional and serious amateur who demands the best at home.

The organ carries every conceivable effect electronics are capable of producing (except synthesiser effects) and an important part of the organ is the built-in electronic drum unit.

Manufactured in Ancona, Italy, the Buckingham is a direct descendent from the huge selling Farfisa 256 RK which is now replaced by this organ.

A brief description of the organ reveals two 44 note keyboards, a 13 note built-in bass pedalboard, a "Super-partner" rhythm and automatic bass unit, an "Extra Men" unit which adds various effects when used in conjunction with the percussion unit and the twin built-in 40 watt amps with a built-in Leslie speaker.

The amplification of the organ has been considerably improved over the 256 RK and it is now much more powerful. The amp delivers its power through three main speakers plus a Leslie bass unit and the organ sounds considerably more powerful than most console organs.

Most noticeable difference on the organ is probably the degree of attack on the brass — trumpet, trombone and wah-wah. This area was a little lacking before, but now the attack is strong for really rapid note runs, There's also a better reverb on the organ (Farfisa are now fitting the larger Hammond spring) and there's a compressor fitted to the amp to reduce distortion all round.

Perhaps the weakest part of the organ is the cassette unit. Bell and Howell have a virtual monopoly on fitting these units into organ ranges and the sound they produce is really not as good as might be expected. Playback is O.K. but recording leaves a little to be desired.

One of the most interesting "musical" features of the organ is the flute pre-sets which offer delightful harmonies to the root note which can be balanced in the sound spectrum to produce exactly the right harmony balance.

The electronic drummer incorporated in this organ is similar to other units in the range and it offers 15 different rhythms which can be intermixed and tempo-adjusted as necessary.



Jim Sullivan was Britain's first guitar superstar. After the Bert Weedon period, Jim was the man whom everybody regarded as the guitarist to use and his final six year gig with Tom Jones gave him the exposure he deserved.

But the Tom Jones gig nearly destroyed his playing. Now .... 18 months after leaving the Janes show, he's playing well again and planning on forming a band with Albert Lee. Surely one of the most interesting cambinations in years ....

Can you tell me exactly what you're doing at the moment?

I'm just starting to write for an album, possibly my next album, we'll have to see how it turns out, but playing-wise, I'm doing nothing ... just practising.

Agen't you doing the Bay City Rollers TV Show?

Yeah, that's right (laughs), I forgot about that.

You've been a very respected guitarist for quite a while and the idea of Retreat was great. I reckoned that you were going to get some really great musicians together, and that we would be seeing Jim Sullivan back.

The Tom Jones thing was alright, it was fine during that period that you worked with him, Tom Jones was fantastic.

Yeah, Tom Jones was the top of his kind of artist at the time.

Everybody accepted it but now everyone would like to see Jim Sullivan's Led Zeppelin.

Well, this is the idea now. The first LP I did when I got together with Derek Lawrence. He said "well, look, you've been associated with middle of the road, lets do an M.O.R. LP." I said "Well, I don't really want to, Derek, I want to form a heavy band, to get out and blow". And he said "Well, I really think we should go M.O.R., you've got such a big audience," which I had through the TV shows. So we did that album and it was a complete and utter failure. I'm glad it was, because, for a start, I'm not a singer, I don't really want to sing, there are so many other guys around who are better.

We have at long last established that so I shall now be forming this band from all sorts of guys. We were thinking of having three lead guitars.

Playing harmony as well?

There are so many things that three instruments can do like that. Albert Lee wants to be in the band. I don't know whether to have another young guy in the band.

Albert, Ritchie (Blackmore) and I did an album a few years ago, that Green Bullfrog - it was great, we really had good fun.

For the other guitarist as well, I've kind of approached Alan Parker of Blue Mink, he's a great player as well, but I was thinking seriously, we've got a bit of maturity in the band with Albert and me, I think we might try and get a young cat in.

Why were you thinking of the three guitar thina?

Musically there's so much you can do with three guitars in a "band" you get a guy who plays solo in a thing that he is not at home in and it doesn't sound right, no matter what. With three guitars we can cover anything we get into. There won't be a weak spot in anything we play.

All you have to do is find a real power-house drummer and the right bass player. Well, we're thinking of lan Wallace on drums, and the bass player - I'm not too sure yet - I like the young kid in Dragonfly.

I can't help but wonder why this hasn't happened before.

Well, what you've got to understand is that I've been associated all my life in recording for other people and once you've had ten years of that, it's very difficult to be accepted outside of that,

I wanted to mention that - Jimmy Page did that, didn't he?

Yeah, well. I was going to try and be with Zeppelin at one time. Anyway it's coming on now it's going to be there.

How do you play together, do you know each other well enough?

Yeah, there's been a mutual respect between Ritchie, Albert and myself for a long time now. You see, I let my chops go playing sessions, but I still had the musical ability. I had more musical ability really than Ritchie and Albert, In that maturity, I really could guide them into things where they normally wouldn't go.

Do you think you're endangering them by doing something like The Bay City Rollers Show?

I've got a record label to think about and at the moment we're on our arse. We've got to get off our arse, we've got to hit somewhere, we're getting plays and getting into the charts. We've got two groups, and about five or six artists, and the reason I'm doing the Rollers thing is to get Retreat Records about. It gets my face around with the teenie-boppers, but it gets me working with people like Mu Young, in fact she's already said that she'd have one of our groups on the programme. That's why I'm doing it. No way am 1 a teenie-bopper and no way am I middle of the road.

I suppose it's really like going back ten years, but this time you're more experienced, you know all the people, so when you get a blazing band together instead of having to wait for them to come to you, you're there. Well, yeah. E.M.I. have already given a good response to the idea of the L.P.

If it all comes together, when do you think you'll start rehearsals?

At the moment, I'm trying to write something for the album, and whether it will be right for this album, for the group, I don't know. It's pretty deep really, and I'm not sure whether it will be suitable, but I've got to write it, I've got to get it out of my system. So, for actual rehearsals with the band - I really couldn't say. It's a case of getting together, which is a hard thing to do first of all.

If you see that chance, of playing good music with good people, you can see the gap - don't you think it's something you should be ruthless about, and claw your way into it and say, 'Fuck that, nothing's going to get in the way? Yeah, I do, and why I seem reserved about it is because I want to do it as quickly as I can, and if I say 'Next Week' and it doesn't happen next week, everyone will be disappointed. So it's as soon as I can physically and mentally get all the guvs together.

Are there any business problems involved. record labels and managers, that sort of thing, to sort out?

I've got one problem with Albert - he's with Atlantic so we'll have to do a deal with them I suppose. Ultimately, I want this to be on the road, that's really where it's all at, and what it's all about.

You're obviously deeply involved in writing, but what about playing for it's own sake do you play just for pleasure?

Yeah, I've got a little band called Pacific Ear. Drum with Dave McRae, a pianist Tony Hicks. Did you find it was so difficult to nip into a

who used to play drums with Back Door, and Bruce Lynch, a bass player, and Bob Bertles who plays sax with Nucleus, and we've got a little band, kind of a jazz-rock thing, and we play down at jazz clubs. We play down at the Bull's Head and the Phoenix, and we

It's kind of an electric band and I've got all the Echoplex and the phase shifters and all sorts of things set up. We've got a Moog, and there's a girl singer named Joy Yates, who's David's wife - she sings a couple of songs, but in most of the numbers she uses her voice like an instrument, and it's very interesting.

We've had about five gigs in the last three months, and next week-end we've got two gigs, two rehearsals and we're recording the band on Monday.

It's not a serious band then?

Oh yeah, it's fun but serious as well, in the sense that we all dig what we do. If you dig something, it's got to be serious.

But no real career pattern about it?

There is a potential there, but I can't really see it being a career band as such, just at the moment, because the music is too kind of above the average kind of thing,

Do you need to be stretched as a guitarist? When you're in this band for instance, and you have intricate chord progressions and licks which force your fingers into real activity, do you enjoy that more than laying down a really heavy riff and making sure that it's totally rhythmic?

No, each one's as exciting as the other. Really and truthfully one is an extention of the other - the complicated one is just an extension of the simple.

For example, you have King Crimson at one time, who are very intricate, and at the other end of the Spectrum you have the Stones, who keep it to the most simple form. I believe that simplicity is very hard to achieve, and that a guitarist has to be very disciplined to keep that. How do you feel about that.

Well, one doesn't tax me and one does tax me. It's not hard for me to sit down and play a funky rhythm track. Technically, it's very simple, and ideas-wise keeping something simple I don't think is too hard, especially if you have a riff that's really working. That's fine with them, I enjoy it. The other way is a taxation of you technically as well, and to keep that grooving is something else.

After playing for so long do you find any limitations in your technique?

Oh yes, I found this very early on. I let my chops go. I went on classical guitar for about five years, and I got my chops together on that, and my playing on electric guitar suffered. which it must do, and it's just now that I'm starting to work on it and get my chops back. I found that in my right hand the technique had completely disappeared, it was my pick technique that I lost, and my wrist. At one time, when I was a kid, I used to play Django Reinhardt studd and I had a really good pick technique and then I went on to classical guitar. Well five years away from it ruined that, Did you play any electric at all during that period?

I was playing with Tom Jones, but I was like the best paid rhythm guitarist in the world. you know, and when it came to playing a lick, right in the middle of a two hour show, I'd get an eight bar guitar solo, and (laughs) just nothing.

short lick after playing chords for so long? Yeah, because not only is your hand set, your mind gets set as well, and lazy. We were out on the road eight months every year, we were in the sun, luxury hotels - everything was luxury. We never had to carry our bags or set up our gear or anything like that.

You tend to get blase about that. As I said I kept in my chops with the classical guitar, and I learned a lot that way. In fact, some of the time I was on tour, I studied about six or N seven hours a day. Getting on stage at night, playing the same numbers every night — it was like the same show every year for six years, and after a while I couldn't take it - in fact I used to get through a bottle and a half of Vodka every day to go on stage. Artistically, it completely and utterly destroyed me, I didn't even want to know about guitars.



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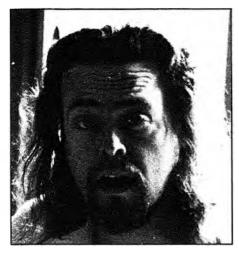


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How have you found it again, actually reaching the point where you want to play again? Quite simple, it was the fact that I thought it had gone, and it wasn't, you know, just getting out and playing gigs like the Pacific Ear Drum, even doing the stupid little things that I do on The Bay City Rollers Show, realising that I actually can play the instrument. After all that time on the road, I just started thinking, well, I just can't play anymore.

To come back to you for a moment as a player, how many guitars do you have?

A cupboardful!

How many do you play regularly?

I've got a Gibson and a Telecaster and a 12-string Martin. I've got a Ramirez Classical, which I use all the time. I've got an Ovation six string with a fibreglass back that has a nice sound, and a Martin D-35 12-string. Those are the ones that I use all the time, other than that I've got 14 or 15 I suppose

When you're writing is it always the guitar you write on?

No, sometimes I write without an instrument at all, when I'm doing arrangements like when I did Tommy I didn't use an instrument at all, I just put it on to paper.

Have you got perfect pitch?

No, well, I have relative pitch, but that's just experience it's something you acquire in time. When you were very depressed did you still play every day?

Yeah, my classical guitar. One thing I've always had is the ability to sit down and play something to somebody. I started off playing country. I used to play Chet Atkins, Roy Travis — all that kind of thing, so I used to be able to entertain people doing that. Then there was a period when I was doing sessions, when people said "play us something" I'd sit down and play. I went on to classical and taught myself, and now I can play classical.

You say that quite blithely, but in fact it's very hard to teach yourself classical. Did you find it hard?

Well, I obviously have some bad habits on classical guitar, but I seemed to pick it up reasonably quickly.

How quickly did the Independence of your fingers come?

Well, because I played country guitar, I had independence between the thumb and the first two fingers. It was just getting a third finger working. Getting strength into a third finger; getting it so you have power was hard. Every time I used to sit in the car, I used to drive with one hand, drum the seat with the other exercising my fingers. I eventually wore two lumps out of the seat!

What about the keyboards, how have you responded to them

I love piano, I think it's tremendous. My wife used to be a concert pianist, with the power and delicacy combined. Oh shit! I'd like to play every instrument under the Sun.

How well do you play plane now?

Awful! I can do a few blues hits and a little Jerry Lee. I've never sat down with the same determination I did with the classical guitar.

That's surprising, because if you can master the classical guitar, with all the determination it takes ....

Well, that's the thing - I don't feel I've mastered them yet. I've still got so much to learn - I've wasted ten years of my life. When 1 first started playing it was hot for me, because nobody else did what I did. Now everybody does what I can do, and most of them can do it better. I'm probably the best all round guitarist of all the guys, because I can cover so many fields, but there are some guys who play each of these things individually better than I do that I have to develop myself to the point where I bring all of these things together. Then I can put them into what I am Instead of what other people have wanted. So 12 years of my life have been wasted doing what other people want me to do. Instead of doing what I should be doing.

Do you feel that now, and the next year or 18 months are going to be the best for you? I definitely think that I'm on the brink as a musician of being discovered.

Discovered may not be the right word.

No, I think it's the perfect word. Listen, everyone knows Jim Sullivan — who really knows how Jim Sullivan can play? You come here because I'm a name, and someone else has said that I'm good, or you've heard me over a period of time. There has never been anything that really depicts what I'm about.

For me the proof is in the pudding and the pudding hasn't even been made yet, so now I'm going to get out there and make it, it's got to be done. Frustration has been such a part of my life for such a long time. I've seen all of the groups come up, I've played on most of the stuff when they started. I've seen them all have a lot of freedom to creativity and now, as a mature person, I feel I've got to get out there and do this. And I think that when I do there's going to be some excitement.

On the Les Paul what kind of strings do you use?

I've just run out of my batch of Ernie Balls, I had like a year and a half's supply of Ernie Balls when I came back from the States.

How often do you change them normally? Oh, I've had these on here about six weeks, and they're ready to go. My hands sweat, and all the muck from the strings gets on the fingerboard and makes the fingerboard sluggish, so when I have to bend and pull strings it doesn't feel right.

I think I've got Martin's on the 12 string but they're heavy gauge and I'm going to take them off and change them. But that's one thing I haven't used for a while.

There was a period in my life when I used to play the 12 string all the time, but I haven't touched that for ages. But I want to get back into that, because I imagine that playing with Albert, me doing some finger picking and him doing some of his things, we could work incredible things on that.

Do you have any amps that you regularly use when playing on stage?

Over here I've got a little amp that Ritchie gave

me that is a Mike Matthews Freedom. It's battery-operated — it's what he used on his recordings and it's incredible.

It sounds like a 600 watt stack and when you turn it down you can get a nice clean sound. Unfortunately at the moment it's printed circuit has come unstuck and I've got to find out where.

Have you ever got into doctoring guitars? Yeah, now I'm beginning to feel the need for it. I don't really know enough about electronics to do it myself.

Of course, I'm always straightening the neck out and things like that, but I don't refret or file the frets — nothing like that.

I always feel you have to break an instrument in. It takes about a year,

Do you ever play when friends come around, that sort of thing?

Well, unfortunately there aren't too many guys around this area who can come around and have a blow. I went over to Steve Marriott's house a few months ago, we had an all night session from 8.0'clock at night until 9 in the morning. I really enjoyed that, and that was the first time I really played, like, for the seven years I was with Tom.

Do you need other people's interest? Do you play better if other people are with you? It depends if you get someone you can bounce off of, yes. But then again I can sit down by myself and get off. If I can lose my self-consciousness, which is what I've been going through for a few years. Getting together with other people and playing something I've still got to come to terms with.

Being introverted for all these years; sitting in my room, playing the classical guitar to myself you become introverted, you cut yourself off. But that is all coming out now.

This is kind of an exciting period for me, getting rid of all the hangups that I've had and starting to realise that I can actually play. What about the real commitments: making an album, touring — when is all this going to come together?

Everybody we've approached so far has said yes, and that to me is the sign that it's started. You, like everybody in the business, have obviously been scarred.

I've been pretty lucky. I've managed to keep away from most of that. That's why I've kept away from LP's — 1 hate the business side of this business. It's the ultimate destroyer of creativity. When we get going ... I was going to say, I'm going to get a manager we can trust, but whether or not that's possible, I just don't know. I mean, I trust Derek Lawrence, we've worked together and I know he's okay. Anybody else outside, I don't know. I'm a terrible business man, the worst in the world. I don't want to know about business — that's why I'm bad at it. But it's obviously got to come, Derek's teaching me a lot.

When this band that you're talking about gets together, couldn't you get a real heavyweight to sort out the right American tours, the right albums – that sort of thing?

The way I feel is that I don't mind anyone stealing off me when I've got it, but it's when I haven't got it, and people are stealing off me-that's the biggest downer in this business.

# Retiring

Fripp's King Crimson brought a new meaning to the word "tight". For a short time the band represented a pinnacle of British rock achievement. Since then Robert Fripp has been through several bands, most looser than the first. Now Frigo's had enough. He's provisionally playing a London date in June, but he's had enough. Where will the quiet genius go? Our U.S. correspondent Jon Tiven dared ask the question.

Why have you finally disbanded Crimson after all these years?

Well, there are three reasons: The first one represents a change in the world: the second reason was that the education I was receiving as a young man, which I considered to be the best, was no longer the best. I wasn't learning what I needed to. And the third reason, the energies involved in the music were no langer appropriate to my way of living.

Could you clarify what you mean by "Changes in the world?"
I can give you an example of this quite

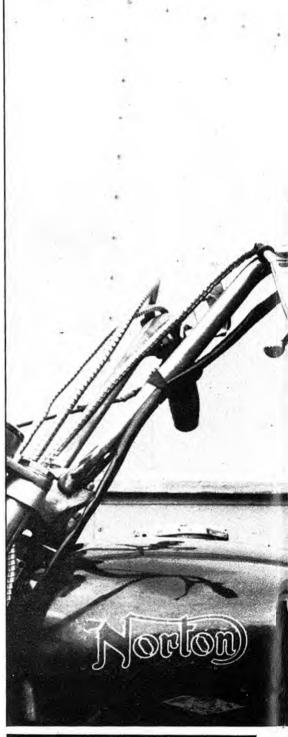
easity: I went to see Jethro Tull last night, and they fought incredibly hard all the time to keep control of the audience. One gets the feeling that the spirit of the late sixties has completely evaporated. This I find quite considerably when I'm working with Crimson. The atmosphere which you obviously recall from the late sixties, say '69, was quite different. It seems to be a thing when everyone was involved in trying to do something. Even if it was enjoying oneself, it seemed to be a fairly relaxed way of doing it. But the mood now is completely different. There's no magic in the air, or atmosphere from either the audience or the musicians. It's a very uptight and unsettled situation, which, taking the broader picture of change in the world, it's a very good example, I see a breakdown of social and political and economical order over the next 15 or 16 years which will culminate in the 1990's. And rather than put forth a gloomy and pessimistic approach to the subject, I'm putting forward a positive opportunity to change things. The world is in a considerable period of transition The natural order in a time of transition - well, is chaos. So, it's only to be expected that the normal way of doing things is going to break down. It has this advantage - that all the outmoded systems which we have been carrying along will be left behind, and it will give us an opportunity to rebuild with far more mobility in a human structure. That, in a nutshell, is the first reason. The second point: When I first entered the profession as a young man I thought that travelling the world over would give me the best possible education one could know. One would have to make people work very hard and one of the essential points was this: how to create a society in a microcosm - How to get a band together, how to make it work together under pressure with the road team, and so on. How do you take a good idea, like an ideal community, and make it work? But, that ran out; I couldn't learn any more from that situation. I had to find a better opportunity for me to gain an education, which I'm taking care of now.

How is that?

Well for the present I'm on a sabbatical. For the moment I'm on a semi-retirement, verging on a complete retirement, which will effectively carry me through the next year-anda-half or two years. The only activities I'm really involved with at the moment is a little work with Eno. We're playing the London Palladium on June the Eighth-one of the most unlikely events I could think of: "Fripp and End live at the London Palladium", and a short European tour. But the most exciting thing I can think of, I've started teaching guitar! We can come back to this in a minute if you like. So the education thing has to be outside the music business. The third point is that the energies involved are no longer appropriate and it has to do with the fact that life is not what it used to be. And I don't mean in terms of running around and having a "groovy time" all the time, It's just that things are not nice; the whole business has moved on to a very heavy ego situation, and a money situation. I'm not blaming the people who are doing it, say, in the situation of a big band, where the overhead expenses are so collosal they have to work incredible hard just to make enough money to keep going, even the biggest units. But this isn't really enough, I think you will recall in 1969 there were some ideals - we were supposedly trying to change the world, and all that thing. But I don't see any of that thing any more. So, the decision was taken, and an enormous sense of relief flooded me. It was quite fabulous to try it after all these years, and I haven't regretted it since. It was a perfectly right decision, and it gets righter and righter as things go on. There!

In the more specific sense, did you still enjoy playing with John Wetton and Bill Burford, or was that sort of losing its excitement for you as well?

Well, John and Bill are incredible musicians. We talked about why we were working together during Red, which I suppose was the last thing we did together, and we sort of decided that the reasons we were working together was that we really couldn't think of any better musicians to work with. For example, where am I going to go about finding a better drummer or bass player? You'd be very hard pushed. I can't think of a better bass player anyway, and you don't get better drummers than Bill, you just get drummers as good playing in a slightly different way. But it didn't have the right kind of future. Ian McDonald was going to join the tour with us, which I think would have been a very good musical unit. But that would have meant a







commitment for another two years, and I wasn't prepared to do that

Did David Cross fall, or was he pushed?

Oh - I suppose David was asked to go, but in these situations, where a man is sensitive, and as genuine and sincere as David, it's not a question of being moody or unpleasant -- these things are well sensed beforehand. If anyone says anything it's really a question of who says it first. And then, once again, not in terms of business or unpleasantness .... Sensitive people cannot exist on the road, it's as simple as that.

And so King Crimson folded with you and the band on pretty much good terms?

Yes. I phoned John up and said "John. I've decided not to go on ahead" and he said "I understand completely; no bad feelings at all". Bill was upset because Bill was very committed to the group, he was still getting an awful lot from it. But he came down to hear the rough mixes on the new live Crimson album, and I invited him round to dinner, and he was looking forward to coming around, So, it is friendly, with just a bit of a shock inside.

Bill's not still playing with Gong, is he? No, Bill was going to join Jack Bruce, but Bruce let him down there. They said he was definitely in, but they changed their minds. Bill at the moment has been doing the Chris Squire solo album and doing some session work. He's doing well; it's not as if he's sitting around doing nothing, but I think for Bill, he enjoys working on the road more than

the studio, it's more Bill's forte. How are you fixed financially for the rest of your life?

The rest of my life? (Ha!) Well, I can get through for two years. I've tried to tie things up .... I'm planning to do an intensive course for ten months, and while I'm away all the bills will be paid. I'm certainly not in the great financial state, but my life-style is such that, not being interested in comfort and luxury rather more of a reasonable basis to work from, then I can get by. I don't have very expensive social or personal habits, or I couldn't go for very long.

So what are these courses you are taking? I've applied for a ten month extensive course at the International Academy of Continuous education, and there's a very good chance that I'll be accepted. It lasts from October 1975 until July 1976.

What kind of course is it?

Oh, difficult to answer that! The Academy owned and run for the Institute for the Comparative Study of History, Philosophy and the Sciences, which probably won't run for a lot more, It's a course which involves the intensive development of the mind, body and spirit. It's basically seven years of work pushed into one year.

Sounds like a very intensive study.

It's quite - most incredibly hard work.

What level of education have you risen to aiready?

Well, I'd say that education is a process of learning how to learn.

But I mean formal school training ....

Oh, well that's nonsense anyway....

I know, but for the record anyway.

Well, I was going to the university until I turned professional. The Social Sciences were the ones that particularly got me. I was good at economics and history. It seemed to me like being in an ivory tower finding all these

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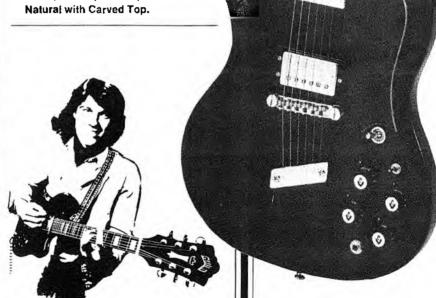
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## Retiring Fripp

very clever answers sitting in a study room. Just ..., it was meaningless. I had to find a way of getting the good answers and putting them into good practice, and, hence it became the different experiments within the Crimson band. To me. Crimson was, I've said this before, a way of doing things. It was trying to create a microcosm.

Was that the reason why people were leaving and coming into the fold – the social side was almost like a separate entity from just simply being a musical band?

Certainly! King Crimson was a personality all its own. People have often said that I am King Crimson, in terms of Robert Fripp being King Crimson, and J often get introduced as "this is King Crimson" and wince with embarrassment, and smile through it. It's so annoying, and it's so missing the point. King Crimson was a personality very much his own, and I would very much resent anyone really identifying me as him.

Which King Crimson was the most valid and musically pure in your mind at this point?

Well, I really think that there were two King Crimsons — the first one and the last one. In between was a question of fighting to get back to what we achieved with John and Bill. The first band was the most magical, and the last was the most musical. Probably better music was played with Bill and John, but the first one had a magic. It was completely outside the band; in a way the band had nothing to do with it. It was just exactly the right thing at exactly the right time. So many different elements all together that one could never conceive of. And ..., it just took off! There was nothing we could do wrong. Every thing was blessed.

Did you feel, at the time, that there were any bands that were social organisations as such, like Crimson? For instance, the Pink Fairies or something like that?

Well, I can't speak for the internal workings of other bands. The thing about the Pink Fairies the drummer was an old friend at school. Russ Hunter, he used to sit next to me at school. In fact we used to call up and do our Latin homework over the phone, while we were in the fifth form at the Wimbledon Grammar School. The point is with the bands that have set out from primarily social and political background, often the music doesn't reach a very high level, though probably the essential organisation does. This is the difficulty, how do you get a band together that works on the proper principle and plays very good music, how do you get all these things going at once?

What is your least favourite Crimson album, other than Earthbound or do you like Earthbound?

Earthbound isn't a Crimson album. Right, I can understand that,

Well, I'd say probably *Lizard*. *Lizard* has lots of good ideas, most of which don't work. And I listened to *In The Wake Of The Poseidon* the other day, and I couldn't listen to that, either. It had "Cat Food" of course, which was quite magnificant, quite ahead of its time, and I think very few things have topped it. It's still a remarkable record.

The first album is very strong.

Yes. You can't make albums like that, they make themselves.

Did you have a lot of musical ideas from

over the years stored up that suddenly came out or what?

Everything came together and exploded simultaneously. Five people who just took off at once at just the right time, with the right management and the right record company all around. It was impossible to plan, it just happened. In America you had Frank Barcelona with Premier, although established, was establishing itself more and more, so it was still thriving and growing all the time; the market was expanding; Frank's wife was handling the publicity at Atlantic, and the American management was Dee Anthony, a friend of Frank's so it was all a family, a very tight unit. And in England Island Records was becoming the progressive label, and Chrysalis, and E.G. Management, all these things were coming together so incredibly well. All these new people working together at the same time.

How do you feel about the press at the time?

We didn't, in fact, have a King Crimson press man until the band broke up. Pete Brynes once referred to King Crimson as "Captains of Publicity". In fact, we didn't have a press man until the band ceased to be. B.P. Fallon, who worked for Island Records, handled publicity for us there.But, even then, that wasn't until right at the end of the band's English career, anyway. It's just that the press picked up on it. Everything fell into our laps, it couldn't go wrong.

What sort of thing did you listen to while in Crimson, or did you not listen to other people's music?

No, I didn't, You mean during the five years? Well, I would have to give you a list. Judy Collins stole my head in 1968 with Wildflower and in 1969 with Who Knows Where The Time Goes. Lord Of The Rings and Who Knows Where The Time Goes I think, saved me at the break up of Crimson, Without those two fine entities life would have been rather more difficult. The Satie "Trois Gymnopedies" made a very strong impression upon me, also Messian's "Grace and Creation" I think it is, both of which King Crimson turned me on to. But from my point of view, because my ears were always getting "battered", I, in private moments, preferred to well, listen to the wind and the sonos of the birds, this was the main listening I díd.

Well, since you've sort of "semi-retired" have your listening habits changed? Have you been listening to contemporary music?

Yes, I have. I've been getting a hi-fi system together in London; I had one in the country, which I got by accident. It came to me by accident about a year ago, but it hasn't been used much. In London I'm putting one together. Ah, I listened to the Beatles the other day, much of the Beatles' catalogue. I've always loved them; they were so remarkable. Joni Mitchell I think is quite amazing. The Blue album, I think is quite a classic. Ian Wallace turned me on to that.

How do you feel about the so-called "heavy" bands in England?

There's only one: Robin Trower, And he's amazing. Robin Trower, I think, for the moment is the only thing that is really doing it for me in terms of working bands. Amazing. He plays with spirit; he's made a very real connection with the spirit of music. The press in England have been slagging him off, saying

that he sounds like Hendrix, and I can't really see it. I could only see having to compare him with Hendrix because there's not really another category you can put him in. He's not rock and roll, he's not blues, he's not "English Twitch Pube". Rock, so they say, "oh, he sounds like Hendrix" and put him down for this. This is not important, because it doesn't really matter what form of music you use anyway as long as you make that connection with the spirit of music, which Robin does. And with the new drummer, Billy Norton, it's really quite amazing. I went to see them three weeks ago, It really took me off.

Tell me about your guitar lessons, and all that. You're giving them in England, I suppose. Yes.

How many students do you have?

Well, a very strong response: I haven't seen very many, because one cannot just rush through lots of pupils. The system of guitar mechanics is based on this idea; that in order to improve as a guitarist beyond a certain point one has to change as a person. It's not a question of practicing so that your fingers run around a lot quicker. So one has to change as a person, in order to change as a person one needs a discipline, and a system included. It doesn't really matter what system you have provided a struggle is involved in changing. So, you could, as a discipline, take on guitar playing. So then you've got this situation where in order to improve as a guitar player you must change as a person, and to change as a person you take on the discipline of playing the guitar. The techniques are not only calisthenics and physical, but they're also .... well, I use some psychological and spiritual exercises as well. Which is something of a departure. You see, there's a lot more involved in guitar playing than one would find the truth in, in fact it has nothing to do with quitar playing on one level. It works on a number of different levels. It's up to the people who come to take what they need. Once again, it's just a way of doing things, it's just some ideas, it's a different kind of approach to the unit.

How much guitar playing do you do per day?

Well, it varies. If I'm rushing around in America for ten days, then I'm not doing any. In England, because I've been doing some teaching, I've been playing a bit more. But have quite a few commitments outside of the musical sphere. I like to do an hour a day. It's honelessly inadequate really, but if I can get fifteen minutes to half-an-hour a day ... You can teach yourself a new technique in half-an-hour if you use the time properly, and in an intensive fashion. You see, I reached a point where practicing for eight hours a day any longer - and I used to practice, on tour in America for example, used to be six hours a day in front of the telly, and when I turned professional it was anywhere from four to twelve hours a day - and I reached a point where I was not improving anymore. Something else had to change. And, consequently, my activities and disciplines are in extra-musical areas, but they obviously have repurcussions in the musical senses. In other words, it's not just a question of sitting down and flexing my digital muscles all day; the approach is from a different angle.





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Can you imagine a thousand kids gyrating wildly all night on a packed dance floor to the sounds of obscure sixties' soul oldies you — and in many cases most of them — have never heard of?

If it all sounds a little unbelievable then you obviously haven't caught up on the "Northern Sounds" soul scene — the most rapidly burgeoning underground teen cuit in the country at the moment.

The term "Northern" doesn't refer to the source of the records — discs from the deep south vie with those from Northern cities like New York, and Detroit nor, any longer, to the location of the current audience, for the Northern Sounds cult has now reached as far south as Southampton, eastwards to Norwich and west to Wales.

But the heart of it all has always been South Lancashire and the North Midlands area of the Potteries

The roots go back to the mod era of the mid-sixties. While the advent of flower power and psychedelia swept all this way in London and the rest of the country, the Manchester mods clung to their life-style, their clothes' styles and their music which was always soul, the more obscure the better.

The Twisted Wheel in Manchester was THE place then, a packed disco where it was always 100 per cent soul, all night and into the dawn.

When the place was finally closed down in the late sixties after numerous drugs' raids — the "all-nighters" breeding a nasty drugs situation as kids popped pills in an effort to stay awake and on their feet. A new home from home for these soul freaks was soon found with the opening of the Torch Club in Stokeon-Trent,

By '73 or so, the "Northern Sounds" scene was well under way and while the Torch, like the Twisted Wheel, was eventually busted, other venues sprang up, along with a host of promoters, some in it for the music, others for the money.

One who has received his share of slating but did a lot to get the whole scene off the ground was Chris Burton who ran his International Soul Club from Stoke, promoting at numerous venues and making a handsome profit out of badges, stickers, pennants, record imports and the like,

The Northern Soul Club, the West Midlands Soul Club, North Wales Soul Club and later the Inter-City Soul Club and other organisations followed suit promoting in towns like Littlechurch, Oldham, Leicester, Derby, York and Stafford, while a host of disc-jockeys made names for themselves by catering for this peculiar yet vibrant trend,

Their job was to discover and air the right sounds — not pop-soul, or

records happening in the States but the real rarities, the more obscure, the better.

The pre-requisite was a stomping beat and something near to the early Motown sound if unk being one thing — though Motown itself, with a few exceptions was regarded as too well known already.

One of the early circuits was for Motown's rival Detroit labels Roc-Tic and Golden World but these went out of favour as they became too well-known for the rarity-seeking Northern Sounds' addicts.

Artists like J.J. Barnes and Major Lance (who recorded a dire but successful-on-the-scene live album at the Torch) were resurrected over for tours.

The search for obscure records soon created a market in rare imports or old British pressings which began to change hands for vast sums — anything up to £75!

This in turn lead to certain characters making dubs off old records and pressing up hundreds of counterfeits, earning themselves handsome profits without having to pay any artist royalties.

One character even took old tapes, wiped off the vocals and put them out as instrumentals under new names.

Those disc jockeys and importers who could afford American trips were soon able to re-coup their investment, returning with cases full of rare items.

Ian Levine, emerged at the very top of the pile and established his Black pool Mecca venue as THE veritable Mecca of the scene, attracting a couple of thousand kids to each of his big nights there as he played the obscurities he had unearthed on his American trips.

Down at Wigan Casino, record importer/D.J. Russ Winstanley and his collaborator Richard Searling have provided a strong challenge and the Northern Sounds' scene has indeed split into two camps each venue having its own dedicated following which berates the other places just as football fans slate each others' sides.

Just as the world's recources of oil are running down, so the availability of obscure soul ideas has become greatly reduced, most of the suitable stuff having now been exploited — and on the Northern Sounds' scene the playing life of a record is generally less than that on the wider soul-disco scene, because of this constant search for something different.

All this has now lead to an easing of previous criteria. Records by white artists — even Paul Anka would you believe? — broke in, provided that they had that requisite stomp-stomp beat to fit the highly athletic 100 mile-per - hour dance styles.

Now more recent, even new material is also being exposed on the Northern scene. Never slow to sense out a new market, the

record industry, besides making generally available through U.K. release the oldie items that can be picked up on, is also recording new material with the Northern Sounds audience particularly in mind. And the scene has furnished its share of eventual pop-chart hits.

Tarnmi Lyn's "I'm Gonna RunAway From You" was the first, a couple of years back, but the big break-through came when Pye decided to launch its specially tailored Disco Demand label at close of '74.

The first few releases all narrowly missed the pop charts but then "Under My Thumb", a record by white British singer Wayne Gibson but a Northern Sound none-the-less, made the real big time as did the also white, also British Nosmo King and the Javells with "Goodbye, Nothing To Sav."

Then came the controversial "Footsee" by Wigan's Chosen Few, originally an instrumental out-take to which Pye dubbed car horns and other gimmicks after a certain Simon Soussain had shipped over hundreds of pressings which he's made in the States with similar gimmicks dubbed on.

This record perhaps sums up the dangerous excesses the whole scene has now got itself into. It is, in honesty, one of the most crassly amateurish records ever to grace (or should that be disgrace?) the charts and shows that rority and novelty seem far more important on this particular scene than quality.

Nor are the kids themselves really soul fans per-se. It would be more accurate to describe them as dance addicts (for what real soul fan would ever rave over Paul Anka?) and if a record's got that driving beat then how many of them care if it's got soul and was cut by four black guys in Chicago or it's meaningless drivel recorded by four postmen in Halifax?

Indeed the music itself is only a part of the Northern Sounds scene, so — though they'd have us believe otherwise — are the big name disc jockeys who seem so intent on personal ego tripping as they slag each other off and try to build their own image.

Visiting a Northern Sounds club for the first time — and there are now a hundred or so dotted around the country, with audiences ranging from a mere couple of dozen to a thousand or more — you might feel you've stepped into a time warp.

The dress styles, the hair cuts, even the dance fashions, but most of all the sense of camaradie all bring the mod era back to mind.

Most of the fans are aged between 14 and 22, they tend to roam in packs and "pulling" seems to be the last thing on their mind. You might see the girls and boys chatting together but the talk is of records and music not of love.

## Northern Sounds





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Nobody knows the business better than Dave Simms, and the business is glad to have him back, For years, Dave was a popular music dealer in West London operating from a small shop - MBC Music in South Ealing and doing every passing musician one good turn or another.

It was really those good turns that lead Dave away from the players. Because Dave cares, musicians started to patronise his shop with unusual regularity so when he and a designer - Rick Watts - started to knock out a few amps proudly called Simms-Watts, things started to go a bit well,

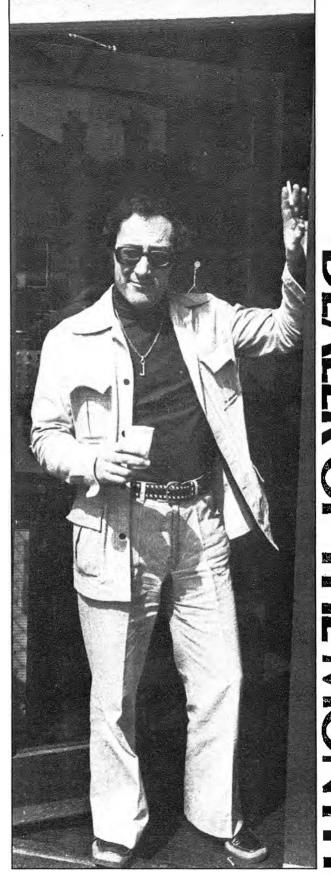
Before he could turn round. Dave had one of the most successful amplification businesses in the U.K. and EMI bought him out. For the past few years he's been a director of the EMI section that paid lots of loot for Simms-Watts and he's also been the sales director of the musical instrument distributors Rosetti and Co.

Today he's back in the shop. Not the same shop exactly. one just up the road in The Grove, off Ealing High Street in West London, The Dave Simms Music Centre is quite a big shop, much bigger than the original MBC premises "we've still got that for a warehouse" and the second time around Dave knows most of the answers reasons that I left EMI to work before he discovers the problems. "Even if I say it myself," grins Dave over his trademark, tinted glasses, "I had a lot of varied experience. I started gigging as a player when I was just over 14 and 1 first opened a shop in Ealing selling secondhand gear. I didn't carry any new items at all except for strings and plectrums and that shop did very well. Then we started making our own gear and that started going very well-

and from that start we developed the whole Simms-Watts thing. When EMI bought us out they asked me to stay on as a director because they naturally wanted my name on the board. They wanted me there for seven years, I said 'No, how about a couple?' In the end we agreed that I should stay for three years. During that time I became sales director of Rosetti and Co. and I really travelled the world learning about exports, meeting the people and trying to get myself known. The thing about exports is that you have to go to the places and get to know the language. I keep cassettes in my car so that I can practice on my way to work."

All that experience has now been poured into Dave Simms Music Products, the company which umbrellas all Dave's activities. It's all centered around Project Electronics, the company through which Dave manufactures August amplification, disco equipment and lighting. The August gear is naturally featured heavily in the Ealing shop and Dave is currently tying up deals that will make the equipment available around the country. But isn't he repeating the pattern that took him away from direct contact with the customers?

"One of the main on my own again is that I wanted to be in touch with things. As good as it was with EMI I was never in contact with musicians. I'm making very sure that it won't happen with August gear, I'm deliberately putting a strict limit on the number of places that August will be sold. Many people have asked me for the right to sell August in the West End of London, for example, but I think the Continued on Page 35



#### **Dave Simms**

Since the success of his album 'Headhunters', Herbie is relying more and more on his

relying more and more on his abilities to programme and play ARP synthesizers on stage as well as in the studio.

His recently acquired Explorer I synthesizer gives him the flexibility to switch quickly and easily from preset voices to an infinite variety of manually programmable sounds including unpitched effects like wind, thunder, surf and, of course, exciting electronic sounds.

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## **ELKA-ORLA**

**X55** 



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

Upper Keyboard: 49 keys from DO to DO, 9 Draw-bar voice registers: Flute 16' - 5 1/8' - 8' - 4' - 2 2/3' - 1 1/3' - 1 3/5' - 1'

5 Percussions: 8' - 5 1/3' - 4' - 2 2/3' - 2'

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

Effects: Cricels: Vibrato: slow/fast Sustain on the upper and lower keyboards Brilliance Noise Attack

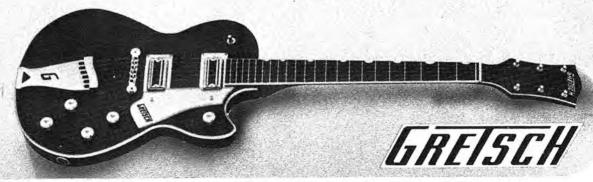


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West End is finished. This shop is the only place you can buy August in London, I think there will only be about eight places in Britain that August can be bought from and I'm sure that musicians and DJs will be happy to look for our equipment because of the very good price. It's only a good price because we're deliberately keeping the operation small and flexible. It's flexibility that's the main thing. When we first started making Simms-Watts stuff, nearly every customer wanted a special modification and we were small enough to be able to do that for them. Now the things are produced on a requlated basis so the contact is lost. I'm going back to the flexible situation with August and we'll do anything anyone asks".

The August equipment is manufactured in the Grove premises and at a small factory in Southall. Most servicing and repairs are undertaken at the Grove premises.

"We offer a 24 hour service on most repairs and we're usually happy to loan an item of equipment during that period so the musician or DJ can keep working. I think that kind of thing's important."

There's a wide range of equipment and instruments at the shop although it only opened last month. Apart from August there's not going to be any special emphasis on one particular line and there'll naturally be a large amount of secondhand gear in stock at most times.

Jim St. Pier and Paul Raymond are in partnership on the venture with Dave, Jim and Dave have been together for many years and Jim looks after the retail side of the business. He's a woodwind player as well as playing guitars and is extremely experienced in helping bands find exactly the piece of equipment or instrument they're looking for.

Paul Raymond is the lighting expert. There's a big disco and lighting section attached to the shop and there's an amazing variety of light wheels and effects that Paul's dreamed up. For this reason the shop has already become a centre for DJ's in London, Paul also plays guitar, so he understands the various aspects of the business.

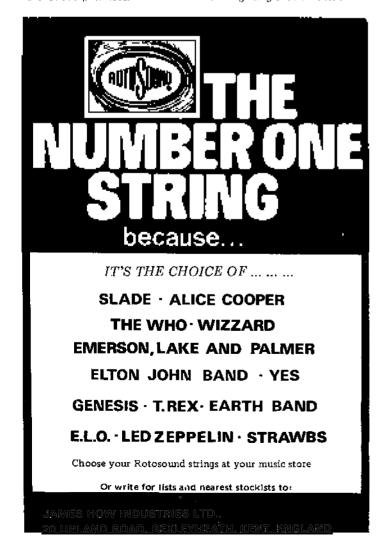
Although August equipment has only been around in a big way for the last 18 months or so, Dave Simms has already built it up into a good export product for the flagging British balance of payments situation.

His experience with Simms-Watts and later Rosetti means that he set up Project Electronics with the most incredible amount of knowledge and an equally incredible list of contacts. August is already exported all over Europe — with the exception of Italy, America. Canada, Africa and a few other places and much of Dave's time is spent travelling, furthering the export drive.

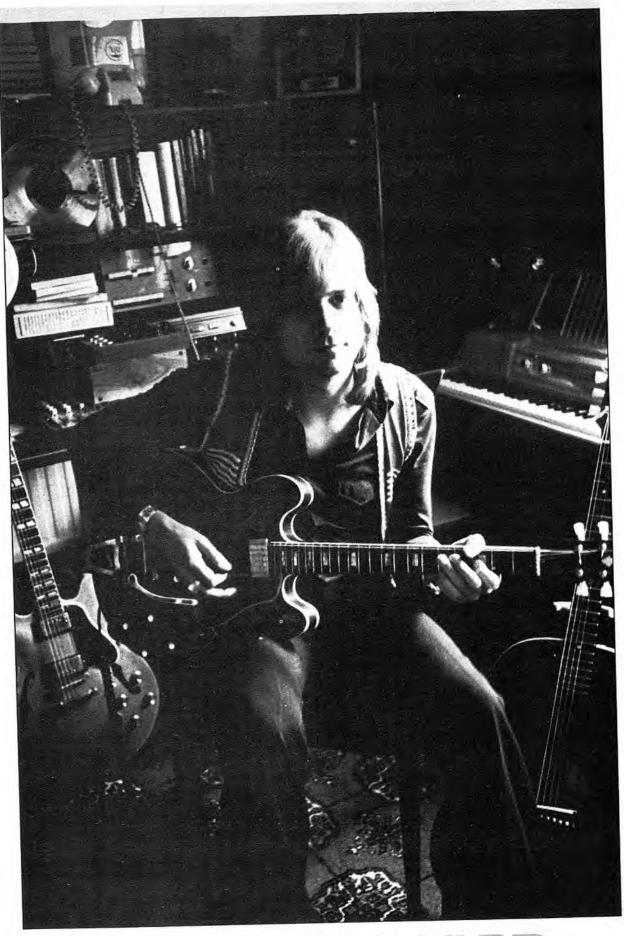
"About 40 per cent of our output goes to export at the moment," said Dave, "and that's a figure I expect will increase."











JUSTIN HAYWARD

The Moody Blues were one of those bands that tended to obscure its members. Non-one was ever really sure who was the main creative force and it's only now that Justin Hayward and John Lodge have stepped out and produced Bluejays that any measure of their individual talent can be made. As we said in our April issue, parts of the album are very good, other parts are not so good. We liked Justin's contribution and we were therefore grateful for the chance to see him at his Thameside home and talk about his playing.

How many guitars do you have? I've got about 16, I've been collecting them over the years and I really like getting new instruments to add to the collection. Not all of them are pure guitars, there's a lute and a sitar in there. I keep some here at home and my roadie looks after some for me and I keep some at our studio ready for recording.

Have you kept any guitars for the wrong reasons, like superstition?
Yeah, (laughs) I've got one or two like that, you know, they've been really badly abused. I do get superstitious about instruments. It's a recurring nightmare that I have, that I get to a dressing room — I have a lot of dressing room dreams, I never get on stage, it's always the dressing room — I open my case and it's not my guitar, it's the wrong guitar.

It's actually happened to me once, when my guitar didn't actually turn up and I had to use another 335. It was OK, it wasn't that bad, I just got on with the job. It rattled me all the way through though, and it threw me for that show, but it wasn't as bad as I thought it would have been. I know that some nights the guitar actually plays me, I swear it, it really does. It goes on automatic and away we go.

You mean it's like car driving, you find yourself driving on autopilot?

Yes, except that you can get yourself into a state whereby you can just switch on automatically and blow along with it.

It's almost like a bliss-like state where you can't do anything wrong. Usually at the end of it something does happen and you goof and it brings you back to reality. Sounds like you're stoned out of your brain?

(Laughs) You can't even do that. I could never really get on with the scotch, a couple maybe before you go on but I could never get smashed, because tuning up is the one important thing to me. I've always worked with acoustic instruments like flute and everything so I've always had to be in concert pitch, so tuning was dead important. It's not quite so important in a three guitar group because you can tune within yourselves. Have you got any little habits about tuning?

Well, it can be deceptive, doing it in the dressing room unless you're doing it through an amp. It's pretty good then and the only trouble is that it gets on everybody's nerves, the drummer's going berserk and everyone's shouting 'shut up'. Trying to acoustically tune an electric guitar can be deceptive, you can get on stage and the guitar's totally in tune, but very slightly flat to concert. We always tune when we go on stage. We have a little routine about it, I'd get it from the flute and give it to the bass and Mike would be getting his at the same time.

Is your ear very accurate?
Yeah, I've always regarded myself as

being very lucky in that department, I've always been the one in the band who's had to tune up everybody else, or work out the harmonies. It comes naturally to me, that's all I can say. How do you tune your guitar? I start off on the D string, Psychologically, I always feel that it's like the middle of the guitar and take it from there. And I usually start off with trying to put it not so much into exact pitch on the actual guitar, on open strings, because that can be deceptive. I've always found with my 335 particularly because of the gauge strings I use that I have to tune the G string slightly flat to make every chord right.

I always have to be aware that the G has got to be slightly flat to make the chords right. It's just a thing about 335s, I think a lot of people will have noticed that too. The way I do it is from a D and then I go to a D chord and then go back through the chords. If a D major and an E major will work then you have a pretty good chance of the whole thing being in.

How do you adapt to other string instruments?

A while ago, somebody gave me a banjo, we found it in their attic, and they just said 'Do you want it?' It was quite nice, actually, and I took it to this big banjo place in Charing Cross Road, and they did it up. I got it back, and I got a book as well, and I got all the different tunings sorted out, and I found open tunings on that pretty good, like a country banjo, and I actually used it on a couple of numbers that we did, on albums and things. I got it all together, and then one day this person came around and said 'Oh, there's that banjo. Doesn't it look great?' and he took it back!

It's just happened again, somebody else has given me one in a terrible state — it's got no frets. They gave it to my mum, so I said to her 'Is he giving it to me or what?' and she said 'Oh yes, dear'. But the one I have is fretless-intentionally — it's absolutely smooth.



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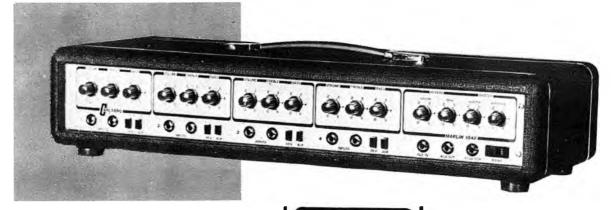


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Carlsbro Sound Equipment, Cross Drive, Lowmoor Road Industrial Estate, KIRKBY-IN-ASHFIELD, Notts., England. Tel.: Mansfield (0623) 753902. Has it got a softer sound?

I don't know, at the moment it's only got a couple of strings. The skin's alright, the neck's pretty straight, I'll just get the strings for it and see what happens. I haven't tried it, but it's a bit sort of slidey, you just have to watch the dots on the side.

What's the weakest, your right or left hand?

My left, I guess.

So you're happy with the speed of your right?

Well, because I've always had to play rhythm as well as lead, in all the bands that I've been through, even before the Moodys, I was the only guitar player. I never really worked with a rhythm guitar player, so I always ended up having to fill that gap as well. That's why I developed a lot of right hand tricks to see me through. Different ways of picking and stuff like that.

In the meantime, it meant that I was trying to cover a lot of chords with the left hand. If you stop playing with them, when it comes to the time to do your solo, the middle drops out, because you stop doing rhythm.

Did you actually manage to develop a picking style with your right hand, using a plectrum and fingers as well to get a fuller sound.

I used a pick to make it sound like fingers, really picking and digging into all of the strings across the chord. How do you manage to jam and play with two rhythm guitarists who do a hard set chord format under your lead breaks?

Well, if it's my song, I always like them to be doing exactly what I want them to. Mike and I always work that way because Mike has always played a lot of acoustic guitar and I always play acoustic guitar on his numbers. He used to stick exactly to the chords. I found it was really good, because we could double up on acoustics. With one person playing the exact straight chords, with the right shapes and inflections it left me free to

also play the chord, but like a different inversion or to also put another couple of little slides in there as you go from chord to chord.

If you had to choose a number to play with someone that you'd never played with before, what would you pick? I guess something by Buddy Holly. I started with him, learned all the solos, and he always has been my idol. I guess I would choose 'That'll be The Day' or something — just to get the guitar in first.

How good are you on keyboards? Well, I was taught piano when I was six, for about a year. I remember, when I was a very small child, I used to like singing. I don't know why, I remember the first things I sang were hymns, the first things I used to get involved with that I really sang out and became aware of the sound of my voice. The piano lessons only served to put me right off the instrument. I was only six and I had to learn music, the mathematical side of it, before I could actually play, which was the wrong way round, It was the mathematics of the music that really put me off. It put me right off the instrument for a long time and then I switched to guitar, and I never got into









recording with it until I was always able to play all the chords I wanted to. How did you get back to it after being very much a quitarist?

Well, I did it almost in a guitar type of fashion, where my right hand would be doing the rhythm and my left hand would be doing the bass, which meant that I was stuck on the root notes. It's really interesting, how did you get back working on it after being away for so long? Did it come very quickly? Well it only comes I think by working with rhythms. It's no good me saying to myself, 'Now, I've got two different things with this hand', you've just got to get your hands into a rhythm. Once I've got into a rhythm of doing things, once you can do that, you're away. That's how I got around the problem. How do you describe your ability on piano now?

I'd love to be able to really play piano. I've got a Steinway that Decca gave me, for services rendered. It's beautiful—it was from their number three studio—they used it as a second piano. I asked them what was happening with it and they said 'We've got to get a new one soon' and they just gave it to me.

When you find a piano that suits you, that has the right touch and the right weight on the keys, that's half the battle. I had a Yamaha Grand, which was great for rock and roll, but I wasn't too good at that. I think being a guitar player you develop a lighter touch on piano, and it gets a bit painful to kind of hammer it. Eventually I got rid of the Yamaha and bought a small Bechstein, which is very soft, completely the other way. I was pretty happy with that, but then I had a chance for the Steinway. It's had so many great people playing it that I think you can really tell. It's all worn in exactly the right places!

Actually I've got a player piano as well, one you put the rolls in, and some of the rolls are actually made by some great composers.

DANDELION of Huddersfield, tucked away in the heart of swinging Kirklees, have literally been invaded by musical personalities over the last month, Billy Fury drove up in a bia limousine and sent a couple of the band in to collect some slave amplifiers for their local gigs. Jeanney Denver of Yorkshire Rose album fame, and a major hit at Wembley, is recording locally at Look Studios. She called in to see Dixie for a Traynor P.A. set-up and some additional Peavey stage gear.

Mother Superior, a local all-girl band called in to sample Dixle's wares, and we are told that they went away satisfied.

Bill Clarke of Box studios, who formed Arkwright and recorded them for Jonathan King's UK records, stopped in to see about some equipment and Driftin, a band produced by Clarke, were in to see Dixie for a Gretsch kit.

John Verity of Argent, Jenny Hahn of Babe Ruth and Bill Nelson of Be-Bop De Luxe were all in the shop during the lust month.

Showband pedal steel quitars are selling very well and bands in and interested in them lately include Santa Fe Connection, Ralph and The Rednecks, and Muttonchop.

New lines now on sale include Rickenbacker twin-neck guitars, Gauss speakers, Harmony Opus guitars, and the latest Marshall solid-state guitar

STEPHEN DELFT and Partners, London SE1 are perhaps one of the most unusual retailing concerns in the country. The atmosphere at the Cable Street shop is quite informal and one can discuss problems or requirements literally across the wood shavings on the bench of expert guitar maker Stephen Delft.

Discerning professional musicians are not perturbed by informality and considering the list of talented professionals (such as Paul Simon, David Johnson from The Elton John Band, Mike Silver, Mike Moran, Kiki Dee and bands like Safron) who have used Stephen's services one way or another they seem to enjoy the set-up. Stephen specialises in fretted

and does not handle large percussion set-ups and brass instruments generally speaking. Custom built acoustic or solid auitars can be built to order or even a medieval lute if required, Repairs to instruments and electrical equipment are also carried out, Quality microphones by Beyer and Calrec and amplification by Davoli and H/H are in stock. Interesting hand drums from Turkey and Morocco compliment the percussion range,

New acoustic guitars stocked at the top end are Guild, John Levoi steel string jumbos, Ramirez classics and at the lower end Landola from Finland and Saez from Spain, recommended to young students of the guitar. In the solids Dan Armstrong, Guild and Dan Brown high quality custom built guitars are available from stock and at the lower price bracket Gherson quitars are recommended.

One of the principal features of the shop is the tremendous choice of fretted Bouzoukis, instruments. mandolins. mandolas from Sicily, mando-cellor and lutes from East Germany, Bandurrias from Spain, English Vihurlas and violas-da-Gamba are just some of the exotic Instruments you can examine. A fine range of antique guitars, Victorian classics, pre-war American and European acoustics, and 1950 period American electrics are also in stock.



Orange visitors, Pilot

instruments and amplification systems FARMERS of Luton are equipped to handle anything that local bands and musicians might require. The first floor showroom is packed out with instruments and amplification from brass and woodwind instruments to leading brands of amplification, percussion, Fender and Gibson guitars and keyboards. The keyboard section is in an annex on the same floor, but conveniently away from the amplification.

> The talented team at Farmers is led by John McCann, a musician with seven years of experience working in the London music scene, John is ably assisted by Tony Sprinks the drum man and Steve Watkins, a specialist in guitars. Together their professional experience is a great help to local bands and musicians who are mostly amateur,

> FENDER SOUNDHOUSE, London W1 has been the centre of great activity over the last month. The Soundhouse normally stays open until 9 o'clock every night of the week including Saturday, but due to the recent demand for equipment inspired by the Budget they have been staying open until 11 o'clock each night. A couple of great keyboard clinics were held recently in the Soundhouse theatre; The Gordon Beck trio demonstrated the Fender Rhodes range and Alan Townshend did a synthesiser clinic.

Among many of the celebrities coming into the store recently were Bad Company, Roy Wood, and The Shadows who required some custom work on their Fender guitars.

Amongst the lines doing exceptionally well at the moment is the Fender fretless bass with the maple on rosewood neck.

A special area on the first floor has been set out for the big P.A. systems and a big increase in keyboard sales. seems to be the result of the new keyboard display area on the same floor.

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# DEALER NEWS

EDDIE MOORS of Bournemouth, must be one of the most specialised music stores in the whole country with a truly incredible range of orchestral instruments as well as a large selection of guitars, amplification, drum kits and keyboard instruments always in stock. Mr. Eddie Moor mentioned to us that they see principal players such as Rav Carpenter, Frank Holsworth and other leading musicians in the shop weekly due to the tremendous range of handmade quality instruments that they have available, Many of these fine instruments can take as long as a year to obtain due to the skills and hand craftsmanship required to make them. At least four hundred brass instruments and a minimum of five hundred woodwind instruments including the most celebrated Mura Matzu flutes, Puckner bassoons and Alexander French Horns are in stock now. Eddie is also building up a large selection of the finest quality string instruments.

Group equipment is stocked in depth and one can choose from over one hundred and fifty Fender Gibson and copy guitars, On the amplification side they tend to specialise mainly in H/H, Fender and Traynor equipment.

Melondians, accordians and studio 49 percussion instruments are well represented.

The first floor showrooms is set out for keyboard instruments in a very big way with grand pianos made by Ebach and Shiedmayer imported directly by Eddie Moor from Germany, organs, portable, electric pianos, down to synthesisers by ARP and Mini-Koora.

ORANGE MUSIC SHOP stands in the heart of London's West End, and shop manager John Bates reckons that they are the busiest shop in the area. Both a Fender Soundhouse and a Gibson Star Dealer, Orange also carry a broad range of amplifiers which includes Orange and Acoustic, drums from the Orange and Ludwig stables, and keyboards which include Hammond, Fender Rhodes and Wuriftzer.

Orange specialise in professional service for a professional clientele, and recent customers include David Essex, Paul Kossoff, John Miles, Pilot and Geordie. The principal attraction in the shop now is the Orange Twin Reverb 100 watt amp.

The skilled personnel at Orange know what they're talking about, and their services include guitar repairs and on the spot repairs of amps. There are three engineers on the premises. With over £60,000 of instruments and equipment in stock and a well stocked secondhand section as well (the Orange pitch is really two shops, one new and one secondhand), Orange still reckon that they offer the best deals and the biggest discounts in the West End.

We've heard that Managing Director Cliff Cooper's lovely receptionist Jenny Murd sold a £3,000 P.A. set-up while helping out during her lunch hour.

Further good news includes the new Vako Orchestrator which is now on demonstration. This is a sensational keyboard effects unit that operates with photo-electric discs and is being used by a number of bands at the moment, Yes among them.

RHODES MUSIC of Denmark Street, London, carry a truly astonishing range of instruments and equipment, ranging from a Hammond organ at £1,400 to a 14p Kazoo, and Veronica Waters, the shop manager, is perhaps the only female music manager in Britain.

Rhodes stock a wide range of Fender, Gibson, Martin, and Gretsch guitars, as well as an ample supply of CSL copies — in fact, If you want a copy not in stock, Rhodes will get It for you. Their amps include Carlsbro and Custom, although their fine Orange range of equipment attracts most of the attention from their customers, who seem to be split evenly between professional and semi-professional musicians.

Mixers, from the small and portable to the large and quadrophonic studio models are also on display. Organs from Hammond and a wide range of portable keyboards, as well as a fair selection of drums are also on display.





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# DEALER NEWS

TEMPO, West Ealing, London, W13, must be one of the most deceptive music shops in the business; although the frontage is small they pack a very big punch when it comes to carrying a tremendous stock of amplification and guitars.

This is a Fender Soundhouse with a difference with over three hundred Fender Guitars in stock, and more than one hundred Gibson and copy guitars to choose from. On the amplification side customers can try out Fender, Hi-Watt, H/H, Custom, Simms-Watts and WEM equipment. Tempo are H/H main dealers and Cliff Lake informed us that they have over one hundred H/H amplifiers in stock. With this sort of selection it is not surprising that bands like Sweet and Queen were in recently. All the Altec Lansing range of equipment is also on show.

Drum kits are offered at keen prices which include a good guarantee elthough there is little room to display them due to specialisation in amplification and guitars. A wide range of keyboard instruments with the emphasis on portables such as Fender Rhodes, Wurlitzer Crumar and Hohner Clavinets are in stock together with many effects units and accessories.

Custom-built hand-made guitars, either acoustic or solid, can be supplied and an extra special line in the Peter Cook range of custom-built twin-neck guitars.

CLAUDE VENET of Watford is a specialist extraordinaire, and in more ways than one! On the big band P.A. set-ups there are few shops north of London which can boast such a tremendous selection of mixers, graphic equalisers, amplifiers and speakers. A laboratory of test equipment and a good staff make this a unique modern music centre.

Claude also carries a good range of instruments and amps with a special emphasis on the Musique Industrie range of imported amplification.

John Verity of Argent bought two M.I. phase reverb combination amplifiers recently and an M.I. Minix practice amp. Rod Argent and Dave Hill of Slade also bought Minim amps which are pretty fantastic little amps selling for about £48.

The latest great idea in new lines is a range of speaker cabinets designs, 4x12, 2x15, and 2x12, which can be sold to musicians without the speaker drive units. The musician can then fit them to his own speaker with old or new to suit his own reauirements.



YARDLEYS of Birmingham specialise in such a wide range of musical equipment that it is not really surprising to find personalities and bands from Budgie, Black Sabbath, Raymond Froggatt, to Johnny Woods, lead tenor in the Sid Lawrence Orchestra, or Jean Marie Londeix of the London Saxophone Quartet coming into the shops.

Yardleys have been in the music business a long time and are well known and respected due to the work of their managing director Charlie Hewitt who retired this year at the end of April. His position will be filled by Harry Collins who has been with the company several years and who is well known to musicians in the Midlands area. We would like to wish Charlie a long, healthy and happy retirement.

The woodwind and brass section at Yardleys is one of the largest in the Midlands and many principal players

are listed as customers,

Guitars, amplifiers and drum kits are stocked in depth as well as a good selection of classical guitars. Readers wishing to discuss guitars should ask for Dave Bridge or Cliff Bennett.

Over 20 different drum kits including secondhand kits are on display in their drum showrooms around the corner from the main shop, Yardleys find that the trend locally is for the Rogers kits,

An after sales service and instrument repair service on all their equipment is provided.

# WHAT'S THAT?

# Saville Row

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Disco by S.A.I. and CARLSBRO. Always plenty of accessories, strings, bits and pieces, effects, tambourines, pedals etcetera, etcetera.

That's a fairly wide range for starters, and YOU could make it even wider, all we need is your support and we could give you the best service and backing you could wish for. Give us a call or a bell, we're here to help you — see you.

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# Grammy for Central Sound

Getting a Grammy award is about the highest accolade this business can bestow on an engineer and a studio, when the production that earned the award has also been a number one in the U.S. charts, the satisfaction is more than doubled.

Simaen Skofield, chief engineer at Centra Sound Studios in London Denmark Street got the award for the best engineered single 1974/75 for a track of Olivia Newton John's he recorded at Central at the beginning of last year. The track was "I Honestly Love You" and Olivia recorded the track (and the album it came from) with Simaen engineering and John Farrar producing.

"The album was incredibly hard work," admits Simaen "Olivia is easy to record but I remember the album took an incredible amount of hours to record."

"That particular track wasn't intended for a single especially, we just laid enough tracks for an album and let the American record company choose which track they wanted wanted to release as a single."

The award — officially titled Awarded by the National Academy of Recording Arts and Sciences - reflects heavily on all those involved with the track honoured.

Central Sound has been hitmaking for over 17 years. The studio opened its door as one of the first independent studios in London and business - strictly mono then, of course - was brisk. In the early days the business revolved around Freddie Packham who was engineer - and head cook and bottle washer. At one time he had three hits in the top ten at the same time, by the Honeybus, Easybeats and Bee Gees. Today Freddie and his partner Matt Geddes

look after the studio at director level, as well as looking after the Master Room cutting studio with Brian Hewson.

Central Sound went 16 track three years ago - the Machine is an Ampex MM100 - and it was on this machine that the Grammy award winner was recorded. For years before the studio had been doing great business as a four track studio and then, after a brief eight track spell, the studio completely re-modernised itself and brought up the 16 track.

The album by Olivia came to Central almost by chance. "It was started at EMI," said Simaen, "and for some reason they were unhappy there and came to us. The recording took a lot of time because John Farrar played a lot of the instruments himself,"

Continued on Page 49.

L-R Matt Geddes, junior engineer Karl, Simaen Skofield, Brian Hewson and Freddie Packham



Ampex congratulate Simaen Skofield of Central Sound on his GRAMIMY award for the recording of Olivia Newton~John's "Thonestly love you."

Ampex 406 Mastering Tape was used for this recording on an Ampex MM1100 recorder.

The reduction was also made on an Ampex AG 440.

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The Better Memory People

# **Central**

During the time that Simaen has been with Central he's been responsible for making several hits. Apart from Olivia's hits, Simaen had top ten entries with a Polly Brown single and "Honey, Honey" by Sweet Dreams.

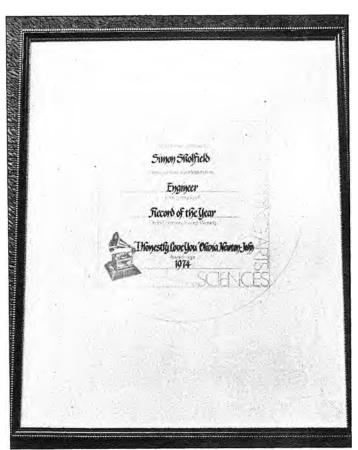
Today Central Sound divides its time between recording usual pop singles, recording a lot of soul music and some M.O.R. Recent artists using the studio have recorded the Seekers who have recorded their new album there, Scot English, Barry Blue, Sweet Dreams, Polly Brown, Gerry Shurry and GTO Records.

Big things are now ahead for Central, Harry Hyams has recently been trying to pull Denmark Street down that has made many operators in the area think about moving elsewhere, it now tooks like Harry Hyams has lost the battle but Central have decided their search for premises shouldn't be wasted, so they have decided to open a second studio in addition to Central Sound which will stay at the old address.

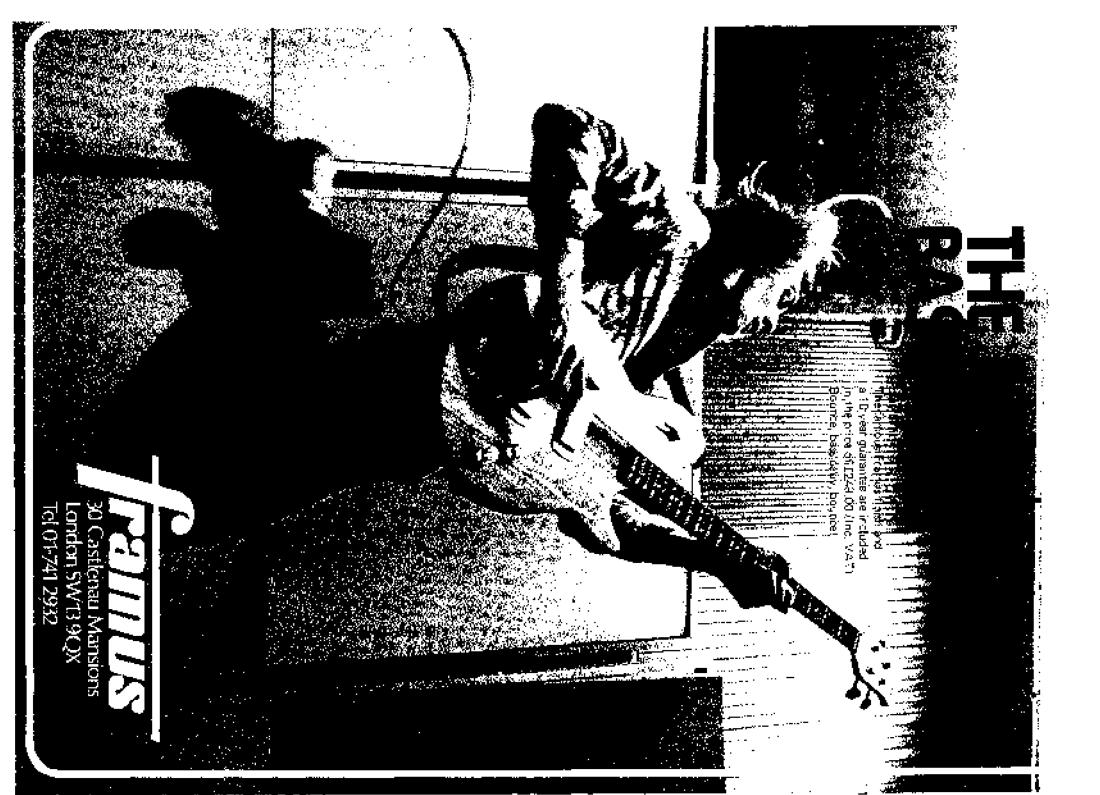
The new studio will be 24 track and will obviously be as modern as tomorrow. What name it will operate under is not yet decided but they will most certainly open up new avenue for the group.

Back to the Grammy man: Which track he's recorded at Central Sound has given him most satisfaction.

"I suppose it is another track that we did during the Olivia Newton-John sessions, "God Only Knows". I'm a Beach Boys' freak anyway, but her version was particularly good and I'm really proud to have recorded those tracks."







The Framus story is a paradox — it is at the same time unique and typical of a thousand post-war German success stories.

For both of these contradictory reasons as well as the fine stringed instruments that they produce, the Framus story is of particular interest.

Fred Wilfer is the central figure of the Framus story. A native of the Sudetenland, long an area renowned for its traditions of fine violin making. Wilfer was blessed from birth with family connections which augered well for the future.

His father was a timber merchant, and a number of other relatives were well known master violin makers. Combined with Wilfer's shrewdness and vigour, the coincidence would prove a happy one.

The story really begins in the aftermath of the Soviet occupation of Czechoslovakia. The German population were given literally a matter of hours to gather what they could and depart from their homeland. The spectre of a skilled community of craftsmen disintegrating was appalling, and largely through the efforts of Fred Wilfer, the precious knowledge and the necessary tools that accompany it were kept together. As a result, the area where Wilfer and his associates resettled in Bubenreuth, and that town and the surrounding area became the centre of post-war Germany's musical industry.

And so Fred Wilfer K.G. was born. Specialising at first in zithers, violins and more conventional guitars which then dominated the German stringed instrument trade, Wilfer found that the war had taken its toll even in the instrument world: There was an almost insatiable demand for musical instruments.

By 1950, Wilfer had formed Framus, and the name itself is an indication of Wilfer's assessment of the path Europe would take in the fifties. The word Framus comes from FRAnconian MUSical Instruments — an English name, and Framus were already making small but important inroads into the American market. During the next ten years, Wilfer would secure the guitar concessions at 11 American military bases. Returning G.1.s would bring back more than memories from their national service — many would return with a Framus guitar.

Even with an eye towards the West, Wilfer didn't neglect the home market. Grounded in the age old tradition of master and client, Wilfer could see no need, even in a modern economy, for a wholesaler. Framus deal directly with the retailers, to make sure that they know exactly what the customer wants. Even now, with the dominance of the electric guitar, Framus still lead the world in the production of zithers. The fifties were the big decade for Framus in terms of volume and growth, although they have continued to develop right up until today. The factory still reflects the

traditions which Fred Wilfer worked so hard to preserve in 1945. The total work force of 1200 is largely unskilled labour, overseen by a dozen luthiers, the German term for a master, who are in turn responsible to the senior luthier and one of Germany's most famous masters, Mr. Brauer. While it may run on an assembly line basis, the division of labour goes to great lengths to ensure that quality is maintained — for example, every instrument except those with polyester finishes is hand polished.

A second factory was opened in Pretzfeld in 1965, where the raw bodies of all Framus instruments are fabricated, and the annual output is now over 50,000 instruments.

Wilfer's contacts in the timber industry have served him equally well. Through him Framus have a virtual monopoly of Alpipe spruce and maple, which permits them to choose the cream of the wood: if a customer wants an instrument made of spruce which has been stored for 100 years, Framus can supply it.

All this points to quality and Framus go to great lengths to maintain high standards in all areas.

That's why Fred Wilfer will fly to the States for a day to buy pick-ups, and it's also the reason that Framus can offer guarantees of ten years on their Nasheville range as well as an astonishing lifetime guarantee on their Akkerman model. Framus had an undeservedly bad name in Great Britain until the middle of last year. Sadly, the fault lay not in the product but in the distribution. The solution came in the form of Walter Streit, formerly head of the Framus set up in BeneLux. "I was sent over from BeneLux one week before the Frankfurt Trade Fair in 1974, to see what was going wrong," Streit explains. "The situation was very bad. The wholesalers handling our products were only interested in a fast buck, the after-sales service was poor and the turnover was slow — some people were doing in a year what German salesmen did in a week!"

Streit returned to Frankfurt, made his report, and came back after the Fair to rectify the situation. The result has been a much tighter, efficient system, and it has worked for the benefit of everyone.

After a victorious court battle terminating in June of last year, Framus (Musical Instruments) Ltd., began to trade in earnest. With Streit at the helm and a four salesman team covering Great Britain, Framus have quickly begun to recover the ground they lost in the last few years.

"The U.K. operation has been self-sufficient since January," Streit continued. "We are working steadily to recover our image and good will. What good are posh premises and frills if they are not economical and functional?" If the going is slow, it's steady as well. "All over Europe, professional guitarists,

# THE FRAMUS STORY



serious musicians who study at conservatories and then play in orchestras across the continent, these people are using Framus guitars, models like the AZ 100."

Established among the older professional musicians, Framus are gaining ground rapidly among the younger rock players. The Akkerman and the Framus Nashville range (manufactured in Tennessee) are enticing models, and the Framus research team, which includes Bill Lawrence, the designer behind the "Gibson Sound", Jim Atkins (Chet's brother), and a host of European masters, including Atilla Zoller and Volker Kriegel. Any Framus prototype has met with the criticisms and scrutiny of a dozen guitarists before it goes into production.

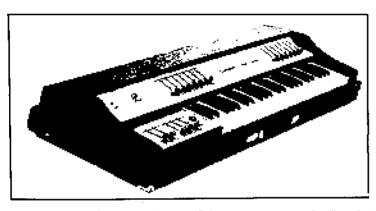
"We try to find a happy balance — it would be easy for the factory to produce only one model of guitar, and we salesmen would love to have each model in a dozen colours," Streit added with a good-natured grin."

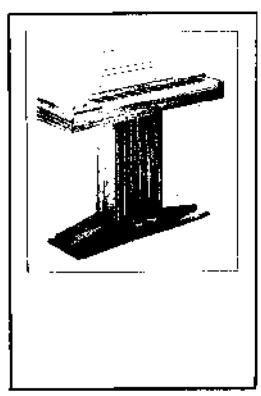
As the manufacturer of the largest number of stringed instruments in the world, Framus have gone a long way towards striking a happy balance for everyone. With skilled craftsmen - many of whom have worked for Fred Wilfer from the beginning, unrestricted access to some of the world's finest timber, and the energy, foresight and devotion of men like Fred Wilfer and Walter Streit, the Framus future promises to be every bit as successful as the past. "Our concern is for the public, first, last and always. That's why we will be giving affairs like the A.M.I.I. exhibition a miss, and concentrating on exhibitions where the public can come, see and try what we have to offer."

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# Competition

IT WAS a great day for the winners of our Great Guitarists Competition last month when they came to central London to receive their prizes.

The ceremony was held at Larry Macari's Keyboard Centre in Denmark Street — traditional home of music — and as well as the lucky prizewinners some prominent members of the musical instrument industry were on hand to witness the event.

First prize was won by Mr. J.C. Kennedy of Fallings Park, Wolverhampton. He was presented with a maple neck Fender Stratocaster by CBS/Arbiter Executives Andrew Wallace and Martin Fredman and as an extra bonus they kindly threw in a de luxe hard shell Fender case for the guitar.

Pete Tulett, sales director of Rosetti and Co. presented Drew Adams of Edinburgh with a magnificent Epiphone 12 string acoustic guitar. Drew already had a solid guitar but this is the first time he's owned a good quality acoustic.

The host of the proceedings, Larry Macari, gave a Colorsound Phaze pedal and a Might Atom amp to the third winner Allen Mortimer who didn't have so far to come. He lives in Fulham, London.

# Fender Club

CBS/ARBITER are launching a club for the thousands of guitarists who play Fender in the U.K. The club is now being formed by CBS/Arbiter's Andrew Wallace, Martin Fredman and Pete Dyke, and it is intended that a main part of the club's activities will be concentrated on helping improve the playing standard of the members.

Virtuoso guitarist Big Jim Sullivan has agreed to become one of the founder members and he's going to undertake a series of clinics around the country in the next few months at which he will be playing and encouraging comments, questions and criticisms about guitar technique.

For more information about the Fender Guitar Club write to Andrew Wallace, Fender Soundhouse, 213—215 Tottenham Court Road, London W.1.





Above: Left to right

Pete Tulett, Rosetti & Co., Malcalm Green, International Musician, Larry Macari, Coloursound, Drew Adams, 2nd Prizewinner, Martin Fredman, CBS/Arbiter, Allen Mortimer, 3rd Prizewinner and J.C. Kennedy, 1st Prizewinner,

# Sue Trial



BLACKFOOT SUE recently collected a pair of Tunderbolt horn bins from Vitavox at the beginning of a field trial sponsored by International Musician.

Vitavox have produced a high quality enclosure intended for group use for the first time and before going into full production the company is anxious to discover how the bins withstand the rigours of life on the road with a top professional band.

International Musician decided to sponsor the field trials and Blackfoot Sue have agreed to test the bins for a month or so and report back on their findings. We hope to publish their report in due course. The band were presented with the bins by Vitavox's joint managing director, Mr. David Young.

# Chairman Retires

LESLIE A. BOOSEY, Chairman of Hammond Organ (U.K.) Ltd., retired recently. A special presentation lunch was held for him at London's Cafe Royal, where John A. Volkober, President of Hammond Corporation, Chicago, U.S.A. presented Mr. Boosey with an inscribed working "Cut-away" model of the Hammond tone wheel generator.

In an appreciative address, Mr. Volkober praised Mr. Boosey as the "father" of the very successful Boosey & Hawkes Ltd. and Hammond Corporation, U.S.A. joint venture.

Also in attendance were Lawrence Zinder, A.G. Kilby, A.R. Clapham, H.P. Barker and Keith Beckingham.

## Soundcheck

IN OUR Soundcheck articles last month we made two mistakes that need correction. With reference to the Ameron power amp, we said that an incorrect mains cable was fitted — this should have read, incorrect mains label, referring to the transformer label. We're sorry if this has caused any confusion.

On our test of the Yamaha 25 watt amp, we mentioned the

American type plug fitted to the test model. Kemble (the U.K. distributors of Yamaha) have asked us to point out that every amp is adjusted for the U.K. market to meet the usual safety requirements. The unit we tested had recently arrived in the country and had not undergone the pre-delivery adjustments.

# **lake Y**ou Dick

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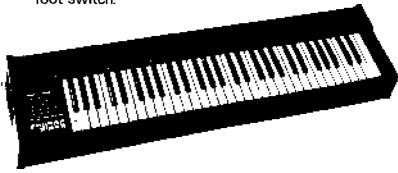


Billy Preston is only one of many Artistes playing

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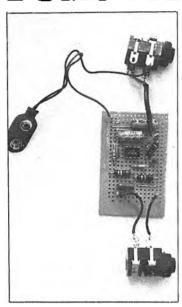


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# **BUILD A BASS GUITAR PRE-AMP**



This article describes how to construct simply and inexpensively a small battery-powered preamplifier to build into the body of a bass guitar, in order to drive a remote slave amplifier. We also discuss the merits of using such a system. We have not attempted to describe how the unit should be fitted into a guitar and would recommend that if you are uncertain you should contact your local guitar repair man before tackling the fitting job.

Most musicians would agree that a system whereby the guitarist can use only the built-in tone controls on his instrument to control the overall volume would be more useful than the present system of amp controls at the back of the stage.

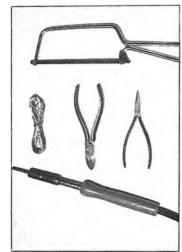
One answer to the problem is to have an elaborate P.A. System into which the voices and instruments are fed and balanced by a sound engineer or qualified roadie!

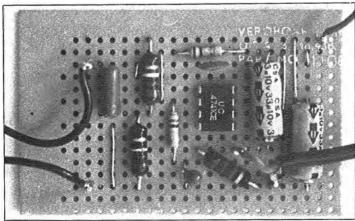
Another answer, especially for bass guitarists, who tend to cause some inter-modulation distortion on the P.A. if they are fed into the Communal System, is to have a standard 'slave' amp and speaker (monitor) at the back of the stage and to fit a small pre-amplifier into the guitar itself. The only controls on a slave amp are the volume control knob and a mains on/off switch.

The circuit and construction design of the pre-amplifier we are describing is intended to make possible direct signal-injection into the normal slave amp of your choice. The pre-amplifier unit is small enough to fit inside most bass guitarists, and the time and money spent on the construction of the unit (approx. £2) could easily be recouped if you buy only a power amplifier (slave unit) instead of an integrated guitar amplifier; slave units normally cost less than integrated units.

TOOLS: The tools required are very basic. The essential items are: side cutters, small pliers, soldering iron, solder and a drill of about 3/16 inch diameter or a 'vero spot face cutter'. A junior hacksaw will also be required to cut the vero board on which the circuit is constructed.

If you have no previous experience of soldering it is a good idea to practise on a scrap piece of vero board with some odd pieces of wire before you start to make the pre-amplifier. A small soldering iron with a bit of about 1/8 inch to 3/16 inch will be found ideal. Do not use too much solder. Big 'blobs' of solder will run across the strips of copper on the vero board and short them out. When the soldering iron is sufficiently hot, put only enough solder on the iron to 'wet' the surface of the bit; then the iron to heat the job and apply a small amount of solder to the joint or pin, not the iron.





COMPONENTS: The components are all readily available and inexpensive. The total cost should not exceed £2 including the battery clip and a switched jack socket which will switch the battery off when the jack plug is pulled out.

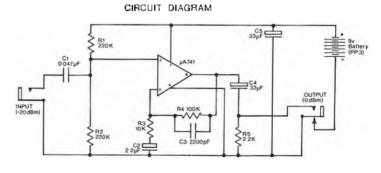
You will also need a small piece of 0.1" vero board. This is insulated board drilled with a 0.1" matrix of holes. On the bottom side are copper strips which join lines of holes. Components are mounted on the top side with their wires going through the holes and soldered underneath. The copper strips can be cut where required

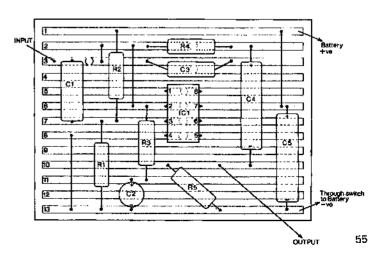
COMPONENTS LIST

with a special spot face cutter or an ordinary 3/16 inch or 1/4 inch drill held in your fingers.

The other miscellaneous items are: battery clip for PP3 type battery; 18 inches of insulated connecting wire; 12 inches of 22, 24 or 26 S.W.G. tinned copper wire and two jack sockets; one of which must have a 'switch' normally open contact on the front contact and the other a switch normally closed contact on the back contact. If this is not available a separate on/off switch can be put in the battery negative wire.

Ref.	Value	Rating	Notes
R <sub>1</sub>	220K	1/10 or 1/4 watt	
R <sub>2</sub>	220K	11	
R <sub>3</sub>	10K	11	
R <sub>4</sub>	100K	11	
R <sub>5</sub>	2.2K	1#	
c <sub>1</sub>	0.047 uf	greater than 9 volts	Polyester or polycarbonate
$c_2$	2.2 uf	17	Tag tantalum
C3	2200 pF	,,	Ceramic
C4	33 uF	***	Aluminium electrolytics
C <sub>5</sub>	33 uF	12	Aluminium electrolytics
IC1	LM741 or uA741 or SIV52 741 or L141		Each manufacturer has different markings — just ask for a '741' op. amp. 8p D.I.P. package is most convenient.



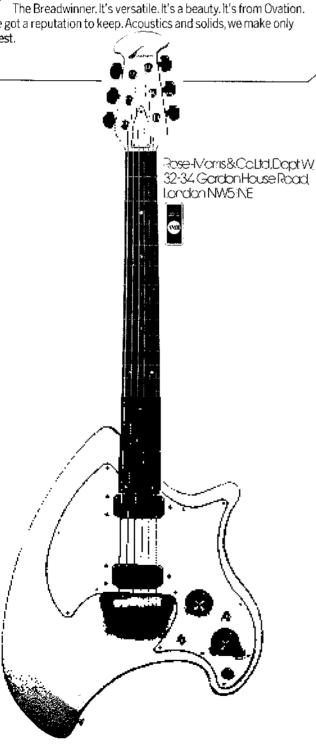


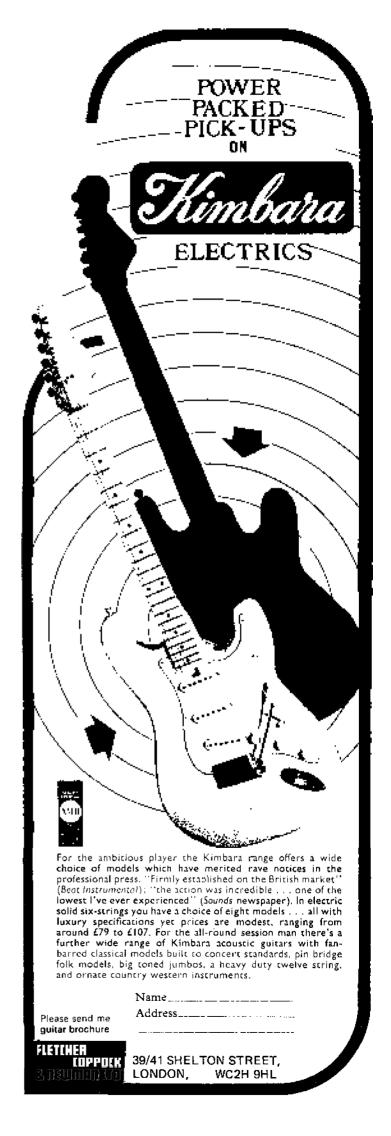
# BRING IT ON HOME\_

Ovation, who make those famous acoustic guitars, have just developed a brand-new solid body.... The Breadwinner. This guitar's got it all. A stunning body design plus many equally stunning new features

Check out the F.E.T. Pre-Amplification for starters. This all new Pre-Amp is built-in to give an extra edge to the tone. And the Breadwinner features two powerful Toroidal pick-ups. The volume and tone controls are in a new, easy-to-reach position, and the special mid-range switch allows you to boost mid-range frequencies at will. The unique Tri-point mounted bridge and full 2-octave detachable ebony neck will add ease and speed to your playing. The lot is finished off with fully-chromed Schaller machine heads for really precise string control.

The Breadwinner. It's versatile. It's a beauty. It's from Ovation. We've got a reputation to keep. Acoustics and solids, we make only the best.





### CONSTRUCTION

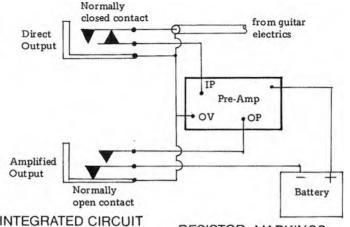
The circuit is not sensitive to layout and any of the normal construction techniques can be used. For those without a lot of experience the vero-board layout given will be found most convenient. The electrolytic capacitors, C2, C4 and C5 have a right and a wrong way round. The + and - are usually marked on the components but if in doubt ask the shop when you buy them. The integrated circuit also has a right way round. On the 8-pin 'dual in line' pack there is a dot by pin one or between pins 8 and one, and the pins are counted counterclockwise looking at the

top.

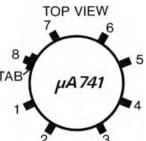
The 'top hat' type package is counted the same way round but the tab is above pin 8. Not pin 1. This is most confusing unless you know!

Before switching on check the wiring, check that the copper track has been cut in the correct places and, most important of all, that the battery has been connected the correct way round.

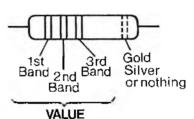
If the unit is built into the guitar an arrangement is possible so that if a plug is put into one socket the signal from the guitar comes out directly by passing the preamplifier and if put into the other socket the signal comes out through the amplifier after first switching the amplifier on.



# PACKS Π Π Π Π 8 7 6 5 μΑ 741 1 2 3 4 1 1 1 1 1 1



# RESISTOR MARKINGS



	Colour Code	Value
$R_1$	Red, Red, Yellow	220K
$R_2$	H 12 II	"
R3	Brown, Black, Orange	10K
R4	Brown, Black, Yellow	100K
$R_5$	Red, Red, Red	2.2K

### PERFORMANCE

The battery current is about 0.7 mA without any signal and rises to about 1 mA at full signal without a load. This is sufficiently little for the battery to last for several months. The amplifier will continue to work until the battery volts have fallen to about half their original value.

Distortion on the prototype was 0.15% THD at 100 Hz and the background noise was -72 dBm; giving a signal to noise ratio of 72 dB when the output level is 0 dBm.

The gain is 11 times. This can be reduced by increasing to value of R3 or increased by reducing the value of R3.

High frequency roll off is provided to reduce the high frequency response above 730 Hz and yet rid of Hiss. Low frequency roll off is provided to cut out frequencies lower than the lowest note of the bass guitar. This cuts the bass response at frequencies below 33 Hz.

The output is not sufficient to drive low impedance headphones fully, but will make enough sound to be heard. The unit was not designed to drive headphones so this is just a useful extra.

# ORANGE BRITAIN'S No.1



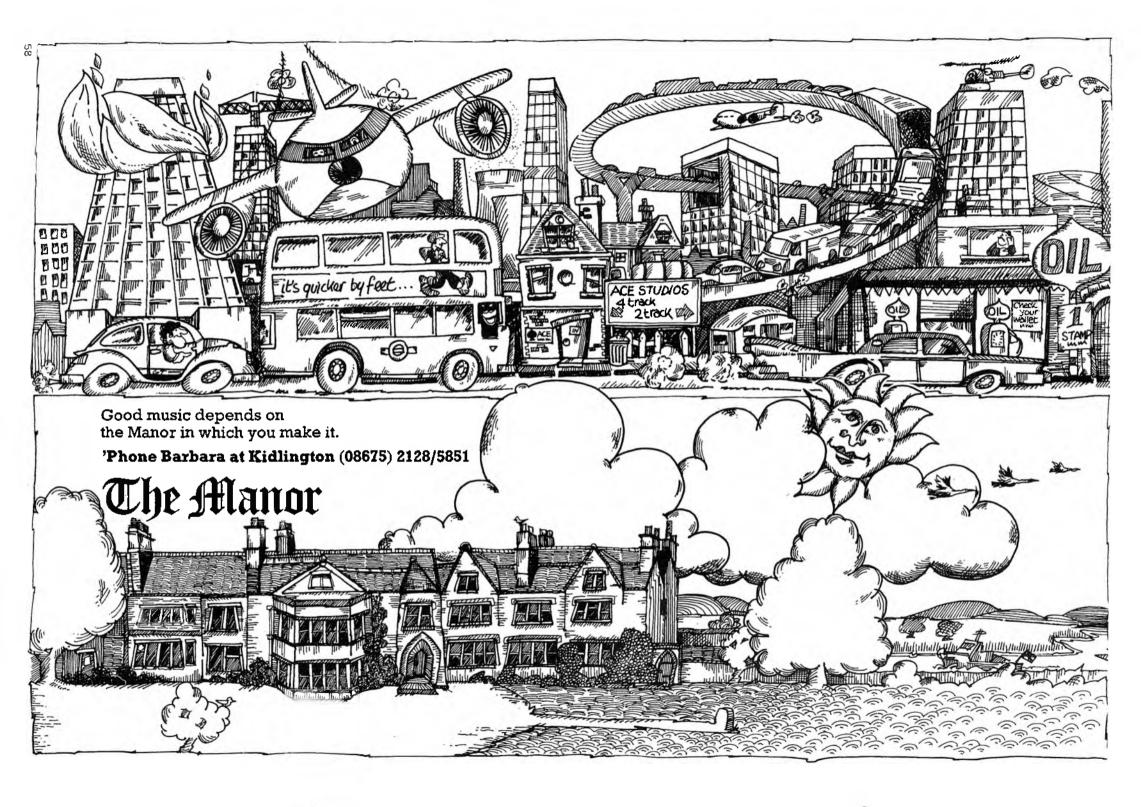
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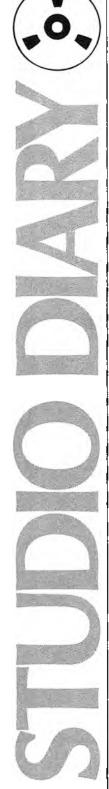
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AIR STUDIOS ... Dave Townshend came in to cut an album with producer Neil Harrison and engineer Geoff Emerick . . . Cirkus were in with Ron Richards producing and John Enschells engineering . . . Movies, an A&M group were in for overdubbing and mixing with producer Peter Gage . . Ex-Bunny Janine has cut a single with producer Joe Scott and engineer Steve Nye . . . The mixing for the new Be-Bop De Luxe album was done at Air . . . Renaissance were in recording . . . Overdubs on some Drifters stuff were done... Alan Clarke came in to lay down some tracks with engineer Bill Price . . . Mott The Hoople came in to mix their album . . . Roxy Music have been recording an album with Chris Thomas producing, Steve Nye enaineerina . . .

CBS STUDIOS . . . Duster Bennett came in to record a single for Philip Roberge Associates, Steve Taylor engineering . . . Juan Carlos Calderon of CBS Spain was in with producer Paul Atkinson and Steve Taylor for an album mix . . . Glenn Dale recorded a single with producer Nicky Graham and engineer Dick Palmer ... Leapy Lee was in with producer Keith Potger, recording a single with engineer Doug Bogie . . . Pan's People were cutting a single with Nicky Graham and Dick Palmer . . . Tammy Iones worked on an album with producer John Hudson and engineer Simon Humphrey . . . Alberto Y Los Trios Paranoias came in to cut a demo...

CENTRAL SOUND... Scot English was in cutting an album for Brave Productions with Grammy, award winning engineer Simaen Skofield... Sweet Dreams were in to cut an album for Brave Productions... The (Old) Seekers came in again with Keith Potger producing, Simaen Skofield producing...

E.M.I.... Pink Floyd were in to finish up a new album, with engineer Brian Humphries . . . Magna Carta were recording with Ron Richards producing and Tony Clark engineering . . Renaissance were in with an album, produced by David Hitchcock and engineered by John Kurlander . . . Rinky Dink and The Crystal Set were doing an album, engineer | ohn Leckie . . . New World were recording with producer Nick Ingman and engineer Peter Bown.. Alan Shiers came in with producer Cliff Richard and engineer Tony Clark . . . Roger Holman was recording and producing himself, with engineer Peter Vince... Bobby McGec came in with Andrew Powell producing, John Leckie engineering . . . Ann Mortifee was in, Norman Newell producing, Peter Bown engineering . . .

I.B.C. STUDIOS... Trinifold
Productions have been recording an album with Chris Neale... Su Shiffron still recording an album for Columbia
Screen Gems with Bruce Welch producing and engineer Mike Claydon... Mervyn Cohn has been in to produce Fresh Air, with Mike Claydon.

ISLAND MOBILE STUDIO... The mobile unit has spent most of its time at Shepperton Studios this month, recording Ken Russell's Liszt-o-Mania... Slade's gigs were recorded on the mobile, Chas Chandler producing, Phil Brown engineering... The recent Yes gig at Queen's Park Rangers' ground was recorded, with Eddie Offord producing...

ISLAND STUDIOS . . . Eno and Fripp were in, with Eno producing and Rhett Davis engineering . . . Curved Air were in, with John Burns engineering . . Baker Gurvitz Army came in with Anton Matthews producing and engineering . . . Snafu were in with Bob Potter producing and engineering . . . Paul Kossoff was in, mixing on album he recorded on Island's Mobile Unit, with Steve Smith producing, Phil Brown engineering . . . Mungo Jerry came in to mix an album with Howard Kilgore engineering . . . Kevin Ayers was in with engineer Rhett Davis . . . Jim Capaldi was in recording with producer Chris Blackwell, Richard Digby-Smith engineering . . . Alan Stivell was in mixing with engineer Howard Kilgore . . . Gary Farr came in to record with producer Muff Winwood . . . Brand X were recording with engineer Rhett Davis . . .

KINGSWAY STUDIOS... Ian Gillan was in, recording and producing an album with engineer George Sloan... Roger Glover has been producing Reflections, Louis Austin engineering... Eddie Hardin has been in for Kingsway Productions, as has Liza Strike...

I.ANSDOWNE STUDIOS... A forth-coming Uriah Heep album was mixed last month by producer Gerry Bron and engineer Peter Gallen... John Sinclair was in recording an album for Penny Farthing Records, with Larry Page producing... Dolly came in to record with producer Richard Hewson and engineer John Mackswith... Jonathan King is recording a single with engineer John Mackswith... Wayne Bickerton came in to record a follow-up single with the Rubettes...

MAJESTIC STUDIOS... Guy Darrell was in, recording a single with Deep Feeling, who also produced the session, Derek Chandler engineering... Melody Urqhart came in to lay down some backing tupes... Jigsaw are tutting their fourth LP with Chas Peale and the group sharing the production chores, Roger Wilkinson engineering...

THE MANOR.. Gilgamesh were in recording an album, with Steve Cox engineering... David Bedford came in to record a solo album, Mick Glossop engineering... Slap Happy came in for a session with Phil Becque... Cyrielle Derdeux recorded a Clearlight Symphony album at the Manor... The Manor will be closing down from June 16th until July 28th for improvements by Westlake Audio...

THE MANOR MOBILES... Dr. Feelgood's recent tour was recorded on the unit... A recent Man tour was also recorded... An orchestral piece for John Timperley was also done with the unit...



Chas Herington of Studio G demonstrates the board to guests at the recent opening

STUDIO G... Studio G have moved down the road-from 195 to 145 Wardour Street, London W1- and re-opened as an eight-track studio. They will continue to operate their established advertising, jingle composition and radio recording services, but 1.M. readers will be interested to know that Studio G's expansion holds something of particular interest for them. The new eight-track facilities, which

include the optional use of electronic keyboards and planos, will be open on a five day a week, 24 hour a day. Of special interest is the "Midnight Special", an all-night session from 12 to 8 in the morning, with a break of one hour, all for a very economical £100. The Studio G staff of three engineers-Bob Hugen, Ewan Cole Chas Heringtom are all young but experienced veterans in the recording field.

MARQUEE STUDIOS ... The long awaited Captain Fantastic & The Brown Dirt Cowboy album from Elton John and producer Gus Dudgeon was wound up last month . . . Barry Blue came in for a single, producing himself with Geoff Calver engineering . . . Lynsey De Paul finished off un album she also produced, with Geoff Calver engineering . . . Maldwyn Pope was in, with producer Gus Dudgeon and engineer Phil Dunne . . .

THE MASTER ROOM ... Masters cut recently include a new Wings album... Stade's new single , , , Hudson-Ford's album... Roger Daltrey's new single... And a new album from Monty Python...

MOON BEAM STUDIOS (GLASGOW).. The new Glasgow Rangers' single ("The Greatest Team Of All") was recorded at Moon Beam, Clem Davis producing, Bill Wallace engineering . . . Helen McBennett was in recording a single, produced and engineered by Bill

ORANGE STUDIOS ... Vangellis Papastanasiou has been in, producing two LPs, one for a Greek group, and the other for the lovely Marieangela . . John Miles was in, producing himself with engineer Keith Allen ...

R.E.L. (EDINBURGH) . . . Casino came in to cut some demos . . . Wat's Up were in cutting demos . . . Diffinger were in.,. Eric McCredie was in recording Dodd Taylor and Gunn for Middle Of The Road Productions . . .

ROCKFIELD STUDIOS . . . Starry Eyed and Laughing were in recording an album with Dan Loggins producing, Paul Atkin engineering . . . A new album from Hustler, produced by Roy Baker and engineered by Pat Moran was recorded recently . . . A new album from heavy band Budgie was cut, Dave Maloney producing, Pat Moran engineering , . , Barry Melton was in producing Quicksand, Dave Charles engineering . . . Dave Edmunds came in recently with Nick Lowe (ex-Brinsley Schwartz) . . .

RONNIE LANE'S MOBILE STUDIO . . . Mott have been using the mobile unit to record an album at Clearwell Castle in Gloucestershire . . .

SCORPIO STUDIOS . . . Clancy have been in with producer 1im Cumo and engineer Ray Hendrikson... Half Breed came in to mix an album for UA, with Ray Hendriksen on the board . . .

STRAWBERRY STUDIOS ... 10 CC were in to record the 'B' side to a new album, producing themselves with Eric Stewart engineering . . . Jenny Darren was recording an album with producer Jeff Gill and engineer Martin Lawrence . . . Alberto Y Los Trios Paranoias are cutting an album, with Pete Tattersall engineering . . . Oscar were in with Jeff Gill and Pete Tattersall engineering . . .

SUN RECORDING SERVICES (CROWTHORNE, BERKS.) ... Eyes have been in, recording tracks... Gilder came to cut some tracks; they are on the brink of signing a record deal . . . Pavela Ustinov (Peter's daughter) was in recording some tracks, written by Rob Boughton . . . Les Calvert fex-Machine Gun) was in recording . . . Rob Bou Boughton of Sun has set up a mobile unit, and has been doing some work for D.J.M., including sessions with Jasper Carrott . . .

TRIDENT STUDIOS ... The Spiders From Mars were in recording an album with producer Dennis MacKay, Jerry Smith engineering . . . Baker Gurvitz Army have been in with an album . . . Dwight Twilley cut an album recently with producer Robin Cable and engineer Ted Sharp . . .

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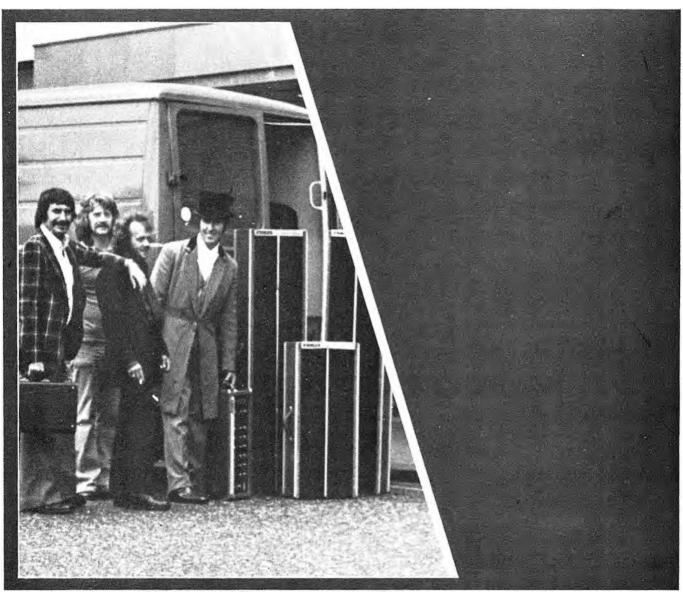
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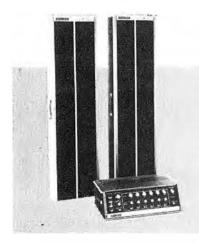
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Kenny Ball with arm on shoulder of soundman Pickstock outside London Hilton.

# 150,000 The 151,000 mile round rystem.



Working with a band that's constantly on the road can give any soundman headaches, so imagine the difficulties facing lan Pickstock, sound technician for Kenny Ball and His Jazz Men. As the United Kingdom's most widely travelled jazz band, the group wore out its second sophisticated equipment van after 210,000 tortuous miles. But despite the rigors of countless one night stands, lan's Vocal Master Sound System is still producing true-to-life sound after 250,000 miles on the road! When asked about the Vocal Master's instant adaptability, lan says, "This system makes an expert out of me—whatever the size and shape of the hall."

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# Ampex

Ampex make professional recording machines that have gained almost unrivated popularity in the last ten years and they'll be exhibiting the wide range of recorders and ancilliary machinery they produce.

They've something a little different to boast about this year. One of their machines was used for recording "The best engineered single of 1974-75". This was "I Honestly Love You" by Olivia Newton John and the track was recorded by Simaen Skofield at Central Sound Studios last year.

### Alice (Stancoil)

Alice will be at the APRS exhibition in full force this year, with all three units of the Stancoil company fully represented.

Alice broadcasting will be displaying their range of broadcasting equipment, including modular mixing consoles, turntable units, rack ancillary units and audio switching matrices.

Alice Mixers will exhibit their established range of mixers for studio, location and film work. This includes the AM modular range, the SM transportable range and the budget range for small

mixers - including a very tasty redesigned version of the AD62 mixer, rechristened the Alice 62-3 stereo.

Last but not least is Alice Instrumentation, who will display their first product, the Alice audio noise measuring Test Set.

### **Amity Shroeder**

Small studios which would like to expand their facilities to 8, 16 or 24 track strength but lack the required capital will be interested in the Amity Shroeder professional wide tage transport. Built up from individual assemblies on a precision casting with a ribbed back and machined to extremely fine tolerances, the tape transport's measurements are 25,4/50,8 mm (1"/2"). The spool motors are D.C. printed circuits, are all I.C. controlled.

## **Bever Dynamic**

Beyer Dynamic will be exhibiting their fine range of microphones at this year's exhibition. Chief among these is the M201. This model is equally well suited for use in recording or broadcast, and owing to its hypercardoid characteristics, it is impervious to unwanted noise even under extreme acoustical conditions.

Dramatic changes have taken place in the recording industry since the last exhibition organised by the Association of Professional Recording Studios. The emphasis is still swinging away from the large professional studio complex to out-of-town studio locations and studios that make a living from broadcast recording. Cassette are certridge duplication is still growing as

cassettes (especially) gain greater acceptance in educational mediums. This year there are numerous new products from equipment manufacturers and distributors on display and as ever the exhibition provides an opportunity for the Recording World to meet, do business and exchange ideas; June 19-20 at the Connaught Rooms, London WC2.

# F.W.O. Bauch

Stands Number 1 and 2 at this year's exhibition will display F.W.O. Bauch's broad selection of proven products. These include the Studer range of recording equipment, which numbers among its: recorders, a quadrophonic recorder, a compact 24-track recorder and a quadrophonic 16track mixing console. Neumann condenser microphones and disccutting equipment will also be shown, along with a variety of EMT gear and the Universal Audio Limiter UA-1176LN.

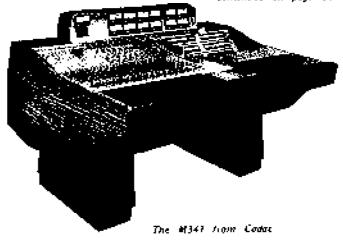
Other exhibits include a Teletronix lighting amp, Switchcraft OG Audio Connectors, an Allison. Research kepex keyable program expander and a Gain Brain limiter. ARP synthesisers, Klein & Hummel

monitor loudspeakers and parametric equalisers, ITI paramentric equalisers, Magnetic Reference Lab oratory, precision test tapes, a Gotham digital delay system, a Lexicon Varispeech tape time expander, Danner faders, Seydel faders, and Albrecht magnetic film recorders

# Cadac

It's the new "E" range of consoles, developed specifically with an eve to the medium priced market. that will occupy pride of place at the Cadac stand this year. Offering all the facilities normally assoclated with larger studio consoles such as a very broad spectrum equaliser with triple independent mid-ranges covering nine frequencies to the automation for interfacing with most makes of tape

continued on page 64





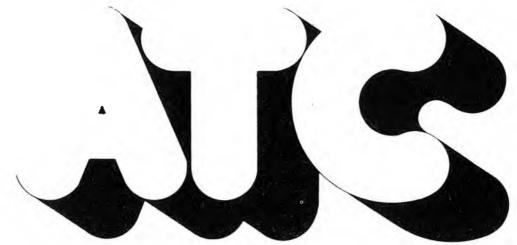
6 Channel Mixer Amp comprising six independent channels, each with Treble, Middle, Bass and Echo controls, Slider Volume Control, Monitor volume - Trable and Bass. Echo Return powered by a 150 Watt amplifier with heat sinks for cool running.( Hi. & Low input sensitivity switching Preamplifier Distortion typically 0.01% at 1KHz Power amp distortion typically 0.05% at 1KHz Hum & Noise - 116dB

Mix with a Slave



Currently provisions are being made to manufacture Graphic Equalisers, Guitar Amps and Combos. Details will be released in the near future. For further details contact 62TONY GIPP (0223) 66559.

150 Watt Power Slave 150 watts r.m.s. into 4 ohms T.H.D. typically 0.05% at 1KHz 25Hz -20KHz + 1dB.



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Address					
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machines for sync overdubbing, the "E" range should be an attractive item for those with modest budgets.

An example of Cadac's portable console, an improved version of Cadac's monitor system, a new studio monitor power amplifier with integrated crossovers, and a studio digital clock system providing real and elapsed time indication, as well as their very popular gyrator, will all be on view.

# Calrec

The lion's share of attention at the Calrec stand will undoubtedly be directed toward their range of capacitor microphones, and the new internally powered versions in particular. These versions give in excess of 1000 hours use on one 1.5 V Mercury Cell, without the use of electret capsules. The capsules for this range are completely interchangable with all capsules and pre-amplifiers in the Calrec range, as are the extension tubes and accessories.

Calrec's recently developed new generation of broadcasting and recording control equipment will also be on display. This "L" series are a source of special pride for Calrec, who claim that this new series (for which they already hold orders from a leading television network) represents the state of the art in electronic and ergonomic design.

### Cetec

It is the Gauss range of proven recording equipment which will dominate the Cetec stand at this year's exhibition. Chief among them will be the 1200 High Speed Tape Duplicating System. The Gauss Q.C. 1250 quality control machine will also be on display, as will the Full Range, Bass and Horn Loaded loudspeakers.

The Gauss 4000 Mid-Range Horn Compression Driver will also be on display.

# Hayden Laboratories

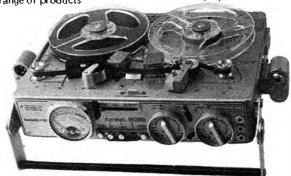
This year's exhibition will feat-

ure the debut of the Nagra IS Tape Recorder from Hayden, Smaller than Nagra's IV series, it is designed for use in situations which necessitate a light, compact recorder. Even with its compactness, the IS fulfills the highest requirements of broadcast volume and sound recording users, and also boasts three motors which thus offer high speed spooling capability.

### C.E. Hammond

The wide range of products

marketed by C.E. Hammond will be amply represented at the exhibition this year. Lamb Laboratories Mini-Studio, acclaimed as the first truly portable studio recording kit, will be on display. Consisting of a high speed A77 Revox tape recorder, the Lamb four-channel stereo mixer (reviewed in our April issue), four Beyer mikes and four stands, with two booms, the Mini-Studio should attract a lot of attention. The Revox A700 Tape Recorder, and the Phase Linear models 400 and 4000 will all be on display.



Hayden's Nagra IS Tape Recorder

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# .... A MODEST WAY TO DESCRIBE ONE OF OUR NEW AMPLIFIERS,

Our Phase Reverb features phasing unit, reverb (individually switchable on each channel) TRUE tremelo, power attenuator, and a valve circuitry reckoned to be one of the best on the market. It is available as a 2 x 12" (Version C700) or a 1 x 15" (Version C750) with either PACIFIC (USA), ALTEC or JB LANSING speakers, with up to 250 watt output.

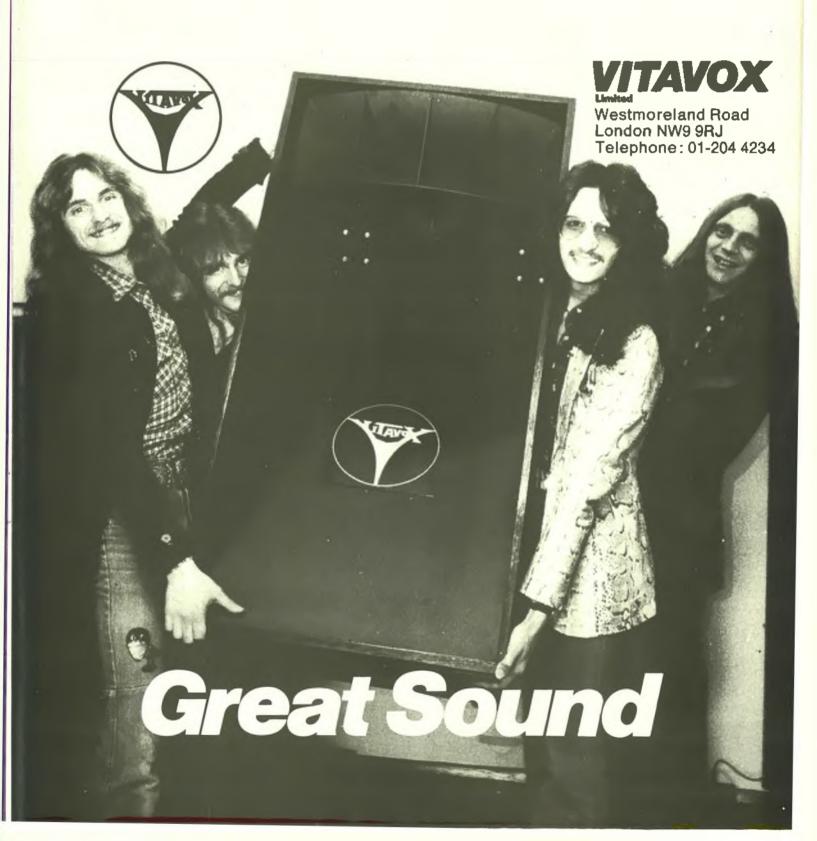
For further details write, telephone or come and visit us at our address below.

CLAUDE VENET
64, Queens Road, Watford, Herts. Tel:Watford 41383

# Great Group

Blackfoot Sue are now testing Thunderbolt, the new loudspeaker system developed specially by Vitavox for the international music group scene. Watch this spot for their report on these trials, sponsored exclusively by International Musician & Recording World.

A great combination, Blackfoot Sue - Vitavox - International Musician,





Hayden will also be displaying a number of Kudelski accessories suitable for Nagra recorders.

Also for the first time. Hayden will be showing the new Sennheiser range of phantom powered condenser microphones. This new range is equally at home in the studio or in mobile facilities, Although similar in physical appearance to the Sennheiser AB powered range, this new range eliminates the need for phantom powered adaptors.

A complete "master and slave" cassette tape duplicating system from AEG-Telefunken Milan with special attention to the requirements of the medium-sized tape duplicating operator will be on display, as will a number of AEG-Telefunken tape recorders.

# Jackson Recording

You name it and it's quite likely that Jackson Recording have it. This year's exhibition will find Malcolm Jackson at the stand,

willing to discuss both studio installations and equipment, and also running a competition to find the most unusual piece of recording equipment.

The long list of exhibits at the Jackson stand includes Studer Ampex, Scully, Brenell, MCI, Uher, and TRD machines, a variety of limiters, compressors and expanders, equalisers, mixing consoles, microphones, and a whole range of video equipment.

# Jacques Levy

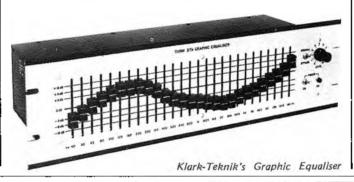
Distributors for Audiosonics and Emidiscs, and Capps Mastering Styli for Neumann, Westrex and Lyrec cutter-heads, Jacques Levy will also be exhibiting the Pultec EQP-1A3 equaliser, A passive equal iser with a push-pull amplifier, the EQP-1A3 boasts 4 low and 7 high boost frequencies, as well as shape control which features high boost curves, variable from sharp to broad, with no loss.

At stand number 37 Jacques Levy will be showing the Reverbertron from Fairchild Electronics. and the Fairchild "Auto-Ten" Attenuator, the model 663 compact Compressor and the Smiths. range of Timers and stop watches.

# Klark-Teknik

Brand new, and a source of considerable excitement for Klark-Teknik, are the Teknik SM2 Stereo tage recorders. It's a fully professional, servo-controlled recorder. with a variety of remarkable features, including variable speed capstans. Keep your eye out for a broadcast version in a metal cabinet, as well as a studio version. in a wood console.

Klark-Teknik will also exhibit their proven graphic equalisers. All three ranges - the 27s, the Dual IIs, and the I is - will be on display. In addition, the new Professional Graphic Control Unit will also be displayed for the first time.



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12 CHANNEL MONO & 15 CHANNEL STEREO VERSIONS WOODEN TRANSPORTATION CASES AVAILABLE

# How to keep the musical excellence you've already paid for:

### Your tape system

The tape equipment of your system is your musical memory bank. It is the one area where only the best makes sense. Choose carefully, select a recording instrument that neither adds nor detracts from the sound you put into it. Few machines really meet this requirement. The Revox A77 does – and by a safe margin.

# Your tape recorder and your money

A truly professional quality tape unit is your wisest audio investment. It will last for years and years.

Witness the number of Revox machines built more than 20 years ago that are still in service! It's hardly surprising then, that Revox recorders command very high prices second or third hand—if you can find them available!

Revox owners seldom change - other than to a later model Revox.

It's also interesting to note that our warranty records show that on average our users have bought 2 or 3 other makes before choosing Revox. Then we read the lament "I only wish I'd bought a Revox sooner."

# When you play it later, will it still sound the same?

At first sight this could seem an unnecessary question. It's not though. In the course of time a high fidelity enthusiast upgrades one or more units in his system.

With time, rising affluence plus advancing technical innovation in all aspects of audio, will bring better reproduction within the scope of all.

The recordings that you make now could, therefore, sound even better in the future - when, as finances permit, you add a better amplifier or loudspeaker to your equipment.

Conversely, a poor recording made now will sound really inferior when exposed to more exacting playback.

With the Revox A77 you will retain the excellence of every recording to enjoy now - and perhaps appreciate even more in the future.

So visit your nearest Revox Dealer for full information and a demonstration.

# Record it on a Revox A77





Revox C. E. Hammond & Co Ltd; Lamb House Church Street London W4 2PB.
Revox Corporation, 155 Michael Drive Syosset N.Y. 11791 U.S.A.
Revox Corporation 3637 Cahuenga Boulevard West, Hollywood California 90068.
Revox International: Regensdorf 8105 ZH, Althardstrasse 146 Switzerland.

# Eventide the next step

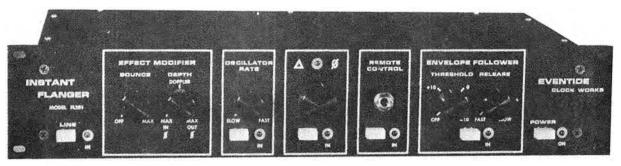
# THE INSTANT FLANGER™ MODEL FL201

CIRCUIT TO SIMULATE TRUE TAPE FLANGING BY IMITATING MOTOR OR SERVO HUNTING

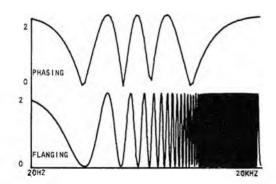
EFFECT MODIFIER BLOCK ALLOWS "BOUNCE" EXCLUSIVE "DEPTH" CONTROL CONTROLS PERCENTAGE OF DIRECT versus DELAYED SIGNAL, AND RELATIVE PHASE,

The EVENTIDE INSTANT FLANGER is the successor to the famous INSTANT PHASER, the first STUDIO QUALITY phasing unit, Our Instant Phasers have been sold to studios and professional musicians who require the ultimate in versatility and quality. Like the phaser, the INSTANT FLANGER incorporates the following "musts" for professional use.

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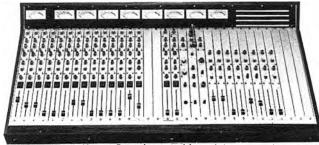
### Lockwood

The Lockwood stand will feature the complete range of Lockwood High Quality Monitoring Loudspeakers, including the Lockwood Major and the Universal Major, the latter supplied with an optional Universal Mounting Saddle.

The Miniature Monitor, specially designed for high quality monitoring in restricted areas, will also be on display, as will the Academy models, which satisfy the demand for domestic listening and yet boast all the advantages of a professionally engineered reproducer. The specifications of Lockwood's new models will be released during the exhibition.

### Macinnes

The complete range of Amcron Power Amplifiers will be shown at this year's exhibition, and chief among them is the new M600 which provides power up to 1500 watts. Also on display is the D150 an updated version which is DC-coupled throughout, boasts a new and improved heatsink design, and



The Midas 8-track portable mixing console

can operate into power load impedances on one ohm. The result of this is a greatly improved Bass end, and Macinnes reckon the improved model qualifies as a "Baby" DC300A.

The DC300A and D60 amps will also be exhibited, as well as the VFX-2 Electronic Variable Crossover, and the RTR 25 inch Bass driver, which claims a free aid resonance of 12 Hz and handles several hundred watts of power.

## Rupert Neve

The economies necessary to us all are reflected in Rupert Neve's

stand this year. Compactness, flexibility, versatility and mobility are the theme, and their 8034 20 channel four group multi-purpose sound mixing console, equipped with metering and monitoring facilities for up to 16-track recording, will be the main attraction.

Also due for a good deal of attention are the Melbourn and Kelso transportable sound mixing consoles. Employing the Neve 3000 slimline series modules, the Melbourn offers 12 channels and a choice for equalisation, while the Kelso provides ten channel with LF and HF controls.

### Midas

Midas produce three main ranges of modular system mixers, covering the specific requirements of broadcast, recording and sound reinforcement.

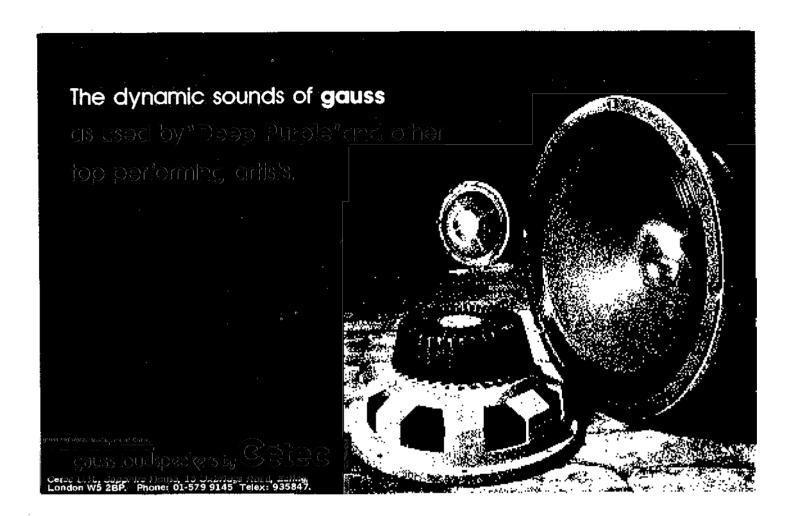
The approach adopted is to design a basic mixer to full recording specifications, with a range of versatile modules suitable for applications varying from classical music recording to live sound reinforcement.

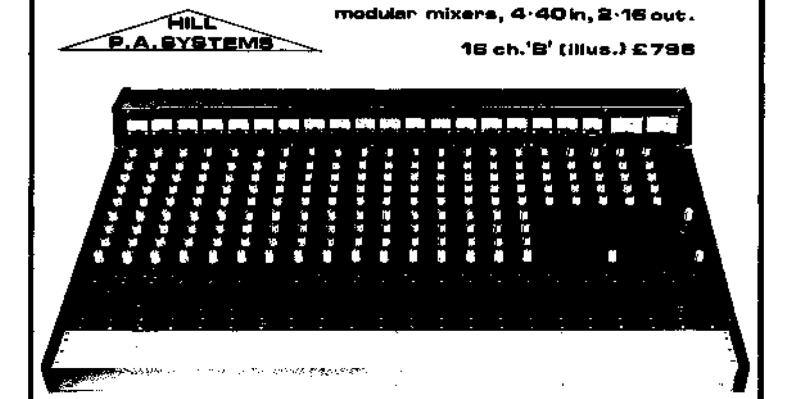
The portable range system has bass presence and treble equalisers with switched presence frequencies and a bass cut filter of 18db/8ve slope, Penny and Gites faders (type 1820) and Bell VU meters are standard,

Midas' range of studio modular systems offers modules incorporating parametric equalisers, 8 or 16 track routing, Penny and Giles conductive plastic track faders and full monitoring facilities.

The comprehensive Midas range of studio modular systems are suitable for the most elaborate recording productions.







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3M

3M will be out in force this year. The Scotch 250, 262 and 206 professional recording tapes will be on display, as will the 3M M79 series of multi-track recorders, and a range of complimentary equipment which includes wow and flutter meters. and recorder test sets.

Also on display will be equipment from Automated Processes Incorporated, for whom 3M are the U.K. agent. MagLink and Minimag synchronizers and a range of mixing consoles will be on display.

Attracting special attention will be the new API Automix, an automated mixing console which costs no more than many manual consoles.

### Turner

The wide range of Turner products will all be represented at this year's exhibition. The professional power amps first introduced a year ago will again. be on display. The A500 and A300 monitors, which feature new techniques to ensure law distortion. wide power bandwidth and low noise and crosstalk, and the B300 and B200.

Mixers exhibited include the TPM Modular series and the TPS non-modular series, devised for use in medium sized studios. They are equipped with full sub-grouping, monitor and intercom facilities, and each mixer in the series offers up to 24 channels. Turner's loudspeaker systems, which comprise modular multi-frequency units, providing high quality monitoring with low distortion at high power, and feature Gauss and J.B.L. drivers, will round out the Turner

display. Scenic Sounds Equipment

This year's exhibition marks a year of expansion for Scenic Sounds. While they exhibited only two ranges last year - Aengus and DBX - this year finds them with a stand full of goodies, as well as last year's attention grabbers.

The new lines include Allison Research's MLH automated

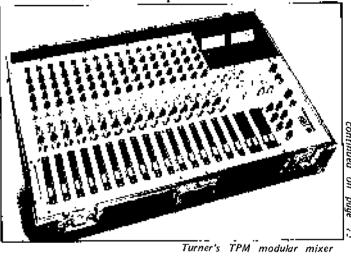
mixdown system, a new 621 Parametric Equaliser and a Dynamic Sibilance Controller from Orban Parasound, the Schoeps range of Studio Condenser Microphones.

An added plus for Scenic Sounds is the acquisition of the U.K. marketing rights for the

American Westlake Audio acoustical design service,

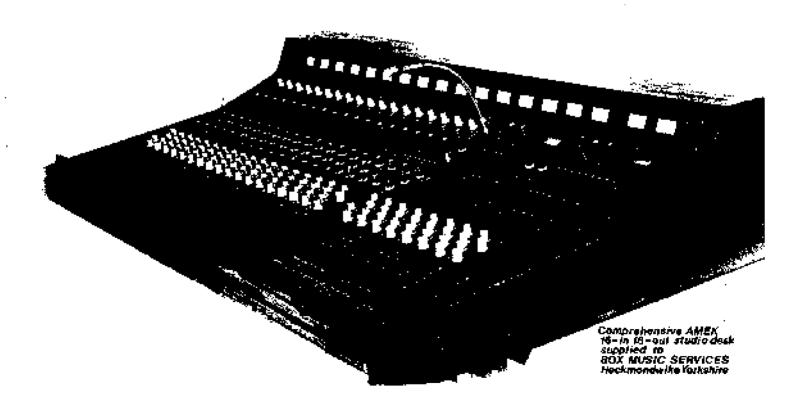
### Shure

Shure will be displaying a brand new range of sound reinforcement components and accessories at this year's exhibition. The "SR" series



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includes a master audio console, a power amplifier, an electronic crossover, an extended range speaker system, a portable speaker column, an all-weather speaker column with a wallmounting facility, carrying cases and an extensive range of accessories. An additional advantage will be 240 volt versions, the delivery of which will commence in the autumn.

A Stereo Transcription Pre-amp lifier, Model SE22, ideal for professional broadcast and recording usage, will also be exhibited, as will the SM82, a line-level unidirectional mike for broadcast applications. This last item is an addition to the established range of Shure Electronic Microphones.

# Soundcraft Electronics

The established Soundcraft range of two and four track recording consoles and a specimen of the new Mark 5 modular range of desks (which offer up to 32 input channels and 24 outputs) will be the highlight of the Soundcraft stand. The Mark 5 contains full studio facilities, including comprehensive equalisation and channel routing facilities.

The "sixteen into Eight" is of quasi-modular construction and offers four band EQ with variable bass chop, three cue sends on all input and monitor channels, and a flexible limited on every output. The inputs can be routed directly to the monitor mixing, providing the console with a 16-track capability with a minimum of repatching.

The American made Waters range of conductive plastic faders and audio controls will also be displayed. Soundcraft have the exclusive U.K. agency for Waters products.

Also in attendance at the Soundcraft stand will be Stephen Court of Dennington Acoustics, who will be available to answer questions.



it Gives us Great pleasure to announce that our new 8 track 24 hour a day studio is now open for business in the heart of soho.

it has an area of 500 square feet (46\sq metres) capable of accommodating up to 12 musicians. a plano and electronic keyboard instruments are permanently available.

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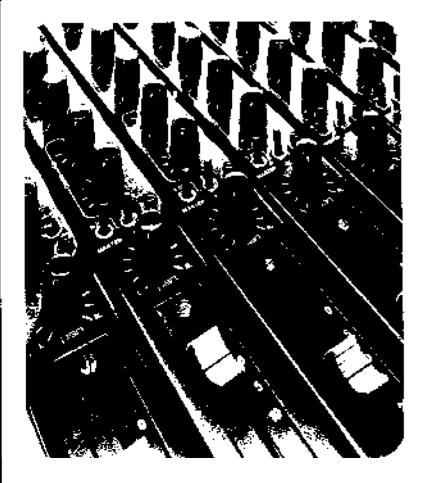
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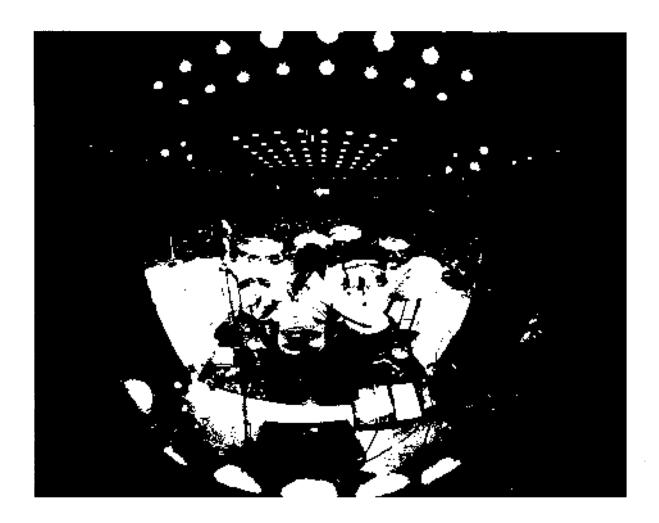




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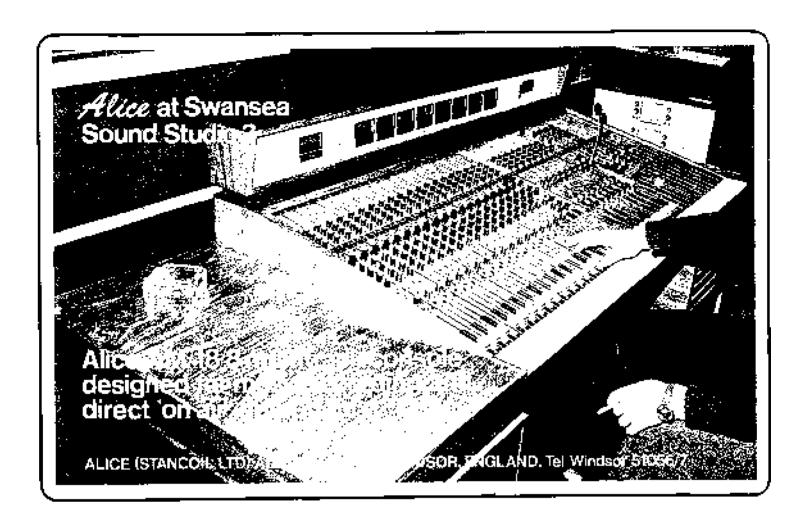


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Rupert Neve EMI Tape Brenell Engineering Leevers-Rich Equipment AKG Equipment Jackson Recording Co. C. E. Hammond Capitol Magnetics Audio Developments Penny & Giles NTP Elektronik A/S Farnell-Tandberg Tannoy Products Sonaplan Audix Turner Electronic Industrial Tape Vitavox

Millbank Electronics Midas **Ferrograph** "Studio Sound" Lennard Developments North East Audio Grampian Reproducers J. Richardson Electronics Ampex Rola Celestion Lee Engineering Sound Developments Tweed Audio "Music Week/Soundscene" Studio Republic International Musician & Recording World Altec (Theatre Projects)

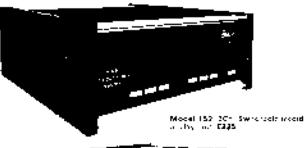
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#### Studio Republic

Studio Republic specialise in bulk duplicated cassettes, with runs of anything from 50 to 5,000. Although they specialise in educational material John and Wendy Bales will be on hand to discuss the full range of services they offer, which includes studio facilities, so that a customer may come to them with a script, which they will turn into a finished order. Studio Republic also offer unrecorded cassettes of any length,

#### Theatre Projects

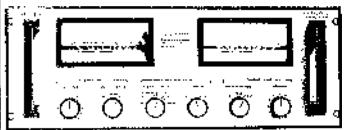
Chief among the exhibits at the Theatre Projects Stand will be the Altec range of equipment. They have introduced a new Studio Loudspeaker system, the 9849A, a compact 60 watt speaker measuring [24" x 20" x 15".

Also on display for the first time is the 604-8G 15" Duplex Speaker, which handles 65 watts and follows in the footsteps of the well establisjed 604E.

Altec's first new amp in several years, the 9440A, weighs in at 250 watts per channel at 8 ohms 1 KHz, at less than 0.01% THD should prove of great interest.

General Sound Components will also be on display, including the 808-8A frequency driver, the 611B Sectoral Horn cone loudspeakers including the 421-8H 12" 100 watt bass driver and the 417-8H 12" watt driver — and a selection of crossovers and high power drivers.

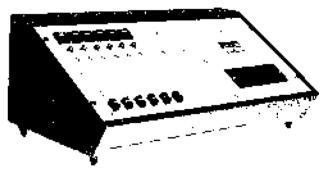
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The new Altec 9440A amp from Theatre Projects

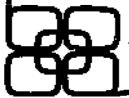


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#### Trident Audio

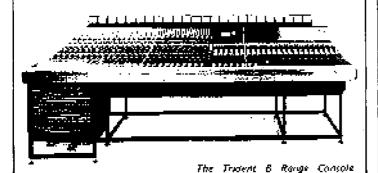
A new Parametric Equaliser will occupy pride of place at the Trident Stand this year. A compact 1%" x 6" x 19" unit, it provides extensive curve bending facilities covering the audio spectrum and including Hi-Pass and Low-Pass continuously variable cut off filters with slope controls up to 22d8/ Octave and a 3-band equaliser offering + 15 dB Peak/dip control with variable bandwidth and sweep frequency selection.

Trident manufacture the A and B series of recording consoles, which offers a wide range of facilities suitable for the professional studio, whatever the quality or budgetary concerns may be.

#### Vitavox

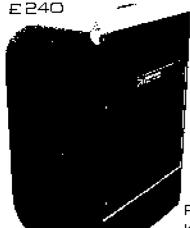
This year's exhibition marks the first appearance of the new Thunderbolt loudspeaker system from Vitavox. The outcome of intensive design research by the Vitavox research department, it marks a watershed for them: This is the first design carried out specifically for use by groups.

Comel, who hold Vitavox's French agency, will make their first appearance at an APRS exhibition this year.



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Tonight. It's the big one. 10,000 seats, and in 7 hours every one will be filled.

We paid one helluva lot to get here. The Prom gig. Practice. Freebies in the park. Practice. Clubs choking with smoke and steaming bodies. New bass player. More practice. Demo tapes that never got anywhere. Practice some more.

But we always had two big things going for us. Talent — and the will to make it shine. And tonight we'll be standing here with our souls playing naked before a sea of eager eyes that came to see us fly.

Rock's grown up. The group's grown up. That's why we chose an Altec sound system. Altec was there when the magic

of rock and roll arrived. Woodstock. Monterey. And just about every other place where talent has needed more than its own motive power to make its No way we'd trust anything but Altec tonight. Folded horns for thunder when we need it. Multicells and drivers that deliver every word and every harmony to every listener. Stage monitors that help keep us all together. A dynamite mixing console that answers all the unknowns of the road.

All Altec. All created for the punchy, gutsy sound we still call rock and roll. All with built-in reliability that lets us relax and forget about sound system problems anywhere and anytime we need to make some magic.

Tonight. Our night to flaunt it. With a little help from our friends at Altec.

Send us a smile, and we'll send you a free color catalog full of professional goodies that will help you flaunt it, too. Anywhere. Anytime.





TM's Price Scanner aims to be the most
comprehensive guide to the retail prices of
musical instruments and equipment
available in addition to listing as many retuil
prices as possible, we're also publishing a
guide to second-hand prices of certain
OUITO/S.

guitars. As months go by, we're haping to build up this second-hand price suction to cover as many items as possible. To this end, we'd be grastful if you could let us know about your experiences with used instruments and equipment. In the guitars section, you will see two extra prices against cenain instruments (usually the ones most likely to turn up as regular second-hand burgains). These two prices represent a swing between the extremes, from the private sale price for an instrument in poor condition and the 100 price a dealer will charge after he has added the cost of his overheads and VAT to the price of an instrument in good condition Depending on the condition and method of sale of the instrument you are interested in you will be able to calculate where in the you will be able to calculate where in the swing it will fall. We've compiled our second-hand prices from the state of the market as it stands, but of course you may well tind special bargains or particularly good instruments outside our limits We haven't offered second-hand prices for many haven't offered second-hand prices for many of the copy guitars, but we suggest you take 50% off the retail price — always allowing for a little fluctuation. All our new retail prices are exclusive of VAT, 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, courd let us know at any alterations, additions or detailors necessary. Un-fortunately we have to disclaim responsibility for any problems arising out of any inaccuracy in this price guide.

#### Sound Equipment

#### **AMEK**

M	ХĿ	:XS

10/1	330.00
10/2	480.00
5/2	T.B.A.
NEW SERIES	
15/2	T.B.A.
15/4/2	T.B.A.
20/4/2	T.B.A.
25/4/2	T.B.A.
30 similar	T.B.A
30 quad.	T.B.A.
9 freq. graph. ep.	105.00
2 way ster, elec cr/over	64.00
3 similar Studio desks + compPA opapplicatio	80.00

#### JOHN BIRCH

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

#### **BOOSEY & HAWKES**

LANEY AMP'N.	
L60	122.45
L100	134.86
L4 12 B100	148.79
L4 12 5120	153.47
L60 PA amp.	122.45
L100 PA amp.	151.85
L2 12 PA50 col.	166.66
L4 12 PA100 cal.	295.18
LV11 reverb, un.	58.33

B/mstr. (hender) B/mstr. UBL) B/mstr. Top B/mstr. Top B/mstr. Enc. Spr. Rev. (Fender) Spr. Rev. (UBL) Pro Rev Vibrolux Rev. Deluxe Hev. Princeton Hev. Princeton Champ. Champ.	351.00 448.00 225.98 155.50 359.00 462.00 237.00 189.00 142.00 142.00 155.00 62.00 65.46	
BASS AMPS. Baman 100 Baman 100 Top Baman 100 Enc Banan 100 (Fender) Baman 50 (JBL) Baman 50 Enc Baman 50 Enc Baman 10 (Fender) Baman 10 (Fender) Baman 10 (MBL) M/Mstr. Bass	371.00 210.00 198.00 309.00 399.00	
P.A. SYSTEM PA 100 PA100 Top PA 100 S4-8 col. H/F Harn		
ARBITER AMPN. 25-50 Combo Amp. 25-50 Add-on Cab. 25-50 Add-on Cab. 25-50 Add-on Cab. 25-50 Add-on Cab. 50-100 Combo Amp. 50-100 Add-on Cab. 50-100 Add-on Cab. 100	93.00 54.00 82.00 154.00 62.00 110.00 138.00 139.00 138.00	
JENSEN SPKRS M1 122-12"50W LM1-122-12"50W LM1-152-16"60W LM1-155-16"50W	15.00 20.00 42.50 42.50	
CLEARTONE		
CMI 50w L&B 100w L&B 2×15 I.d. cab, 120w 2×15 Bs. cab, 120w 1×18 Bs. cab, 50w 1×18 Bs. cab, 100w 4×12 Ld. Cab, 100w 4×12 Bs. cab, 100w	119.23 138.70 122.21 118.62 97.50 98.81 129.00	
PA CABINETS 2×10 cal. 60w. Pr. 4×10 cal. 120w. Pr.	100.11 142.26	
Horn cab 2×12 tol.100w. Pr. 6×10 tol.150w Pr.	81.57 158.57 127.87	
SOLIO STATE 50w L&B 100w L&B 50w PA 100w Mst. PA 100w Siv. 250w Siv.	118.84 127.57 118.84 153.50 111.36 191.60	

8 Ch. Mxr. 50w Combo Amp

G15 M50W G18 C100W

CELESTION SPEAKER G12 M25W G12 H30W

G15 Twin Cone 50W 25.07

257.41 173.05

15.33 18.28 22.98 41.23

100w Col.

AMPLIFIERS 50w ster.

100w ster

162.00

293.50

FR150 HC40D0 MZ53 1823M 1823M 1823M 1823B 1828C 1828C 1828R 1828T 1828P 18287 PA12 PA12-45 PA30A-1-2 PA30A-5 PA30AT-7 PA30B-7	37.79 12.29 203 00 33.50 33.50 33.50 21.50 21.50 21.50 21.50 21.50 21.50 34.08 34.09 35.30 36.30 37.79 37.50 68.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 36.30 37.50 36.30 36.30 37.50 38.30 37.50 38.30 37.50 38.30 37.50 38.30 37.50 38.30 37.50 38.30 38.30 39.30
<i>ELECTROSO</i>	UND
ALL ITEMS CUSTO	MBUILT
E.S.E. S.EQL	IIP.
1002 N/S 1005 AP200 1006 S/L200 1006 S/L200 1007 PA200/R 1010 PA100TC 1011 PA60TC 1013 PA60TC 1013 PA60S 1015 B200 1018 FH200 1022 S120	224.75 187.54 167.28 204.50 133.00 133.00 83.03 83.03 225.00 225.00
(BINSON SALES) SPK R. CABS.VLT.F 30w Col. 60w Col. 120w Col. 100w Col. 100w Col. 100w Col.	97.00 166.00 253.50 126.00 215.00 149.00

D2 Multicell driver FM C35 15 cell horn FM C8 HF hrn FM C7 ESThn FM C5 EST hn. SSH Distort, booster SSH Phase-fluer SSH Vdf super pedal SSH E-1 dl pedal	52.78 281.48 28.70 19.75 21.30 37.96 52.78 82.41 66.67
HORNS 1212FX100w FM 12126X200w Guass 1315F100w FM Bs. 13156200w Guass Bs 1317X200w Radial 1323X200w6 cell 1336X400w 15 cell 1345X200w H.F.	230.59 190.74 114.81 156.48 131.48 173.15 303.70 104.63
HILL PA SYSTE	
Modular Desks [40 ch. 16 into 2 C srs. 16 into 2 B srs. 16 into 4 B srs. 16 into 4 D srs. 16 into 2 K srs. 16 into 4 K srs.	max) 538.88 737.03 924.07 1407.40 995.37 1245.37
NON-MODULAR DESI 10 into 2 M 102 15 into 2 M 102	(S 217.59 356.48
POWER AMPS 1 C 108 S 100w/8ohm 1 C 208 S 200w/8ohm 1 C 404 S 400w/4ohm BINS/HORNS Martin Bins JBL 2420 JBL 2482 Gauss 15" Chassis	18 71.29 15 110.18 18 175.92 184.25 184.25 268.51 79.62
H.H. ELECTRO	NICS
POWER AMPS. TPA100D TPA50D AM/8/12 TPA250 TPA250 19" TPA250—M	98.00 70.00 46.00 52.00 52.00 50.00
AMPS. 1/C 100 ld bs.org. tw/rev 100w 1/C 100-S od.bs.org. 100w	137.94 111.60
P.A. AMPS. MA100 5 ch./rev. 100w MA100 S 5ch 100w S130 st.amp 120w	138.72 119.34 69.90
P.A. SPKRS. 212DC 2×12"100w 412DC 4×12"col. 160w	86 80 132.62
UNITP.A SYSTEMS 50w radial horn 115bs.compact 1×15" 100w	89.88 95.33 -
1	55.55
HOHNER  AMPLIFIERS GA2 GA3 GA9 G40R G50R G50R G50R G50R 1500B 1500B 1500B 1500B 1500B SMEDO Mixer SC4 10H Speaker	31.81 35.83 75.97 98.06 71.85 93.47 119.44 60.19 59.26 63.47 93.47

P A EM 60A6ch EM 90A6ch & rev EM 320A. 60w PM 2008ch PM 4008ch PM 100016ch	107.27 166.36 217.90 195.46 369.44 P.O.A
CABINETS (PAIRS) ES 60A. 1×12 ES 90A. 1×12 ES 90A. 1×12 ES 130, 4×8 cot PS 75, 120w PS 100, 200w TS 100, 200w TS 200, 400w YHS 100 HO In 8S 100, 200w PS 400	63.64 90.91 109.09 318.18 433.63 361.81 618.17 307.26 494.54 878.70
SYSTEMS YES 600, 6ch YES 900, 6ch YES 1300, 6ch YPA 150, 9ch YPA 200, 6ch YPA 206, 6ch YPA 208H, 6ch YPA 208H, 8ch YPA 406H, 6ch YPA 406H, 6ch YPA 408H, 9ch YPA 408H, 9ch	170.91 257.27 345.51 513.67 629.16 469.08 776.34 557.27 864.53 725.16 1032.42 813.62 1120.88 1086.91 1403.49 1475.00 1482.41
LEM	
LEMV  Lem Audio road po. 912 amp 4×12 cab. 911 hs.amp 2×12 cab. 911 hs.amp 2×12 cab. 16 300 FA cab. 16 300 FA cab. 16 300 FA cab. 18 ow amp 100 w	429.68 336.11 333.62 22.41 282.64 179.51 104.97 27.50 56.53 145.14 103.12 53.47 381.94 229.17 190.97 76.39 99.31 84.03 61.11
LESLIE SPEAK	
100 125 145 147 147 RV 122 122 RV 251 700 770 18 60 625 760 910 950 9420 Pre-amp 9370 Pre-amp 9370 Pre-amp 9370 Pre-amp	118.52 254.63 273.15 393.52 461.11 393.52 461.11 208.33 449.07 412.04 498.15 401.11 208.34 401.11 626.00 1106.48 41.67 53.70
LIVINGSTON SPEAKER CABINETS	
2 ch. 3 ch.	120.00 150.00

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£ 60C £ 75N £ 100N £ 125	137.96 156.48 208.33 268.51	GE100 Amp. 2×12 Cab 2×12 Horn Cab 1×15 Horn Cab	153.47 78.66 97.96 73.61
ORANGE		R.S.D.	
SELF-CONT MIXERS 101 R 15ch.ster. 104 A 6ch.pro.		20 ch.	1600.00 1800.00 114.81
P.A. AMPS. 104 86ch.120w 105 6ch.25w 102 120w 102/80 80w4ch. SLAVE AMPS	285.75 472.94 147.30 139.80	SPKR ENCLOSURES 215 FHG2×15" 400w 115 FHG1×16" 200w 212 0H2×12 300w 212 FH2×12 300w 212 FHM2×12 350w 210 0H2×10 200w 212 M300w	325.00 225.00 225.00 225.00 255.00
SLAVE AMPS 103 250w 111 120w. 111 160 60w RMS 103T 200w.trns.	134.69 124.80 196.94	212 M300w HORN M./RANGE & H 150 LT 200w	325.00 F UNITS 650.00
AMPLIFIERS 110/250w 112/120 120w 112/80 80w		HORN M./RANGE & H 150 LT 200W 200 M 200W 2189 M 80W 100 R 50W	
COMBINATION AMPS 115 80w 115 8 80w rev 115/120 120w 115/1208 120w/rev. 125 50w twn		AMPS. 800 R 800W 1600 R 1600W 100 RM 100W	374.07 750.00 114.81
125 50w twn CABINETS 114 1415 60w 114 /110 1415 100w 113 /200 2415 200w 109 4412 mint 120w 109 4700 4412 20w 109 4700 4412 mint 120w 109 7200 4412 mint 120w		AMPS. SA280 \$ 2*80 ster.stv. SA150 \$ stv. SA60 \$ SA60 T 50 T&B 2 ch	150.00 114.00 67.50 75.00
109 4-22 mini 120w 109 4-22 mini 120w 109-200 4-12 mini 200w 107 2-12 mptr 60w 107-2H 2-12 127-2H 1-15 126 6-12 180w 128 8-10 120w 114-4H 1-15	180.00 89.25 148.25 140.75 195.23 164.25 254.55	CABINETS MP1010 hrns. MP1000 M MP1011 MP1012 MP1013 MP1004 MP1003 MP1005 MP1009 MP1009	165.00 144.00 115.00 195.00 165.00 115.00 180.00 90.00
P.A.SYSTEMS 107/2*12 60w 107/2H 2*12 127/2H 2*12 128 8*10 120w 114/4H 1*15 124 1*12	89.26 148.44 140.94 164.25 254.55 64.50	MP1003 MP1005 MP1009 MA501 2×12 2H MA500 2×12 MA503 Hrns MA506 4×10 MP1006	186.00 127.50 95.00 85.00 69.00 39.00
REVERB	75.00	SELMER	
B.L. PAGE DYNACORD Echochord Spr. Echochord Mini Magic H5 D350 80w cab. D310H 80w cab. A1000 Gigant II Gigant Emisent III Emisent II00	333.25 243.00 84.00 243.00 249.00 333.00 549.00	SOLID STATE Ld. 100 Bs. 100 Power 100 100 PA Mxr. Sup. Rev. 30 16 SS Futurame 3 L+8 100 SL.100 SI. PA100 VALVE	91.67 78.70 55.09 1.8.A. 82.41 27.31 15.65 166.20 122.22 174.07
G2002 HiFi Favorit II 81001 b/o amp SUNN	594 00 396 00 264.00 360 00	VALVE Treb.N.8s.100 SV Treb.N.8s.50 SV Treb.N.8s.50 SV Aev. Zodiac 100 SV PA.100/6 SV Rev. PA.100/4 SV Comp.50 R SV Rev.	86.81 73.98 86.94 107.87 139.43 101.39 138.43
Model 80 Model 62 Model 61 Model 60 Model 42 Model 41	1719.44 1580.56 1441.67 1580.56 1441.67 1302.78 1441.67 1302.78 1163.89	SPEAKERS Ld.100 Spkr. 8s 100 Spkr. PA60 H Coll Spkr Goliath 50 M II All:purpose 100 All-purpose 50 TV-35 PA coll Spk. TV-20 PA coll Spk.	
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SUBJUNITS   SPEAKER UNITS   SPEAKER UNITS	4 × 12" B.L. 120w 153.00  1 × 18" 100w 107.00  Bass Bin 100w 125.00  Mini Bin 100w 130.00  4 × 10" P.A. 100w Pr. 116.00  2 × 12" P.A. 80w Pr. 121.00  2 × 12" P.A. 120w Pr. 155.00  4 × 12" P.A. 120w Pr. 155.00  4 × 12" P.A. 240w Pr. 292.00  2 × 12" Horn 120w Pr. 191.00  Dear 12" Horn 120w Pr. 191.00  Horn Unit [2] Pr. 107.00  CBS / ARBITER  GUITAR AMPS.  GUITAR AMPS.  Dual Sh'man 10 25.00  Dual Sh'man 10 25.00  Dual Sh'man Ene 266.00  Quad (fender) 427.25  Quad (fell) 507.00  Spr. Six (fender) 403.00  Spr. Six (fender) 403.00	P.A. SPKRS. VP25 40W 44.80 VP40 40W 53.50 DK46 45W 58.50 DK76 75W 92.50 DK79 090W 115 00 DK120 120W 150.00 DK120 120W 150.00 DK200 200W TB A. P.A. HORNS 10 100W Bxd. Hn. 110.00 P.A. BINS Exponential 100W 145.00 Than 100 100W 164.00 Titan 150 150W 195 00  ELECTRO VOICE  AC100 62.79 AR150 32.79 AR400 18.50 AR500 18.50	2826 Omniprs. 325.00  PANDORA A - 080-1 80 & 9	SPENCERS SPE	105 5-ch mix 8 pwr. amp. 145 00 4000/M8-ch mix 372.00 8000/M8-ch mix 9-0.A. 5112 s cab. 94.50 5210 s cab. 101.50 1105 cab. 32.85   MACINNES  AMPS 10150 Console 208.52 2060 600 150.00 165.00 0 165.00 0 165.00 0 150.140 w 270.00 0 150.00 0 1	Bass Com. 225.12 2078 100w Trans. Ld. Com. 225.12 P.A. 2003 Mstr P.A. 6i.p.s.100w Trans. 171.62 1917 20w P.A. Set-up T.B.A. 2071 6 chan, Mx. 63.24 1994 100w Trans. Slave Amp 90.72 2050 9-chan, Mxr 63.27 Ext. chans. for above 28.91  ROSETTI  LEO AMPS 8641, W./Trem 24.02 8642, Leo Ten 34.33  SHURE VA300S 125.60 VA301S 96.40 VA301S 96.40 VA302E-C 393.01 PM300E 185.90 Vocal Blender 206.23 PA100 128.70 AP100 111.06 Hammond Rev Mixer 71.99 T.S.L. Slave PA Bin 157.31 2×12 Cols 155.47 1×12 Horn Cols 125.00 All Putpose60 143.52 Super AP200 172.92	2×12" cols. 153.47 1×12" Hrn. cols. 125.00 All purp.50 92.13 AP100 143.52 Sup.200 PA 196.30 Sup.AP 200 171.99 6E.100 171.99 6E.100 87.86 E.100 87.86 E.100 78.87 SOLA SOUND  Buckaroo 7w Mighty Atom Col/Snd. Compact Power Pack 15 50.60 Power Pack 15 50.60 Power Pack 30 77.27
Quad (Fender)         427.25         2   2 cls         153.47         438.59         U 60N         184.25         2   2 cls         153.47         488.50         48.75         2   2 cls         153.47         488.50         48.75         2   2 cls         153.47         488.50         48.75	Ouad (Fender) 427.25 Ouad (JBL) 600.00 Spr. Six (Fender) 403.00 Spr. Six (JBL) 702.92 Tw. Rev (Fender) 358.00 Tw. Rev. (JBL) 446.00	AC100 62.79 AR150 32.79 AR400 18.50 AR500 18.50	E2-E4 Network in housing 55.56 E2-E4 Network:3 way 38.89 D5 Driver 57.41 D4 Driver 52.78	2 horns 1543.59 YDS 802H.600w 1850.85	U 100N 254.62 U U 120 319.00 LM 20 63.88 LM 26 78.70 L 30 82.87 L 50 119.44	1×12 Horn Cols 125.00 All Purpose50 92.13 AP100 143.52 Super AP200 172.82 Super 200PA 196.30	06.18

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Sound Equipment	
SOUNDCRAFTELECTRONICS	VITAVOX
MIXER CONSOLES 16/2 (MK.2) 1000.00 12/4 (MK.2) 975.00 16/4 (MK.2) 1120.00 Mod. Cons. P.O.A. Court/JBL Spkr	PRESSURE UNITS Type 53 Type 6P 30.42 Type 6P2 Type GP2 Ty
SOUNDOUT	LOUDSPARS. AK 123 '5 ohms 42.13 AK 124 '5 ohms 42.13 AK 156 '5 ohms 64.81 AK 157 '5 ohms 64.81 WN 350 15 ohms 17.45
HE1a,50w 48,00 HE2a, 100w 75,00 D1.3,100w 15,23 D1.5,200w 202,46	vox
THEATRE PROJECTS	VOX AMPS AC 30 Top Boost 158.10 AC 50 109.26
ALTEC. 1204 B 50w 360.00	SPEAKERS
1208 B 50w 350.00 1218 A 50w 360.00 1215 A 150w 210.00 1225 A 100w 400.00 1205 BX 5pkr 550.00	FB 215 Cab. 105.56  WHITE
AUTEC. 1204 B 50w 360.00 1208 B 50w 350.00 1218 A 50w 360.00 1215 A 150w 210.00 1225 A 100w 400.00 1205 BX 5pkr 550.00 1219 AX 5pkr 550.00 1219 AX 5pkr 550.00 1211 A col. 50w 150.00 1211 A col. 50w 150.00 1211 A col. 50w 500.00 1212 C 5pkr 65.00 828 B spkr, 90.00 815 A L/F hn. 118.00	LW 100 149.00 SL 150 119.00 SL 250 135.70 PA 150 186.00 M50 1×12 mnir. 52.00 PAS 100 2-12 PA.cab. 82.20 PAS 100 4-12 PA.cab. 137.20
MONITORS	M50 1s 12 morr. 52.90 PAS 100 2-12 PA cab. 52.00 PAS 100 2-12 PA cab. 62.20 PAS 1004 12 PA cab 137.20 LW 200 4-12 gtr.cab 137.20 AP 100M 1-L5gtr.cab 103.96 PAS 121 1-12 bin 181.90 PAR 123 1-12 bin 181.90 PAR 155 1-15 bin 211.15 PAR 152 1-16 fid.lm 120.70 H100 E hrn. 109.91
AMPLIFIERS 771 BX 230.00 9477 8,130w 250.00	lens 327.00 1-18 fld hrn.hs. 222.00
SPEAKERS 417-8 H,12 in,100w 418-8 H,15 in, 150w 421-8 H,15 in,150w 425-8 H,10 in,75w 55,00 801-8 D,12 in,20w 80,00 604 E,15 in 35w 149,00 511 B, bn. 808/8 A, 30w H/F N809/8A, crossover 42,00	WING TRAYNOR COMBOS YGM-3, 30 90,00 YGM-4, 40 111,00 YGL-3,90w 198,00 YBA-28, Bass 30w 90,00 YBA-45,00w 141,00
TOP GEAR	AMPS YBA-1, 50w Bass 89.00 YRM-1, 50w 111.00 YBA-1 A 100w Bass 120.00
Bat.Port. 13.95	YBA-1 A 100w Bass 120.00 YGL-3 A 100w 141.00 Monoblock 325 225.00
HIWATT AMP'N   DR 504 AP 50   115.50   DR 103 AP 100   150.00   DR 201 AP 200   DR 201 AF 50.00   DR 112 PA 50.06   32.00   DR 112 PA 100.06   137.50   DR 203 PA 200.06   216.00   STA 100.98   100	SPEAKERS YS-15P, 15" 81.00 YT-15.2×15" 102.00 YF-10.4+10" 102.00 YC-8 10.8×10" 170.74 YC-8 10.8×10" 129.00 YC-8 12.2×12" 129.00 YC-12.2×12" 138.00 YCV-188.1×18" 252.00 YCV-188.1×18" 252.00 YCV-12.2×12" 159.00
\$4.12.14.100w./Bs. 75w4+12*Cab. 136.50 \$4.122.16.150w./Bs. 100w.4 × 12*Cab. 152.00 \$4.22.15*Cab. 150.00 \$5.260.46 2 × 15*Cab. 150.00 \$5.260.46 2 × 15*Cab. 150.00 \$5.2150.150w.2 × 15*Cab. 166.86 4 × 12*P A col 75w. 117.00 4 × 12*P A col 150w. 141.00 4 × 12*P A col 150w. 147.50	P.A.
4 × 12" PA cot. 150w 157.50 2 × 12" PA / Mon. cab. 30w 72.00 2 × 12" PA/Mon. Cab. 75w 88.50	AMPLIFIERS CM.8 15.69 K.66 27.73
Cab. 75w 88.50 Mixer "B" 460.50 Mixer "A" 289.50 SA 212 50w 2 × 12"	K.66 27.73  CLAUDE VENET
Ld. combo 158.74 SA 412 50v 4 ×12" Bs. combo 211.50 SA 4120100w4×12" All purp. combo 235.50	M.I. L 60w valve 120.00 8 100w Tran. 120.00
1	

		j.
Model 103	1240.00	
Model 103 Model Traveller Portable	842.OD	
CRUMAR Drganiser Stringman	450.00	
Stringman Jazzman	461.00 360.00	
KEYBOARD INST. Rhodes Suitcase.		
88 note Rhodes Suitcase, 73 Note	1083.00 944.00	
Rhodes Stage, 88 Note	683.00	
Rhodes Stage. 73 Note	629.00	
Super Satellite Power Speakers Rhodes Bass	665.00 363.00	
J.T. COPPOCE	(	
ELGAM ELECTRONIC	ORGANS	
244 244C	445 37 504 62	
237 237C	300.00 361.11 152.77	
2049C 249		
249R 510	326.00 249.00	
610R 3049 DL 3049 DLR 2049	298.14 189.81	
2049 OER	238.88 145.37 112.96	
1049 1037	87.96	
ELGAM ELECTRÓNIC Gypsy Portable	PIANO	
Portable	184.25	
DAVOLI		
KEYBOARD &		
SYNTHESISERS Davolisint Sintacord	215.00 260.00	
FARFISA		
Balfour	402.77 620.14	
Ballour Beaumont Model 152 R Model 154 R Model 256 RK Prof. Duo VIP 600 VIP 600 VIP 233 VIP 345 Matador R	624.QD	
Model 154 R Model 256 RK	855.00 1360.00	
Prof. Duo VIP 600	1360 00 950 00 740.00	
VIP 400 VIP 233	396 00	
VIP 345 Matador R	410 00 280.00	
Prof. Elect. Piano Sup.Piano	430.00 750.00	
Syntotchesita  GALANTI	440 00	
AAU ER DIANGE		
Fest, Schis. Festival Tk, Festival Mahog. Lopic Tk. Lopic Mahog.	408.26	
Festival Mahog.	408.26 393 02 385.00 378.58	
Topic Mahog.	370.56	
insta-combo org. insta-piano + lgs/ cs/sustain	212.87	
pdi & amp insta-pno+igs/cs/	212.87	
sustain pedal G20 amp.	231.20 323.89	
	740.46	
Cosmavox F3 Cosmavox F2	550 09 425.74	
Cosmavox F1 C860 R6	351 39 342 22	
nsta-sir +lgs/es Cosmavox F3 Cosmavox F3 Cosmavox F2 Cosmavox F1 C860 R6 K300 R6 K100 Chillon K300 Basic	425.74 351 39 342.22 277.04 267 87 184.35	
K300 Basic	184.35	

J.70 2 Man.Port. J.71 3 Man. Port.	536 00 648 00
KEMBLE	
YAMAHA K'BDS 82 R 84 CR 844 CB 854 CB 855 CB 855 CB 855 CB 850 CB 830 CB 840 CB	340.00 435.00 500.00 550.00 619.44 629.63 735.00 975.00 1050.00 1125.00 1126.00 1294.44 2740.74 577.50 1078.15
LIVINGSTON	
Chorister 1-61 Abbey Chapel Chorale Chorale 29 pdls	585.00 648.00 795.00 960.00
Chorister 2-69'B' Chorister 2-72 Chorister 3-73	1290.00 1404.00 1725.00
ROSE-MORR	DRGANS
297 Intercontinents 291 Caravan 290 Europa 282 Jumbo Gem 293 Jumbo 61 298 Jumbo 61 299 Comb Piano	115.00 96.06
LORENZO ORGAN 296 12-Bass Elec.	78.02
SYNTHESISERS 280 Mini-Korg 281 Mini-Korg	270.45 349.95
SELMER	
LOWREY ORGANS Tecnie Genia Genie Jupiter Genie 44 Sup. Genia 1	532.41 564.63 697.22 800.00
Leslie Saturn D/L Genie 88	828.70 925.00 1080 56
Venus Genie 98 Holiday Genie Citation spin.	1091.67 1296.37 1458.33 1315.74
Holiday Console Genie Custion Theatre	1850.93
Spin. Criation Theatre Console	2128.70 2773.15
Symph. Stereo Theaire Cons.	5152.78
SELMER Standard "P" "PR"	171.30 203.70 245.37
SELMER ORGAN Waburn	78.70
KENTUCKY ORGAN Challenger Explorer Adventurer	710.42 954.17 1191.67

	ZILDJIAN HI-HAT	D555
	2(LDJIAN HI-HAT 13" 44.44 14" 53.70 15" 58.33 16" 62.04	1
	15" 58.33 16" 62.04	10M
		TC76
	'AJAXCYMBALS 11" 2.31	T629 T630
	12" 2.87	T632
	14" 4.35	T659
	15" 5.42 16" 6.05 18" 7.44	T662 T663
	18" 7.44 20" 11.02	T652
	22" 16.51	8AS
	AJAX HI-HAT	G23
	CYMBALS 13" 7.13 14" 8.70	G26
	14" 8.70 15" 10.83	G26 G26
	15.55	нын.
	CBS/ARBITER	Z545 Z545
	ROGERS DRUMS	1
	ROGERS HI-HAT Studio X 947.00	SON
	Compact X 789.00	Z100 Z100 Z100
	Studio VII 590,74 Londoner V 545.00	2100
	Londoner VI 600:00 Ultrapower VII 825:00	Z100 Z100 Z101
	Hitranower IX 979 83	zioi
	Starlighter IV 487.22 Dynasonic Snare 110.00	TUR
	Superten Share 82.00	Z200
	Skinny Snare 51.00 Powertone14×20	7200
	bass 128.00	Z200 Z200 Z200
	Powertone 14×22 Bass 134.00	Z200 Z201
	Powertone 14×24 Bass 142.00	
	Powenone 8×12Т7 64.00	'ZYN 272
	Powertone9×13TT 67.00 Powertone1	274 275
	I 10×14 TT 80.00	275
	Powertone 12×151T 88.00	278
	Powertone 16×16TT 97.00	268 280
	Powertone 16×18TT 115.00	269 282
	Powertone	202
	18×20TT 142.00 Swivomatic	JO
	hinged heel 30.00 Swivomatic 30.00	HQ
	Supreme 44.00	нов
	PAISTE	OUT
	2002 14" Hi-Hat Sound Edge 67.50	HM1 HM2
	15" Hs-Hat	HSD HK6
	Sound Edge 71.69 14" Hi-Hat 44.05	
	16" Hi-Hat 40 25	BEVI Panc
	16" 28.19 18" 33.90 20" 42.00	Gata
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	18" China 44.75 20" China 56.82	TOM
j	FORMULA 602	446 435
	13"Hi-Hat	440
	Sound Edge 61.84 14" Hi-Hat	433
	Sound Edge 67 50 15" Hi-Hat	
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İ	13" Hi-Hat 49.40 14" Hi-Hat 51.59 15" Hi-Hat 57.76	235
	14" Hi-Hat 51.59 15" Hi-Hat 57.75 16" 33.00	235 234 233
	16" 33.00 17" 37.15	232
	18" 39.69 19" 45.30	HEA
	20" 49.50	376 375 374
	22"   63.00   24"   73.22	374
		ZYN
	18" China 44.79	282
	20" china 46.89 No.1 7 Sound Set 19.39	280 269
	No.1 7 Sound Set 19.39 No. 2 7 Sound Set 23.00 No. 3 7 Sound Set 39.34	269 268
	No. 3 / Sound Set 39.34	278
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	87.96	SHAFTES.ACRYLIC 5030 clear	247.64
	93.24	1 5030 rinted	256 65
TOMS	36.11	5035 clear 5035 tinted 5040 clear 5040 tinted	278.38 288.60 311.67
	39.63 40.56	5040 clear 5040 tinted	311.67 322.64
	40.56	LUDWIG DRUM OUTF	
	47.73 60.97	Jazette Super Classic	362.96 397.91
	58.06 58.06		409.25
	67.04 79.26	Hollywood Big-Beat	455.09 474.16
A.T.	97.31	Mach 4	484,43 549.95
		Mach 5 Pro Beat	575.55
	79.81 79.81	Quadra-Plus Rock-Ouo	583.24 605.60
	108.43	t Octa-Plus	86.08
	109.91 117.73	LUDWIG DRUMS 5 × 14" Sup/phon.	
TS		Snare 6½ × 14" Sup/phon.	65.41
	15.56 35.88	Snere 6 × 14" Sup/sens.	68.14
	30.00	Snare	99.76
R CYMBALS BOR'		Share 6½ × 14" Sup/sens. Share	101.85
112" 113" 114"	3.56 4.26	1 4 * 14 ACTURES	49.00
14"	5.97	Snare 3 × 13″ Piccolo	
16" 18"	5.97 9.31 11.71	Snare 8 × 12" T-T	59.95
20"	13.80	(no clamp) 9 × 13" T-T	61.89
0.	7.47	(no clamp) 10 × 14" T-T	64 21
1 12" 1 13"	7.27 8.43	I (no ciamo)	66 06
14" 15"	10.79 12.41	12 *\$ 15" T-T (no clamp) 14 × 14" Floor T-T	70.41
7 16" ) 18"	14.03 18.06	14 × 14" Floor T-T	84 95
20"	22.95	(c/w legs) 16 × 16" Floor T-T	
CYMBALS		(c/w legs) 16 × 18" Floor T-T	92.87
	3.94 6.05	167W legs)	106.20
	7.19	tc/w legs) 14×20"8s tc/wspurs	124.39
	9.50 12.19	I no ciamo)	11893
1	12.50 13.89	14×22"8s (c/wspurs no claim)	127.45
;	14.19	14×24"8s (c/wspurs no clamp)	135.92
	16 59	14×26"8s (c/wspur	3
//V		ne clamp)	145.97
RNBY-SKE	NES		
INODRUM		SIMMS-WATT	S
TS 100	143.52	ASBA METAL	
00 00	174.02 227.26	24×14 8ass	135.93
OM	33.12	22×14 Bass 20×14 Bass	135.93 135.93
RLEY DRUM OU	TFITS	14×9 Tom 13×9 Tom	82.41 82.41
ama 21 y 21	283.34 250.40	16×16 Tam 12×8 Tam	130.00 82.41
7 2 1	250.40		62.41
MIER		GLASS 24×14 Bass	135.93
томѕ		24×14 Bass 22×14 Bass 20×14 Bass	135.93 135.93 135.93
6×16 4×14	44.30 42.20	14×9 Tom	82.41
4×10	35.70	14×9 Tom 13×9 Tom 16×16 Tom	82.41 130.00
4×6 3×9 2×0	32.90 29.90	wase	
2×8	27.10	14×14 Bass	135.93 135.93
6"	14.00	22×14 Bass 20×14 Bass	135.92
5″	14.90 13.50	13×9 Tom 12×8 Tom 14×14 Tom	82.40 82.40
4" 3"	12.00 10.10	14×14 Tom 16×16 Tom	96.25 130.00
å 2."	8.60		130.00
Y PRS.SUP-ZYN		SNARES 14×5 Wood 14×5 Metal	116.25
6" 5"	53.50 48.80	14×5 Metal 14×5 Glass	116.25 116.25
4"	44.60	STANDS	
YMBALS 2"	16.60	Hj-Hat	35.64 24.07
20"	14.20 13.90	Snare	24.07
0" 18" 18"	14.20	CONGA / BONGO Tumbador	101.85
18" 8"	12.50 12.20	Twin Congas Quinto	162.04 91.67
-	. 2.20	Comic	31.07
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14 SM	Pacter 45w	118334 3 1576.85  IIXERS 0 ch. 2 877.00 6 ch. 1200.00  Och.1485.00  IXEV DOATCS  ROOSEY & HAWKES ISTRACT STATE STA	CEP 2 Crumar Compae CEP 3S Crumar Compae CEP 5SB Crumar Compae COMPAE COMPAE CONSOLE ORGAN	ZILDJIAN BRILLIANT 10" 19.44 13" 25.93 14" 30.56 15" 32.41 16" 34.72 17" 37.04 18" 41.20 18" 48.15 20" 48.15 20" 54.40 22" 59.26 22" 59.26	L841 29.91 L842 44.86 OUTFITS K120 4 dr. 157.87 K130 4 dr. 218 33 K132 5 dr. 265.97 K162 5 dr. 394.44 K189 4 dr 460 00 K189 P.A. 4 dr. 490.42 SNARES D426 106.02 D441 43.01	Forte F/gis. 537.04 Forte Cryst. 595.37 Forte Mk.II F/g. 564.81 Forte Mk.II F/g. 623.15 SHAFESBURY Module 5050 208.33 Module 5055 173.61 Module 5066 171.76	4066  TAM/STAR DRUMS TD5 DX o/fts. 8905 Tama o/ft. 8705 Metal shell 8258 Metal shell 83866 3356 Acrylic 2212 12" T.T. 2213 13" T.T. 2212 22" Bs. 8620 S 20" Bs. 8612 \$ 12" T.T. 8613 \$ 13" T.T. 8616 \$ 16" T.T. 8614 14" T.T. 8614 14" T.T. 3014 Met.ShLPar.  W.M.J. TAMBORINES TH.104 TS.106 BONGO ORUMS B.055 DRUM KIT	4.5B 4.12
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uitars — <i>RC</i>		MIAMI FT1	25.35		N.66 S/Body Bass N.77 S/Body Bass	45.32 45.32 46.02	JOHN HORNBY SKEV	VES	ROSE-MORRIS		GIBSON JUMBO FLAT	450.46	200290	755 765/12 355/12	
	\$	/H FT2 FT1 8s.	29.83 32.69		N.82 Bass	46.02	PALMA ACCOUSTICS		ELEC.GTRS. Shaft.Ned Callan		Dove Cust. Gospel	343.52 304.63 304.63		369 LH 6 47	9
ECT.SLD.BDY. rede	166.80 176.36	KLIRA	02.03		KIMBARA CLASS. N.105	22.45	M5309	7.26 9.13	Cody Shaft.NedCallan	140.88	H/Ige, Cust. H/brd.Cust. BI/Rdg.Cust.	270.37 249.07		LH 6 47/12	
00.N	101.83	Westbury 310 Elec.	64.79 59.93		N.108 N.169	24.54 27.73	300 \$1612	11.07 10.88	Cody bs. Shaft, Ned Callan	145.46	SJ de/lx.	221.30 200.00		R.MATSOUKA WSTR D/NOUGHT RANGE	
00.Nbs. 00.8.	101.83 65.78	360 Bs.	69 19 58.78		N.175 N.28	30.08 32.27	ST1612	10.88 14.80	Hombre Shaft, Ned Callan	106.94	J 50 de/lx J 45 de/lx.	195.37	105150	D 40 D 50	1.
MI-ACOUSTIC		Blue Hill 6 Blue Hill 12	62.17		N.29 N.81	30.90 41.67	580 C103N WF5	18.10	Cody bs Shaftesbury	116.20 72.72	J 40 J 95	171.30 242.59		0 60 D 80	2
N. nmy D'Aquisto	122.20 P.O.A.	SM8 Solid SM9 Solid	80.13 90.57		N.108 N.74 + Case	40,16 54,81	FW301	22.22 32.41	Shaft,6 str. Sheft,bs.	89.09 77.27	J-160 E Cust.		140185	LEVIN GUITARS	
UNTRY & WESTERN		SM19 Bs. 355 Bs.	97.17 75.86		N.75 + Case N.76 + Case	76.20 87.59	FW301.12 203.7	40.28 44.55	Shaftesbury	67.83 209.09	GIBSON 12 STR.FLATI B/Rdg	295.83		LG 17 LG 19	1
\$5-6sir.jbo. 33-12str.jbo.	72.06 77.57	149 Classic	27.61		KIMBARA ACOUSTIC	57.55	KASUGA ACOUSTIC		Ovation D/con. Top 20 6 str.	263.50 26.74	B-45 12 Nd/I B-25 d/I	249.07 219.63		WR 34 W 36	j.
ASSIC		GUYATONE STEEL HG91	20.66		N.30 Fik. N.71 Jbo.	27.73 33.58	G100L G200	25.00 35.19	Top 20 Avan 2 p/u	40.32 45.42	ELECTRO-ACOUSTIC			W 32 W 12-36	i
C.4 C.5	43.10 32.64	HG306 HG188 C	55.52 85 71		N.72 Jbo.12str.	35.65 43.88	F140 D200	95.37 33.33	Avon 2 p/u	48.94 55.97	Hwd Rb.Cst. Jha.Sm DN	541 67 923.15		MACAFERRI REPLICA	
NELECTRON	-	смі			N.73 Jbo. N.107 Jbo.12str.	46.06 48.10	T250 D350	42.59 62.96	Avan 2 p/u Avan 2 p/u	38,13 40.18	Jhn.Sm.D Jhn.Sm.N	923.15 891.67		Mac. 1	_
3	151.67 151.67	Custom 6 Custom 4	109.95 122.76		N.109 Jba. N.95 Jba/cs.	87.64	TERADA		Avon 2 p/u/bag Avon 2 p/u/cs.	51.25	Jhn.Sm.s.p/u Sup. 400 CES	891 67 962.04		Mac. 2 Special Mac. 2	
	151.67	Salisbury	109.95 42.05		N.96 Jbo/cs.	87.64	G306 G307	37.75 44.18	Avan 1 p/u bs. Avan 1 p/u bs.	36.02 38.52	Bd/Ind. L-5 CES	768.52 833.33		Mac. 3	1
ARL 200 flk.	41.31	SG2 S SG10 B ST300	41.06 64.42		KIMBARA ELECTRIC N.114 S	83.28	G310 FWB13	50.53 52.91	Avon 1 p/u cs. Avon 2 p/u	49.10 51.77	L-5 C s.c/wy. Sup 400Cs.c/wy.	694 44 793.52		STUDENT APG 701	
.250/6 ibo.	49.20	HASHIMOTO CLASSIC			N.115 S N.116 S	83.28 83.28	JW835	97.06	Avon 2 p/u bag	55.33	25-175 D ES-150 DC	359.26 324.10		C 114 EG 1	
250/12 jbo. 155 jbo.	51.98 54.13	G100 G130	38.72 44.18		N.117 S N.118 S	83.28 73.10	KASUGA ELECTRIC (NI	EWMODELS)	ACOUSTICS AVATION		ES-345 TD	402 78	150-240	KP 1	
NA		G160	51.41 57.79		N.119 S N.120 S	91.11 91.11	SG360 P6420 LG380 8	97.22 95.37 97.22	Std.Bal'dr.6str. Std.Bal'dr.12str.	163.63 227.28	ES-355 TD-SV ES-335 TD	532.41 323.15	145180	HAWAHAN 2391	
0 T/pc. 05	8.23 10.67	G200 G250	68.68		N.121	98.89	SE480 S E8750	99.07 130.56	GJ.Cambl.Art.12str.	209.09 254.54	ES-325 TD	263 89		2390	
3 fik.	18.56	J.T. COPPOCK			FRAMUS		LG770 V	135.18	Folklore Cls.Bal'dr.	209.09 163.64	LES PAUL Recording	369.44	220310	CSL/IBANEZ ELECTA 2350	RIC
DB. DBR	200.06				CLASSIC		\$G1800 V LG2000 V	159.26 208.33	Art.Elec.	236.36 236.36	Truimph bs. Custom	348.15 379.63	210-280	2350 DX FG 360 S	1
scl.bs. 'scl.bs.	250.00 225.00	DOBRO Hnd.Dg.sq.nk.	163.89	150-400	01010 01210	50.92 69.44	ZENTA ELECTRICS		SHAFTES.WESTERNS		De Luxe Sgnture	308.33 341.67	180-260	2351 DX	1
		B/grsrnd.nk	163.89	150-400	01510	137.96	FT1 ME20 TS	22.22 36.11	Jba.	97.26 114.57	Sgnture.bs.	330.56		2351 DXCS 2341 2341 DX	1
OHN BIRCH		NATIONAL DOBRO 36 Hodeng	263.88 231.48	150—400 150—400	WESTERN 6 STRING 05011 Dix 6	56.86	ZENTA ELECTRIC (NEW		Jbo. Jbo.	130.03	GIBSON SOLID Cust. W/nt	360.19		2350 W	1
D'JD. DR	240.00 230.00	33 D.Dia.etch. 30 Gd.enam.	231.48 175.00	150—400 150—400	05610 Falcon D/nght	118.51	EG501 EG502	21.76 24.07	Jbo. 6 str. Jbo.	163.67 29.44	Std.Cherry Sp. Cherry	249.07 227.31		2452 B 2342	1
DL SL	220.00 90—1 203.70 95—1	30 45 HAWAIIAN			05550 Falcon	147.22	EG\$11 HEG5001	24.54 31.48	12 str. Jbo	36.82	L5-S o/ft.ch. L6-S blk.	546.30 267.59		2343	- 1
OLIGI IG	350.00 350.00	2390 Gtr. 2391 O/lit	21.75 42.61		O5710 Nasv.		HET5001 HES5000	31.48 32.41	SIGMA		L6-S d/l.blk. Marauder	193 51 184.25		2337 OX 2344	1
DB DUO DB /8	206.06 220.00	ANTORIA CLASSICAL			D/nght 05910 Nashv.	180.55	HEGB50004 HEP5002	36.10 40.74	D'rigt. Jho. Grd.Conc.Flk.	51.39 42.73	MSA PEDAL STEEL			2402 2402 DX	2
L	200.00 125-1 220.00		30.09 31.02		Jumbo	205.00	ľ		Grd.Conc.Fik. D'ngt.	56.36 68.20	CS-10 Side Kick	907.40 369.44		2404 2364	1
ELANCING. DEX	200.06	ANTORIA CONCERT	•		WESTERN 12 STAING 06011 Dix 12	76.38	KEMBLE		Cls. Cls.	69.75 62.73	Red Barron	268.05		234 <del>6</del> 2372	1
	230.00	2839 2840	39.35 45.37		06810 Falcon D/nght	128.70	CLASSICS G.55	30.37	EKO C & W		HOFNER	471.68		2372 DX 2373	1
OOSEY & HA	NKES	2841 2850	47.22 39.81		SOLID BODY		G.65 G.90	33.82 36.44	Rio Bravo Rio Bravo 12 str.	52.78 58.33	H\$4560d.c/wy. Congress	121.06 50.92		2380 2381	1
IGELICA CLASSICS		[ 2851	49.07 53.70		10170 FS/74 10200 5/155	78.70 127.77	G.120 G.150	41.46	Ranger Ranger Elec.	36.99 44.20	Art. Elec. Stf. Std. Elec. Stf.	59.49 46.11		2399 DX	1 1
I41 small I42	10.18 11.57	2855 2858 slo.grd.	94.44		11010 Nashv. Stan.	165.74	G.180	46.36 55.86	Ranger 12 str. Ranger 12 st.elec.	43.19 48.31	HS-174 HS-164 V	148.61 80.09		2387 2387 B 2388 B/S	1
<b>51</b> 52	14.58 21.25	F2871 Fimco.	94.44		11110 Nashv. Stan.D/lx	230.55	G.220 G.280	68.01 83.61	Ranger fik. Colorado (ik.	27.04 15.47	Galaxie	124.07		2388 B/DX 2388 B/DX Ster.	i
GEUÇAJUMBO&		TAMA 3561 S	120.83		11210 Nashv. Super D/ix	388.51	GC 3 H/made GC 5 H/made	100.00 144.54	Stud. L. fik. Navajo	15.19 26.81	BASS HŞ-185 Art.	95.37		2388 LH 2388 B/S	į
STRING 45	27.73	3580 S 3557 S	133.33 98.15		10980 Jan Akkerman		GC 10 H/made	196.37	Navajo 12 str. Sombrero 6	31,44 43.63	HS-182 Bass	85.41 104.16		2613 2616 CS	į
16 18	31,44 24.54	3558 S Jbo. 3550 P Grd.	119.91		SOLID BODY BASSES 12002 J/156.2	85.18	FOUK FG.75	35.73	Sombrero 12 El Dorado 6 str.jbo.	50.37 73.47	Prof.	69.51		2368 F 2453	1
19	28.95	concert 3550 S Grd.	86.11		12510 Nashv. Stan.	165.74	FG.11 ON FG.150	39.51 42.58	El Dorado 12 El Gaucho	62.07 62.54	JUMBO FLATTOPS Western	77.31		2455 2457 Ster.	į
GELICA ELECTRIC 73	58.29	poncert	88.89		12610 Nashv. Stan. D/lx	230.55	FG.160 Jumbo FG.170	49.04 50.16	Studio R-M	20.46	Western Wst. Elec. Ac.	92.87 96.29		2355	1
74	69.44	YAMAKI 225 12 str.jbo.	93.51		12980 Triumph Bass		FG.200 N Jumbo FG.260 Jumbo	61.11 71.01	ARIA C & W	21.25	Blue Grass Blue Grass	71.99 77.77		2355 M 2355 DX	1
MANCHA 90	38.75	220 12 str.jbo. 215 12 str.jbo.	83.80 75.46		SEMI-ACCOUSTIC 07301 5/120	200.02	FG.280 Jumbo FG.300 N Jumbo	72.20 95.80	Shaft, Resonator ACOUSTIC	-1.20	Arizona Arizona	54.62 58.56		2352 C 2352 DX 2369 B/W	3
91 92	49.95 75.88	120 6 str.jbo 115 6 str.jbo.	81.02 62.96 43.51			200.92	FG. 360 Jumbo FG. 580	101.85 123.80	Kansas 6 str.	7.91	YAMAHA-FOLK			2369 B/W LH 2352 C LH 2352 DX	1
śŝ	B3.29	112 6 str.fk.	43.51		JAZZ 03302 5/60	137.03	FG. 1500 H/made	318.18 362.13	15-11 6 str.	6.73	FG 75 GFG 110	35.73 39.50		LH 2350	1 1 1
GIORGIO	32.00	766 Herald 757 Gt.Wstn.Std.	74.54		13503 AZ/10	362.96	FOLK & PICK UP		CLASSICS		FG 150 FG 170	42.58 50.15		LH FG 360 S LH 2351 DX	1
16 18 28	32.90 32.90 41.20	758 Gt.Wstn.	58.33		STEELS 14470 0/4	69.44	FG. 110 E FG. 160 E	49.09 60.00	SUZUKI 3055 3065	59.07 22.70		<b>90.15</b>		LH 2372 LH 2380	- 1
36	62 00	Art.Jbo.   696 N shull. 6	103.70 40.28		14670 FS/1000	703.70	SEMI ACOUSTIC	30.00	3067 Matt.	26.81	JUMBO FLATTOPS FG 160	49.03	20-35	2348 2348 B	1:
30	48.60	697 D'ngt. 357 Fk.	89,44 37.96 32.87		Single 14570 FS/2000 Double	924.07	SA30	78.17	3068 3069	35,44 44,56	FG 200 FG 260 12 str. FG 280	61.11 71.00		2671 PRO 2671 Twn.	1 2 5
KEHARU 230A small	49.00	62 B'co Fk. 627 LI/h	47.22				SA. 90	175.60 221.21	3070 h/made 3071 h/made	84.56 139.11	FG 300	72.20 95.79	3560	SUMBROELECT.	J
308 small 86	49.00 32.30	627 Bice jbo. 627/12 Biceibo.	40.74 48.15		G.M.S. PICATO	I	SA. 75 Bass	183.84			FG 360 FG 580	101.85 123.79		GE 1 LP 2 G	į
120	37.00 49.00	79 Catif.fk. 628 Calif jbo.	34.72 47.22 53.70		ELECTRIC		SOLIDS SG. 30 SG. 35	77.35	3087	17.20	CLASSIC			LPGC	
180															
i 180 T 100 jumbo T 200 jumbo	32.90 50.90	628/12 Calif.jbo. 684/6 L l/h	53.70 53.70		ES77 Fine gau. UL77 R'N.R.G. 77 L.G.	1.74 1.85 1.95	1 56. 40	93.64 104.54 109.10	ALHAMBRA(SPANISH) 3087 3088 3089 3090	21.80 30.45 72.68	G 55 G 65	30.37 33.82		LS 200 LPSGC JB 200	

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FENDER   James   Jam	2374 sem-Ac.ld 75.46 2370 sem-Ac.ls 75.46 2370 sem-Ac.ls 75.46 2370 sem-Ac.ls 75.46 1752/45/mstr.bs. 39.35 1755 S/mstr.ll 49.15 1917 Twnestbs 47.22 1912 Twnestb 47.22 1912 Twnestb 107.41 2386 Clpr.d/lll 107.41 2386 Memphis ctm.d/ll 2376 Dine 1/bs.bs. 98.15 2376 Ash 80ck/mn 97.22 2375 Ls/bst.l/h 99.81 2375 Ls/bst.l/h 99.81 2375 Rock/mn White 90.74 2376 Rock/mn Maple 1b. 86.57 2376 Rock/mn Maple 1b. 86.57 2376 Rock/mn Rived.lb. 81.02 2366 FLB. F/les 8ass 75.46 2366 B Dixte bs 76.85 2365 CB. 87.46 2366 B Dixte bs 76.85 2365 CB. 87.46 2366 B Dixte bs 76.85 2365 CB. 87.46 2366 B Dixte bs 76.85	ACOUSTIC 727 fls. 206 P727 C & W 2.06 P727 C & W 2.06 P72 12 str. 3.40  CLASSIC 76 Grnd. Nyt. 1.65  HOHNER  ECONOMY 500 8.89  MUSIMA 1612 N 13.56 1612 S 13.24  RESONATA 730 class. 731 class. 731 class. 731 class. 732 class. 22.73  MORIDAIRA 841 class. 841 class. 842 class. 24.85	AE. 12 200.33 AE. 18 263.02  IVOR MAIRANTS  MARTIN D-18 208.33 D-20 291.67 D-35 300.93 D12-28 300.93 D16-NY 180.56 CO-21 case 305.56  AROSTEGUI No. 2 1-4.81 No. 4 16.67 No. 6 18.52  OSCAR TELLER 748 69.44 TAB TOS 4 20.83 B 18.52 A 20.83 B 24.07	180—350 165—300 95150	FT 565 12/s jbo. FT 160 N 12/s fk. FT 570 BL fk. EC 24 cls.	50.93 74.03 63.29 30—45 41.20 39.77 18—30 67.95 63.29 76.70 64.77 78.70 69.96 64.77 78.60 64.77 78.66 67.96 106.48 115.74 50.93 97.22 56.94 115.74 50.93	GC.6 144.53 GC.10 196.36 SAXON CLASSICS 310 27.54 313 27.54 314 30.46 815 38.66 316 44.44 FOLK 317 22.800 817 32.40 318 36.57 JUMBO FLATTOPS 31.8 820 36.94 821 37.87 822 12 str. 39.85 822 38.79 823 38.79 824 53.70 SOLID 330 Elsec. 50.92 331 Elsec. 50.92	HO V Dreadrought 139.50 HO X Jumbo 139.50 HO XX Ex.Lge. Jumbo 1.8.A  LITTLE BUDDY PEDAL STEEL 4141 Jun. 162.75 4142 217.00 4140 Prof Twn Neck 480.50  HONDO HONDO HONDO HONDO H-130 Grand Concert Folk 24,94 H-155 Dright 27,11 H-210 Dright Dright H-310 Concert Classic H-320 D/Ix D/right Classic H-320 D/Ix D/right S/burst H-156 Oxludent Lassic FG-5500 Student Folk 16, X
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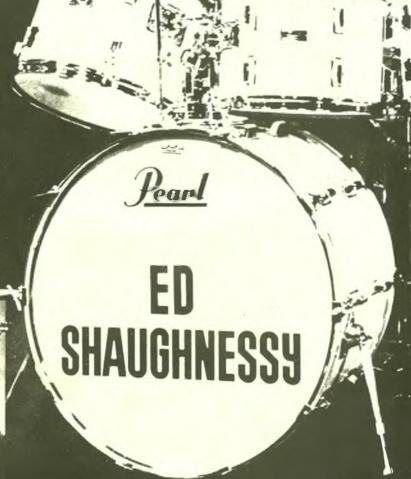
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